"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 presence impacted rural unrest by combining original and detailed parish-level data from pre-revolutionary France on the expansion of the horse-post network with rural rebellion in this period. Using a staggered difference-in-difference framework, we find that new horse-post relays are associated with more local rebellion. We argue that the main mechanism is increased state presence and visibility. New horse-post relays are strongly associated with more rebellion against high-profile state agents – the military, police, and courts – and public buildings that symbolized and hosted state power. 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

Social scientists and historians have long studied rebellion and unrest as some of the most notable markers of social disorder and disruption. 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, including its origins and consequences (e.g., Chambru and Maneuvrier-Hervieu, 2024; Tilly, 1998).

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 1973, 1974, 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 network during the eighteenth century with the most comprehensive data ever collected on rural rebellion in pre-Revolutionary France. 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 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. Even so, the state struggled to order society and some of its efforts generated backlash.

Using a staggered difference-in-difference framework centered on parishes, the smallest territorial unit in pre-Revolutionary France, we find 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 to the increased presence and visibility of the state and its agents, as new messengers dressed in royal garb flashed around the countryside on horseback and wealthy local notables forged an alliance with the state as postmasters at critical road junctions.

The increasingly present and recognizable state that was behind and facilitated by these new figures became a target of popular ire for its activities: heavy-handed efforts at forced conscription, stern public punishments, and inflexible enforcement of royal acts 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 courts. They are also associated with attacks on state buildings, as well as rebellions against taxes – even though taxes did not change with the introduction of new horse posts. We also find a "gathering" effect on rebellion locally: new posts 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, jealousies and resentments created by the rise of postmasters, information and collective action possibly spurred by the contemporaneous letter-post system, changes in coercive capacity and the recording of rebellions by police units 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 (*maréchaussée)* or letter-post stations.

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, even for decades at a time. This process likely fueled the accumulation of grievances and repertoires of resistance that ultimately exploded during the Revolution of 1789. The increasing presence of state agents per se appears to be an important part of this dynamic, separate from the weakening of the traditional nobility, the role of the Church, and tax burdens.

Rebellion and 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, and forestall or minimize civil conflict, crime, and localized rebellion (Blattman and Miguel, 2010; Fearon and Laitin, 2003).[1]

Building a strong state, however, is a long and complex process. It has taken most states centuries to achieve something close to a monopoly on the legitimate use of force, and many states around the world still face fundamental weaknesses (Centeno et al., 2017; Soifer, 2015). Furthermore, efforts to extend control themselves 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 remains 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, such as 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).[2]

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 communications may actually

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

[2]On the interrelationships between various dimensions of state capacity, see Hanson and Sigman (2021).

foster greater rebellion is that greater connectivity associated with transportation networks can facilitate collective action. For instance, Melander (2020) demonstrates that the roll-out of a national railway network in Sweden at the turn of the twentieth century facilitated the spread and growth of membership in social movements by reducing local travel costs. Relatedly, 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 connectivity fostering more protest and social interaction effects.

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.[3] Accordingly, Geloso and Kufenko (2019) show that increasingly dense social and economic ties associated with the development of local markets facilitated rebellious activity in Lower Canada in the 1830s by reducing the coordination costs of disparate seditious groups.

Strengthening the state through improvements in infrastructure and communications 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 (McClintock, 1984; Scott, 1976). Those grievances could be targeted at declining elites or the state.

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[3]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).

Increasing State Visibility and Presence

We focus on the increasing visibility and presence of the state as another underexplored mechanism by which state-building can fuel rebellion. Transportation and communication networks that connect a given locality more directly to centers of government authority increase the presence of the state in that locality. While this may make it easier to quell local disruptions, increased visibility and presence can also spur resistance to the material consequences and symbolic manifestations of state power. Individuals may organize in response, whether in reaction to what the state represents or to what it introduces, such as new or more consistent forms of coercion, conscription, and rules of justice. 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.

There is broad consensus and recognition, however, that the monarchy made major advances in this period 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, it upset the delicate equilibrium of relationships and obligations in the countryside and the state took on an increasingly visible and relevant role in daily life.

The Functioning of the Horse-Post Relay Network

The horse-post system was a pivotal element of state-building efforts during the 1700s. From its inception under Louis XI in the late 1470s, 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 ten-to-fifteen kilometers intervals so that a horse could be changed after an hour or two of riding. Such a distance enabled postillons to ride at speed while minimizing the risk of injury to the horse, given the animal's physiological capabilities (Minetti, 2007).[4] 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).

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 galloping on the roads connecting relays and on travelling on these roads at night, which were better maintained and directly connected to administrative centers. In contrast, other horses were restricted to trotting on these roads during the daytime. Moreover, the horse post held a monopoly on the rental of horses for use on these roads. 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. 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 almost always sided with them (Jamaux-Gohier, 2001, pp. 101–4).

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 the wealthy local notables, generally bourgeois farmers and in-keepers 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

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[4]The term "post" denoted both a relay itself and the distance between two relays. For instance, Furetière's (1690, p. 1636) dictionary defines a post as follows: "also refers to the space between two post houses. Each post is one and a half leagues or two leagues" (quoted in Bretagnolle and Verdier, 2006, p. 66).

[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 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 fifteen hours of travel. In general, the horse post was almost 40 percent faster than the letter post.

operator of a given relay. The certificate imposed several obligations on the postmaster, e.g., 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 onwards – 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. These included a substantial exemption from taxes, including the onerous *taille*, as well as exemptions from military obligations, from accommodating visiting 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. Furthermore, during the Revolution, they were frequently accused of being accomplices of the monarchy, and a significant number of them ended up imprisoned or executed.

Beyond its role in transmitting information on behalf of the royal state, the horse post embodied the symbolic presence of the monarchy throughout the territory. First, located at the entrance to towns or at crossroads in rural areas, horse-post relays were relatively large buildings and therefore highly visible in the rural landscape (see Panel a of Figure 1). Second, the postillons who galloped postal roads day and night – though typically young local laborers (Marchand, 2006, pp. 258–64) – wore a distinctive uniform consisting of a royal-blue vest with red facings and collar, an arm badge inscribed with the name of their relay, a round waxed 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 (Gazagnadou, 2013, pp. 102–3). This uniform made postillons easily recognizable in the public space, thereby enhancing the symbolic presence of the royal authority in the minds of the local population, even in remote locations far from administrative centers (see Panel b of Figure 1).

Potential Consequences of the Horse-Post Network for Local Order and Rebellion

The introduction of new horse-post relays locally could have had several distinct consequences for rebellion. We empirically examine each of these below. A first, which is our main focus here, is the increase in state visibility and presence. Horse-post relays expanded the

(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 of a postillon galloping two horses back to a horse-post 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*, 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.

presence of state agents into hinterland regions where the state was previously less visible and could have been perceived as a disruptive threat to the status quo. Furthermore, they could have lowered the costs of conscription locally and come to host unpopular soldiers, tax collectors, and other state agents staying at the inns, fueling grievances and sparking rebellions.

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 and amid growing state presence 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 representative – military representatives, and notables gathered, 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 town of Arbois in Jura in 1787, two decades after the creation of a new horse-post relay, a royal bailiff coming through town was ambushed by a group of peasants and domestic servants who muzzled him and beat him until they thought he was dead, shouting "Kill, kill!" They also ripped off his uniform and stole his silver. In still another example in the town of Xertigny in Vosges in 1775, a decade after a horse-post relay was introduced in town, two rural police in disguise came to arrest a soldier who had deserted. The townspeople intervened to prevent his arrest, crying "Save him!"

and crowding the police.[6]

Horse-post relays could have impacted rebellion through other channels as well. They could have generated income shocks at the village level, which in turn could have impacted the ease of collective action. By creating local postmasters and endowing them with tax privileges, horse-posts could also have created jealousies among local elites and nobles or grievances among peasants and tradespeople that would crystallize into unrest. Horse-post relays and the state agents that flowed with them could also have upset traditional social hierarchies such as links with local lords and the church, fraying relationships that had long ordered society and defused discontent. Finally, new horse-posts may have introduced more policing. While that policing could in theory have helped to bed down rebellion, it also could have presented new and potent targets for would-be rebels or impacted the recording and registration of rebellious activities.

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 seven decades – from the 1720s to the 1780s – corresponding to approximately 247 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.[7] The Data Appendix provides more details on the sources of data used in this paper.

The Horse-Post Relay Network

To document the development of the horse-post relay network during the eighteenth century, we construct an original historical GIS based on administrative sources. From the beginning of the eighteenth century, the General Superintendent of Posts had lists of horse-post relays printed and updated annually: the *Liste générale des postes de France.* The principal objective of these publications was to assist state messengers during their journeys. They provided information regarding the location of horse-post relays where messengers could eat, rest, and procure fresh horses, as well as the distances between each relay for a comprehensive set of itineraries. These books were organized by itinerary, with clear starting and ending points. Distances were expressed in posts—a measure of distance equivalent to

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[6]For more details on these events and other illustrative examples of rebellions, see Appendix Table A8.
[7]Parishes were the primary forms of municipal organization that gave way to *municipalités* in 1789–93 and later to *communes* (Gorry, 2008).

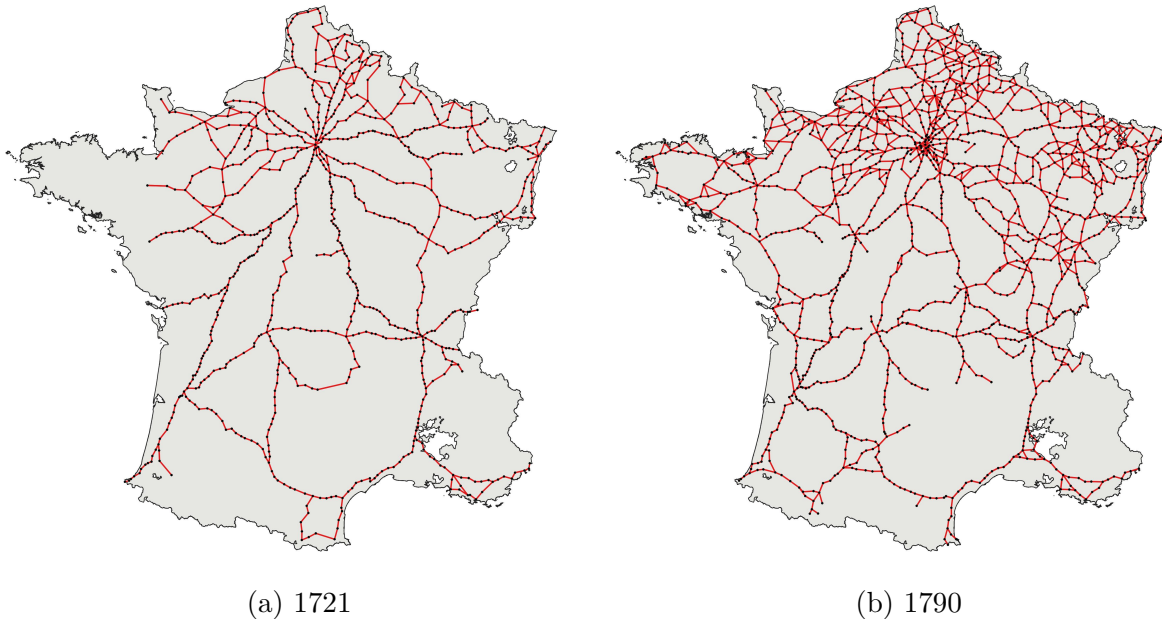|	
(a) 1721	(b) 1790

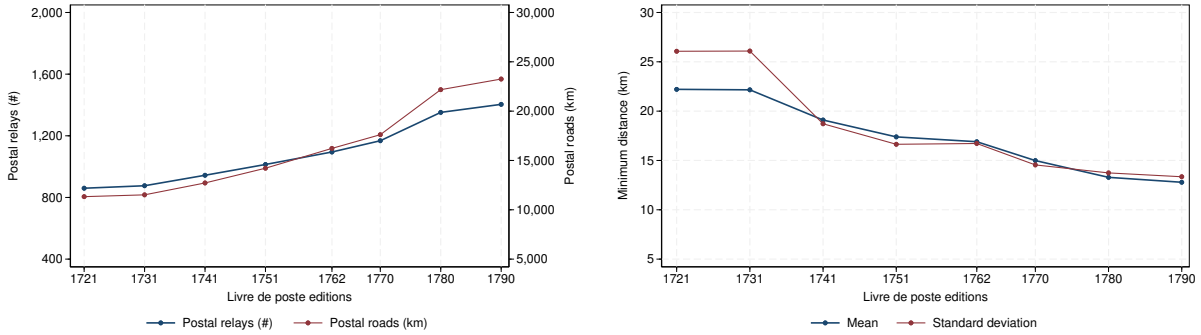Figure 2. The Horse-Post Network (1721, 1790)

eight to nine kilometers (Bretagnolle and Verdier, 2006, p. 68–9).[8] To create a historical GIS of the expansion of the French horse-post relay network throughout eighteenth-century France, we digitized one edition of the *Liste générale des postes de France* per decade from the 1720s through the 1790s.[9] 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 France's parishes. Finally, we drew straight lines between each node and combined segments to recreate the set of itineraries provided in the *Listes des postes de France.*

Figure 2 displays the distribution of the horse-post network at the beginning and end of our period of analysis. Relevant maps for the other six cross-sections are available in Appendix Figures A2 and A3. 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 générale des postes de France* in our sample in Panel (a) of Figure 3. We report summary statistics related to the development of the horse-post network in Panel A of Table 1.

The spatial configuration of the horse-post network, as it was initially established in the sixteenth century, reflected significant political and military concerns vis-à-vis neighboring adversaries of the royal authority. Relays were initially established in Bordeaux to gather

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[8]As an example, Appendix Figure A1 displays an extract of the 1751 edition of the *Liste générale des postes* that depicts the distribution of 29 horse-post relays along the route from Lyon to Marseille.

[9]Annual editions of the *Liste générale des postes de France* were not systematically preserved. See the Data Appendix for more details.

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

Figure 3. Evolution of the Horse-Post Network (1721–90)

information regarding the Kingdom of Spain, in Dijon to monitor the House of Burgundy, in Lyon to monitor the Duchy of Savoy, and in Arras and Amiens to monitor England, the Flemish Country, and the House of Habsburg (Gazagnadou, 2013, p. 112). These security concerns led to a center-periphery logic in the pattern of a star-shaped network centered on Paris with additional nodes along frontiers.

With its further development during the seventeenth and especially the eighteenth century, the horse post became a primary tool in the territorial management of the monarchy to assert its hierarchical control more evenly over the territory and project its power to the remotest parts of the kingdom (Marchand, 2006, pp. 184–91).[10] The network became more dense in the north than in the south following the permanent establishment of the royal court at Versailles in 1682 and the consolidation of the kingdom's territory (Bretagnolle and Verdier, 2005; Verdier and Bretagnolle, 2007). From the mid-eighteenth century onward, the network experienced the emergence and densification of secondary centers situated along major regional nodes, including Bordeaux, Lyon, Dijon, 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, thereby creating the conditions for the emergence of an integrated city system (Bretagnolle and Franc, 2017).

As illustrated in Panel (a) of Figure 3, the horse-post network initially expanded at a gradual pace from the outset of our analysis in the 1720s through the 1760s. It then underwent a significant acceleration toward the end of the century, essentially doubling

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[10]Beyond the confounds of the royal domain, in the peripheral *pays d'Etat*, this expansion often met with resistance from local elites and private interests. For instance, it was not until 1738 – after a first attempt in 1648 – that the horse post developed in Brittany. This delay was primarily attributable to the resistance of the Estates of Brittany who were concerned about the encroachment of the royal authority in their province. Local private messenger and horse-renting companies also resisted the development of the horse post as they feared that its competition would erode their profits (Jamaux-Gohier, 2001, pp. 11–28).

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in length and density over this entire period. While the network comprised 863 relays for 11 thousand kilometers of roads in 1721, it reached 1,416 relays for 23 thousand kilometers of roads in 1790. As a result, the average distance between any parish and the closest horse-post relay decreased from 22 kilometers in 1720 to 13 kilometers in 1790, as shown in Panel (b) of Figure 3. These gains were distributed 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 19 percent in 1720 to 32 percent in 1790 (Appendix Figure A4).

The development of the horse-post network was not entirely linear. In fact, part of the network was periodically reconfigured locally (Verdier and Bretagnolle, 2007; Verdier, 2009). While net gains represented 553 horse-post relays over the period, this was the result of the creation of 967 relays and the retirement of 414 of them (Appendix Figure A5). These reconfigurations were generally driven by local practical considerations, such as the retirement of a postmaster or the development of nearby alternative itineraries.[11] A comparison of the spatial distribution of newly created horse-post relays and retired ones in each decade reveals that retired relays were on average 15 kilometers apart from the closest new relay.

While the initial configuration and expansion of the horse-post network were driven by strategic considerations at the national level, its development at the local level was frequently the result of practical considerations. The specific placement of horse-post relays was constrained by the need for regular ten-to-fifteen kilometer intervals between relays, the quality of the road network, and the physiological capabilities of horses to ride for an hour or two over uneven terrain (Minetti, 2007). As a result, most relays were not located in major urban centers but rather in smaller towns and villages along itineraries between administrative centers, on the banks of rivers, or at the foot of mountains.[12] Indeed, we show in Panel (a) of Appendix Figure A7 that 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 less than one thousand inhabitants, and 15 percent in villages with less than five hundred inhabitants.[13] Horse-post relays established after 1721 followed

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[11]For instance, the relay of Vivier in Brittany, established in 1749, was transferred 7 kilometers away to Dol in 1760 in order to travel to Pontorson through a safer route. Similarly, the transfer of the relays of Pont-Réan to Mordelles (13 kilometers), from the Plat d'Or to Plélan (16 kilometers), from Guer to Campénéac (17 kilometers), from Monteneuf to Ploërmel (17 kilometers), or from Malestroit to Roc-Saint-André (9 kilometers) in July 1763, enabled shortening the itinerary from Rennes to Lorient as shown in Panel (a) of Appendix Figure A6 (Jamaux-Gohier, 2001, p. 24).

[12]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 as shown in Panel (b) of Appendix Figure A6.

[13]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 7 thousand.

Table 1. Summary Statistics Across Parish-Decades (1721–89)

A. The Horst-post network				
	Mean	S.d.	Min.	Max.
Horse-post relay present in parish	0.030	0.169	0	1
Horse-post relay present in canton	0.230	0.421	0	1
Distance to closest horse-post relay (km)	18.0	19.8	0	256
B. Rebellions				
	Mean	S.d.	Min.	Max.
All rebellions	0.023	0.426	0	102
Weak rebellions (4–10)	0.008	0.147	0	23
Moderate rebellions (11–50)	0.010	0.227	0	57
Strong rebellions (> 50)	0.005	0.109	0	29
Rebellions against state authorities	0.006	0.217	0	66
Rebellions against non-state authorities	0.003	0.083	0	17
Rebellions targeting public buildings	0.003	0.067	0	9
Rebellions against taxation	0.009	0.174	0	42

Notes. This table reports summary statistics for the main variables used in the analysis. The unit of observation is a parish-decade from the 1720s to the 1780s. There are 247,044 parish-decade observations in the dataset. *State authorities* include the judiciary, the military, and the maréchaussée. *Non-state authorities* include the nobility, seignioral and labor authorities, and the clergy. *S.d.* denotes *standard deviation*; *Min.*, minimum; *Max.*, maximum.

the same spatial patterns, as shown in Panel (b) of Appendix Figure A7.

Rebellions

We gather information on rebellions throughout the eighteenth century from archival material collected by Jean Nicolas (2002) and numerous collaborators. Based on meticulous research in a wide range of national and local archives throughout France, this survey contains information on 8,540 unique rebellious events that occurred between 1661 and 1789. It focuses on popular uprisings aimed directly at challenging authorities and on popular resistance to state and local initiatives, policies, and actions. 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 1721 and 1789, the period of our analysis. After a few spikes in rebellions in the mid-1670s and late 1690s – generally against the introduction of new taxes (Aubert, 2015) – and the last "peasant rage" of the *Tard-Avisés*
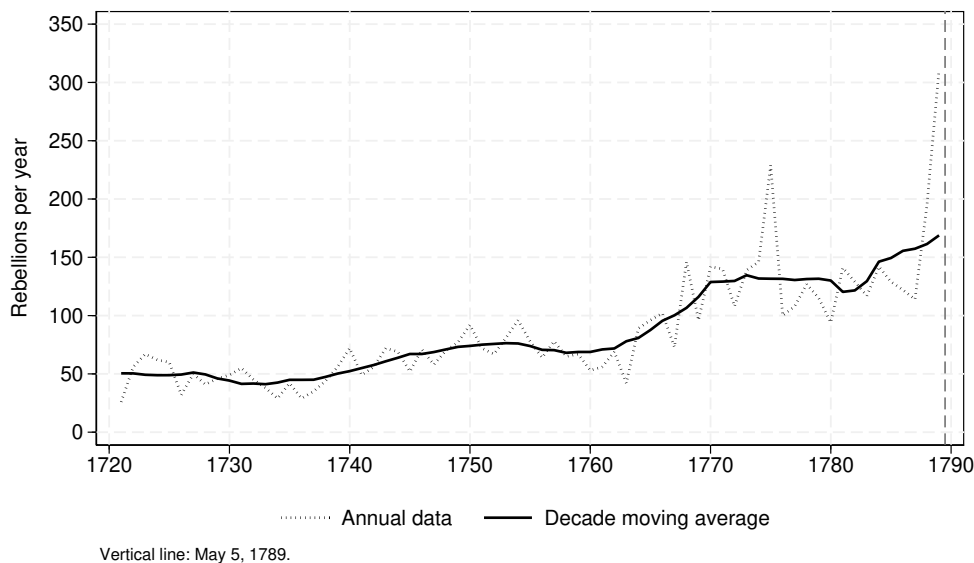
Figure 4. Annual Number of Rebellions (1721–1789)

in Quercy in 1707, 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 as increases in taxation.[14] 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.

We digitized all forty thousand original coding sheets of Nicolas's (2002) survey to create a comprehensive database of the 5,692 rebellions that occurred in 3,060 locations within the boundaries of the kingdom between 1721 and 1789. In addition to the date and location of each rebellion, we also collect information on its motives, its size, the characteristics of its participants, and the types of violence perpetrated by and against the rebels.[15] 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 therein. We report summary statistics in Panel B of Table 1.

Nearly half of all rebellions in this period were of moderate size, with between 11 and 50 participants. In contrast, 21 percent of them were relatively large, with more than 50 par-

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[14]The administrative constituencies for taxation – generally, *élections* – were independent from the horse-post administration (Touzery, 2024). Moreover, they represented much higher levels of aggregation than those we rely on for identification, namely, parishes of the same canton.

[15]We include both rebellions' primary and secondary motives. In Nicolas's (2002) survey, this corresponds to the *type fondamental* and the *type secondaire*. 1,342 (24 percent) of the 5,692 rebellions in our dataset have secondary motive information.
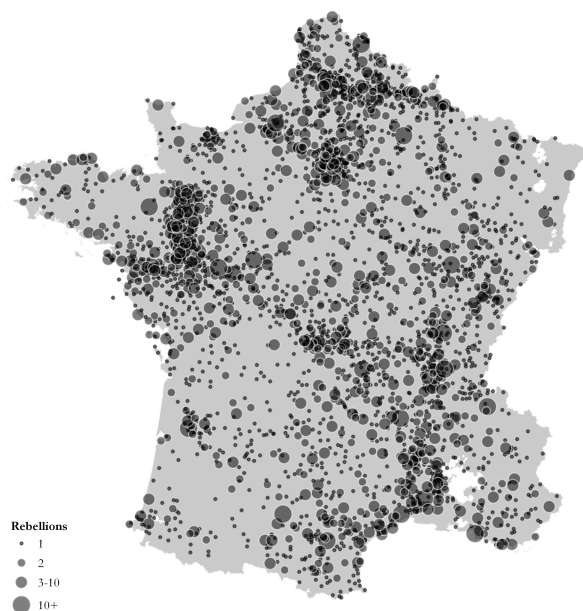
Figure 5. Spatial Distribution of Rebellions (1720–89)

ticipants. In addition, one-quarter of rebellions were against state authorities, 14 percent targeted the building of a representative of the authorities, and one-third were over taxation. Non-state authorities – which include the nobility, seigneurial and labor authorities, and the clergy – were the target of another 3 percent of rebellions.

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 the 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 on rebellions along with a series of empirical tests casts doubt that this could drive our findings.

Administrative and territorial divisions

Important for our empirical strategy, each parish was embedded in a set of administrative and territorial divisions. 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). At the eve of the Revolution, there were 35 généralités. *Subdélégations* were territorial divisions established in the mid-seventeenth century as subdivisions of généralités and were essential to the ter-

ritorial 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). On the eve of the Revolution, there were nearly 700 subdélégations. *Cantons* were yet a smaller administrative division. Created in 1790 along with the administrative divisions of *départements* and *districts*, they had various electoral and judicial prerogatives (Nordman and Ozouf-Marignier, 1989, pp. 53–62). Next to municipalities, they constituted the most granular level of government at the time, with over 4,500 of them. Although they were formally established after the Revolution, 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 contained 988 parishes, counted 884 thousand inhabitants (in 1793), and had a radius of 70 kilometers; each subdélégation contained 39 parishes, counted 34 thousand inhabitants, and had a radius of 15 kilometers; and each canton contained 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—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. An extensive literature indicates that subsistence crises and more general reactions to the price of staple foods were associated with rural collective action in eighteenth-century France (e.g., 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 parishes were subject to. Finally, we construct a historical GIS of the letter-post system and the *maréchaussée* brigades, which we describe in more detail

below.

Research Design

The wide variation in rebellion and the expansion of the horse-post network across France in the eighteenth century provides the opportunity to examine how state-building affected political stability on the eve of 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. To this end, we employ a staggered difference-in-differences approach that compares changes in rebellion in parishes with and without a horse-post relay. 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. Within our sample, 33,614 parishes (95.3 percent) are never treated in that they never receive a horse-post relay between 1721 and 1789; 608 (1.7 percent) are always treated in that they always have a horse-post relay; and 1,065 (3.0 percent) are "ever treated" parishes that change status over the period. Of the 1,065 ever treated parishes, 205 (19.3 percent) have a relay at the beginning of the period and drop out of treatment at some point, while 860 (80.7 percent) enter treatment at least once. Of these 860 parishes, 352 (33.1 percent) of them drop out of treatment at least once. Appendix Figure A8 shows the 43 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.[16]

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[16] 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.

We operationalize this approach at the parish-decade level by estimating the following regression equation:

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

where $\texttt{rebellions}_{pda}$ is the number of rebellions that occurred in parish p and decade d, where d is indexed from 1 to 7 for the decades 1720s to 1780s, 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, $\texttt{prices}_{pd}$ are average wheat prices in parish p and decade d, and γ_{da} are administrative division-by-decade fixed effects. 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 générale des postes* edition. For instance, for the decade 1720, we consider the 1721 edition together with rebellions that occurred between 1721 and 1730.[17]

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 six 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 generally corresponds to two leads and three lags in our context.

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

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[17]Given the editions of the *Liste générale des postes* that survived and that we could access, some parish-decade observations are slightly shorter than others: for instance, for the decade 1760, we consider the 1762 edition together with rebellions that occurred between 1762 and 1769, given that the following edition is for 1770. We show below that our results are robust to using alternative timing specifications.

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).

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

Outcome:	Number of rebellions						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Horse-post relay	0.053***	0.031***	0.031**	0.052***	0.028***	0.030***	0.028***
	[0.011]	[0.010]	[0.012]	[0.010]	[0.004]	[0.010]	[0.004]
Wheat prices	No	No	No	No	No	Yes	Yes
7 decade × 32 généralité FE	No	No	Yes	No	No	No	No
7 decade × 691 subdélégation FE	No	No	No	Yes	No	No	No
7 decade × 4,578 canton FE	No	No	No	No	Yes	No	Yes
Observations	211,722	211,003	196,764	72,980	15,208	210,973	15,208
Switchers (overall)	3,174	2,455	2,455	2,243	1,840	2,455	1,840
Switchers (at least once)	1,065	1,065	1,065	986	820	1,065	820
Outcome mean	0.023	0.023	0.023	0.023	0.023	0.023	0.023
Outcome residual s.d.	0.231	0.231	0.231	0.158	0.132	0.161	0.132
Periods $(-t; +T)$	$(-3;+6)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$

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. *Switchers (overall)* denotes the total 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. 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 and no selection on the number of periods used in the estimation. The establishment of a horse-post relay in a parish is associated with more rebellions over time. The average total effect implies an increase in the number of rebellions of 0.053, which is about 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 sizeable magnitude at 0.031 and significant at the one-percent level, roughly equal to the average incidence of rebellion and one-tenth of a residual standard deviation. Columns (3)–(5) further include administrative division-by-decade fixed effects to compare parishes over time within the same administrative division. The main results remain robust and very close to the baseline coefficient in Column (2), suggesting little heterogeneity in treatment effects across territories. Column (6) 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 baseline estimates are unchanged, which suggests that the introduction of horse-post relays was unrelated to changing local economic conditions that may have spurred rebellions.[18] Column (7) includes both canton-

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[18]To further test the income shocks channel, we also examine detailed, unique fiscal data centered on the

by-decade fixed effects and wheat prices. The resulting coefficient is 0.028 and significant at the one-percent level, again essentially identical to the baseline in Column (2).
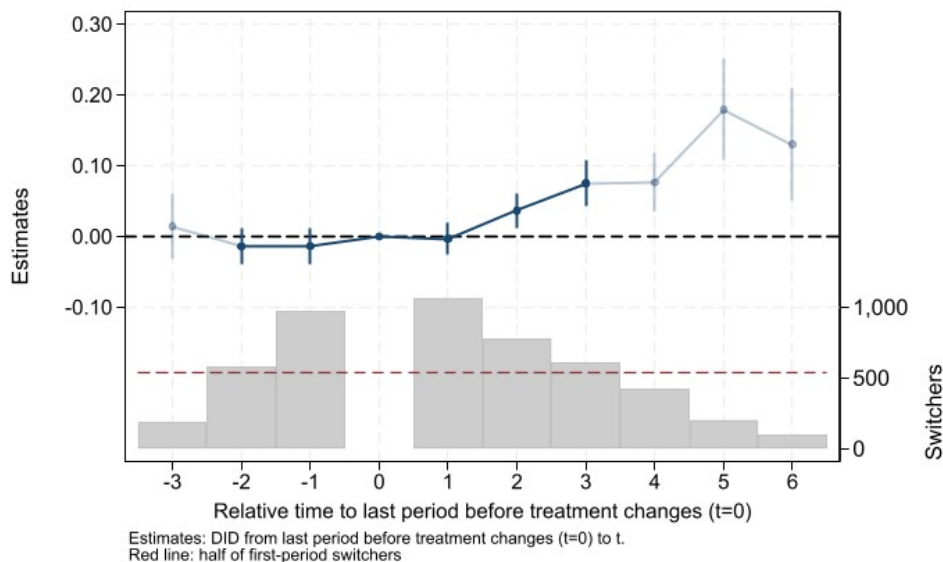

Figure 6. Event-Study Effects of New Horse-Post Relays on Rebellions

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 six 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 6 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 within two decades of the establishment of a horse-post relay and subsequently grow further. Finally, the figure

province of Languedoc and find that the 56 parishes that ever hosted a horse-post relay in Languedoc did not experience an increase in total tax revenues per capita over this period (Appendix Table A1). Specifically, we use parish-level information on 1773 *taille* and 1704 *taillon* revenues based on Pélaquier (2009), the only parish-level tax revenue information that is currently available on a large-enough scale for this period. These direct taxes were mainly based on the value of land (Brumont, 2005), so that we can expect them to be positively correlated with income over the eighteenth century. This suggests that hosting a horse-post relay was not associated with positive or negative local income shocks—this is despite the fact that Languedoc is a region for which we have results even stronger than the baseline (Appendix Table A4).

indicates that the third placebo lead and the fifth and sixth period estimates (and the fourth to a lesser degree) 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 (7) of Table 2, reported in Appendix Figure A9, does not change these conclusions.

Robustness

Table 3 examines the robustness of the main results. These tests all build from the full specification in Column (7) of Table 2, which includes decade-by-canton fixed effects. Column (1) begins by showing that the main results are robust to using the full set of periods available for estimation. Then, to assess the credibility of the "initial conditions" assumption (see Footnote 16), Column (2) excludes the decade 1720 from the sample. The resulting estimate of 0.030 is close to the baseline and significant at the one-percent level, suggesting that this assumption is reasonable.[19]

Next, we estimate Equation 1 holding 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 0.032 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 0.027 but is still significant at the one-percent level and in line with the baseline estimate.

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 0.077, suggesting that larger parishes may be more responsive to receiving a new relay.[20] However, given the higher weighted outcome mean and residual standard deviation, magnitudes are still similar to baseline estimates. In the same vein, in Column (6), we include a set of rural status-by-decade fixed effects, with rural status coded as an indicator variable that equals one if the parish had less 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 0.018, again comparable to the baseline. 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 rebellions. Moderate rebellions are defined as rebellions that gathered at least ten

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[19]We further report estimates when running Equation 1 on shorter panels in Appendix Table A2. The estimates remain stable, suggesting limited decade-specific heterogeneity.

[20]We investigate the nature of this heterogeneity further in Appendix Table A10, showing that differences in population, administrative status, and taxation levels do not account for our results.

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	0.041***	0.030***	0.032***	0.027***	0.077***	0.018***	0.016***	0.034***	−0.007	0.024***
	[0.004]	[0.004]	[0.004]	[0.004]	[0.007]	[0.003]	[0.004]	[0.005]	[0.008]	[0.003]
Observations	18,931	13,970	10,917	15,016	15,208	11,681	15,208	11,358	4,997	15,208
Switchers (overall)	2,339	1,707	1,320	1,748	1,840	1,501	1,840	1,360	534	1,840
Switchers (at least once)	820	778	440	779	820	670	820	623	220	820
Specification	All periods	No 1720	Same switchers	Switchers in	Pop. weights	Rural-decade FE	Moderate/ strong	New relays	Reconf. relays	Indicator
Outcome mean	0.023	0.025	0.023	0.023	1.314	0.023	0.015	0.023	0.023	0.016
Outcome residual s.d.	0.132	0.133	0.132	0.132	0.448	0.131	0.103	0.132	0.132	0.099
Periods $(-t;+T)$	$(-3;+6)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$

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, as well as wheat prices and decade-by-canton fixed effects. Column (2) removes parish-decades of the 1720s. 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). *Switchers (overall)* denotes the total 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. *Periods* $(-t;+T)$ denotes the number of event-study effects and placebos estimated. Standard errors are clustered at the parish level and reported in brackets.

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

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individuals and strong rebellions are those that gathered at least fifty people. Again, results are in line with the baseline.[21]

Columns (8) and (9) explore the non-linear expansion dynamics of the horse-post network by contrasting the introduction of entirely new horse-post relays with those that are the result of a local reconfiguration of the horse-post network.[22] 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. Finally, Column (10) shows that results are consistent when the outcome is an indicator variable that equals one if there was at least one rebellion in a parish and decade.

We also show in Appendix Table A4 that the treatment effect is generally homogeneous across regions, where we divide Ancien Régime France into eight regions.[23] Finally, we show in Appendix Table A5 that our results are robust to using alternative timing specifications: excluding rebellions that occurred during the year the *Liste générale des postes* was published, or assigning rebellions to the following decade—for instance, assigning rebellions that occurred in 1730–9 to the 1721 edition of the *Liste générale des postes.*

Robustness to Potential Reporting Biases in Rebellion

In addition to the robustness tests in Table 3, we also investigate whether archival gaps or recording biases in the rebellions data could drive our findings. For instance, information for some départements was derived solely from national archives, which are less comprehensive than départemental archives. That could lead to biases in the representativeness of rebellious events in the 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 canton-by-decade 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, the horse post does not form part of Nicolas's (2002) sources, as most of its archives were damaged in a flood in 1910 and partly lost during successive relocations and the Second World War (Krakovitch et al., 2000). Furthermore, spatial patterns presented below suggest that there was no over-recording in the areas surrounding horse-post relays beyond the host parish itself.

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[21]We report the average total treatment effects across all types of rebellions in Appendix Table A3.

[22]A typical example of such local reconfiguration is provided in Panel (a) of Appendix Figure A6. We define entirely new relays as those that are at least fifteen kilometers away from a retired relay in the same decade.

[23]Effects are more muted in the Parliament of Paris, which already had strong state presence. The horse post network was already well developed there and did not expand much more in the analysis period.

Alternatively, the introduction of a horse-post 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.[24] The results are robust, and are reported in Appendix Table A7. We further successively exclude rebellions that were recorded by the most frequent recording actors: the central government, the central financial administration, the maréchaussée brigades (the 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 archival sources of Nicolas's (2002) survey.

Mechanism of Increasing Visibility and Presence of the State

What explains why parishes that receive new horse-post relays experience a subsequent uptick in rebellion? Several pieces of information suggest that the heightened visibility and presence of state agents introduced by the expanding horse-post network is a driving mechanism.[25]

Table 4 probes this mechanism in several ways. Column (1) narrows the dependent variable to rebellions against state authorities, i.e., the military, police, and the judiciary. These agents are some of the most visible manifestations of state authority with the ability to maintain and enforce order, including through the use of punitive sanctions and force. Our data on rebellions capture a range of actions against these agents, such as revolts during prisoner transfers, in reaction to compulsory efforts at conscription, in response to court decisions, 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. While the coefficient is smaller than the baseline – as might be expected given that it is a smaller subset of rebellion – its magnitude is still substantial when compared to the residual standard deviation of this variable.[26] Furthermore, the finding contrasts notably with rebellions against non-state authorities (the nobility, the Church, as well as seigneurial and labor authorities). Column (2) indicates that new horse-post relays were unrelated to rebellions against non-state agents. If the introduction of new horse-post relays raised the

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[24]We report the distribution of rebellions in our sample across the type of sources used by Nicolas's (2002) survey in Appendix Table A6.

[25]Additional tests indicate that peasants and skilled workers – popular actors critically impacted by state expansion – played a central role in rebellions after the introduction of new postal relays. Indeed, reproducing the baseline specification including all controls on the subset of rebellions in which peasants or skilled workers participated – 2,446 rebellions (43 percent) – yields an estimate of 0.007 (p-value: 0.002)

[26]The figure is one-eighth, compared to one-quarter for the baseline.

visibility of the state and grievances against it, then it should have channeled attacks not only against state authorities but also against physical symbols of that authority. Column (3), which examines rebellions involving attacks on public buildings belonging to authorities, shows that this indeed occurred.

Table 4. Mechanisms Tests

Outcome:	Number of rebellions			
	(1)	(2)	(3)	(4)
Horse-post relay	0.008***	0.001	0.008***	0.006***
	[0.002]	[0.001]	[0.001]	[0.002]
Target of rebellion	State authorities	Non-state authorities	Public buildings	Taxation
Observations	15,208	15,208	15,208	15,208
Switchers (overall)	1,840	1,840	1,840	1,840
Switchers (at least once)	820	820	820	820
Outcome mean	0.006	0.003	0.003	0.009
Outcome residual s.d.	0.064	0.047	0.045	0.082
Periods $(-t; +T)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$

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, as well as wheat prices and decade-by-canton fixed effects. The outcome is rebellions against state authorities (judiciary, military, police) in Column (1), against non-state authorities (seigneurial, nobility, labor, Church) in Column (2), targeting public buildings in Column (3), and against taxation in Column (4). *Switchers (overall)* denotes the total 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. 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 (4) turns to rebellions 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. For instance, 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 to local taxation, the greater presence of state agents could have crystallized ire against state tax obligations. Column (4) shows that this

indeed translated into greater local rebellion.[27]

Beyond the tests of the visibility mechanism reported in Table 4, we also examine whether the establishment of horse-post relays impacted rebellious activity in nearby parishes. If relays raised state visibility 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. To test this, 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.[28] Results in Figure 7 imply that the number of rebellions *decreased* by 0.008 up to 5 kilometers away from a new horse-post relay, and by 0.006 in parishes 5–10 kilometers away. We find no effect 10–15 kilometers away.

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 authority. 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.

Alternative Explanations

We explore five main alternative explanations that could drive a link between new horse-post relays and rebellions separate from the channel of increased visibility of state agents: the disruption of local social hierarchy, jealousies aroused by the creation of privileged new postmasters, 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 can fray subsistence security and enable popular grievances to boil over. The

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[27]Consistent with this, we do not find higher rates of rebellion following new relays in parishes subject to higher salt taxes (see Appendix Table A10). We also do not find evidence of an increase in total tax revenues per capita using the only parish-level tax revenue information available over this period from the province of Languedoc (see Appendix Table A1).

[28]Recall that we are comparing parishes over time within cantons, and the average radius of a canton is 6 kilometers.
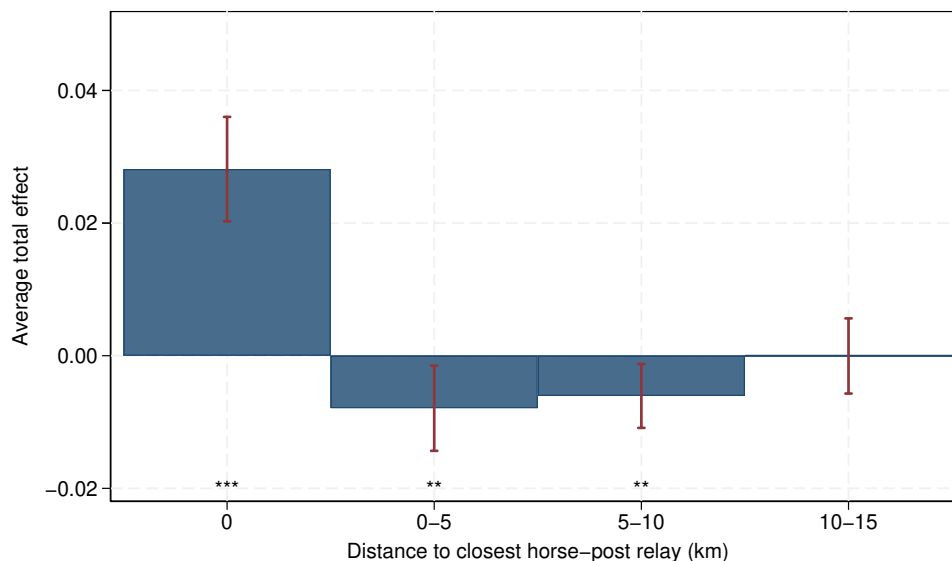
26

Figure 7. Average Total Effect of New Horse-Post Relays on Rebellions across Distances to Horse-Post Relays

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

expansion of state capacity can weaken the authority of traditional power brokers without entirely covering their functions through state-provided services. Meanwhile, those power brokers may continue to attempt to extract economic and social rents.

Several pieces of evidence cast doubt on this alternative in specific case. 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). As a result we find no impact of new horse-post relays on rebellions against the broader set of local civilian elites: the nobility, as well as seigniorial and labor authorities (estimate: -0.0003; p-value: 0.784). We also find no impact on rebellions against the Church and the clergy (estimate: 0.0001; p-value: 0.933).

The Role of Postmasters

A related but separate alternative revolves around the creation of the postmaster position charged with running horse-post relays. Tax and other privileges of these ascendant non-nobles could have generated potential jealousies between postmasters and nobles or fear by

nobles that postmasters could threaten their power. Postmasters could also have won the disdain and ire of commoners.

We do not find supportive evidence for this explanation. There are no accounts of rebellions directly against postmasters in our data.[29] Furthermore, rebellions with interventions of local lords and nobles are no greater where there are new horse posts (estimate: -0.0001; p-value $= 0.443$).

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. Similar dynamics around the expansion of information networks have been highlighted in the cases of late nineteenth- and early twentieth-century Sweden (Melander, 2020) and the United States (García-Jimeno, Iglesias and Yildirim, 2022).[30] 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 explain 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 network.[31]

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 A10). As can be seen in Appendix Figure A11, by the early eighteenth century, these offices covered most of the territory. 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 A12).

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[29] This also casts some doubt on a pure opportunity account linking state presence and rebellion.

[30] Although the horse-post 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, the 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 (Jamaux-Gohier, 2001, pp. 35–80).

[31] 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*.

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. In addition, the letter-post administration was organized differently from that of the horse-post. From the late seventeenth century onward, it functioned through a farming system (*faire-valoir indirect*) whereby tenderers farmed out parts of their contract. As a result, almost all letter-post offices were run by a single individual. 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 a two-wheeled cart driven by employees of the letter post, who did not wear a distinctive uniform until 1822.

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 A13 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 0.024 (*p*-value: 0.077), suggesting that the development of the letter post cannot explain our results.[32]

Transit Infrastructure and the Roads Network

An additional alternative rests with the underlying road system on which the horse-post relay network relied, although it was managed by the separate Bridges and Roads administration. 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 seigneurial or religious authority, 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.[33]

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[32]We also show in Panel (b) of Appendix Figure A13 event-study estimates of the treatment effect of letter-post offices on rebellion. We find a positive effect, but the 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.

[33]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

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 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 hierarchy and those linking relays passed after those linking Paris to ports, provincial capitals, and the frontiers 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 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.[34] Nevertheless, we show in Columns (4) and (8) of Appendix Table A10 that there is no heterogeneity in the treatment effect of horse-post relays when comparing parishes located at the same distance of a paved road according to Cassini's maps published in 1756–90, where we divide parishes along quartiles of distance: less than 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

Another 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 four-to-five 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 A11) and were generally located in the most

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up to one month's work per year on road repair and construction (Conchon, 2016). Though the corvée was highly unpopular, only ten rebellions were directed against this labor institution in our data.

[34]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).

populous towns (Appendix Figure A12).[35] 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 A10). While this security force embodied the symbolic presence of the state, it never mustered more than three thousand men and generally operated near towns and major roads.[36]

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 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 A14). 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 A15 are similar to baseline estimates. The average total effect of the horse post on rebellion, accounting for the concurrent development of the maréchaussée, is 0.028 (p-value: 0.045), suggesting that it cannot explain our results.[37] 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 A9 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

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[35]We collect information on the spatial distribution of maréchaussée brigades from Fressin's (2021) *Atlas historique de la gendarmerie*.

[36]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 38 cases recorded in our data. Moreover, while there are 300 cases of rebellions explicitly against the maréchaussée recorded in our data (5 percent of all rebellions), we find little impact of the development of the horse post on rebellions against the maréchaussée (estimate: 0.002; p-value: 0.11)

[37]We also show in Panel (b) of Appendix Figure A15 event-study estimates of the treatment effect of maréchaussée brigades on rebellion. We find a positive effect, but the pre-trends are such that one cannot have a causal interpretation of the results: maréchaussée brigades developed in locations that were already experiencing upward trend in rebellion, suggesting that they did not generate selection bias in the archival sources we use to measure rebellious activity.

maréchaussée. The results, reported in Column (6) of Appendix Table A7, are similar.

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 lightning rod for popular resistance and discontent even if the ultimate goals are social order and control. 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 decades prior to the French Revolution. We attribute this relationship to the greater visibility and presence of the state and its agents in these locales.

The dynamics we identify also could have plausibly had important consequences for the French Revolution at the end of our period of study. Further analysis indicates that while the horse-post network in itself did not spread information among citizens or lower their collective action costs, locales that received horse-post relays and its associated uptick in subsequent rebellion were more likely to later have organized political societies that formed during the Revolution and served to coordinate revolutionary action and take control of local affairs as the French state collapsed.[38] Prior grievances introduced by horse posts appear to have been reborn once a subsequent shock provided the opportunity for people to mobilize. 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 state visibility to information diffusion, ease of communication, and popular coordination. Scholars might fruitfully examine these channels in other canonical cases of early state-building in order to enhance our understanding of historical state-making and its consequences as well as to inform ongoing state-building

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[38]The relationship between the horse-post network and later political societies holds both in an OLS and in a 2SLS framework with horse-posts as an instrument for rebellion in predicting political societies, along with controls and canton fixed effects. The link holds both for all and for Jacobin political societies. See Appendix Table A11.

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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Supplementary Figures

Figure A1. List of Horse-Post Relays between Lyon and Marseille in 1751
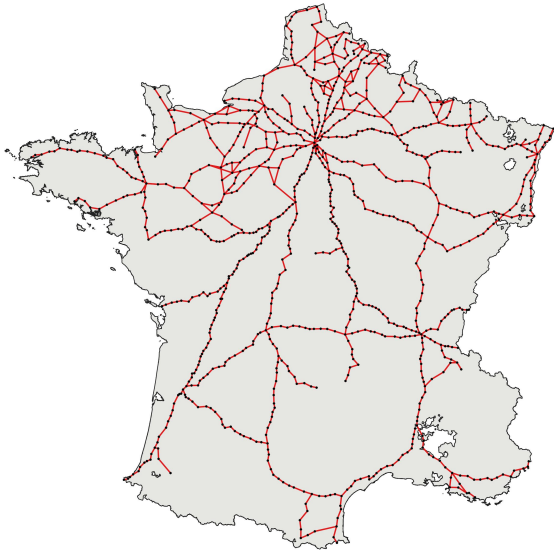
Notes. This figure provides an excerpt from the 1751 edition of the *Liste générale des postes de France* held by the Bibliothèque historique des postes et des télécommunications. It depicts the distribution of the 29 horse-post relays along the 39-post route from Lyon to Marseille (about 312 kilometers).
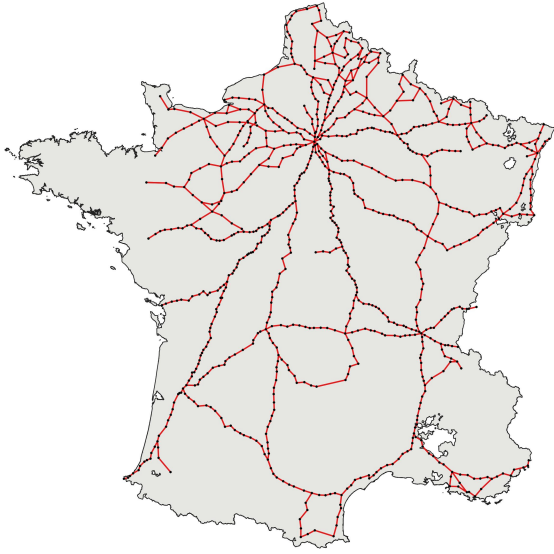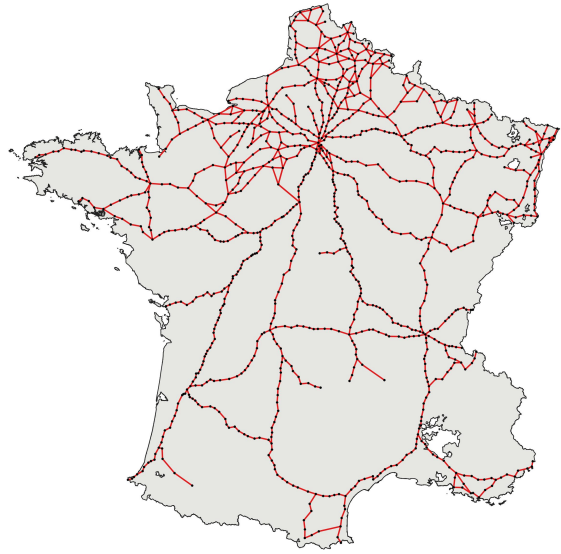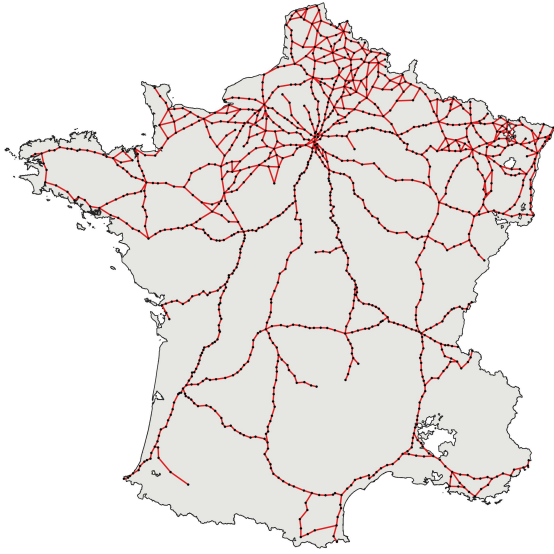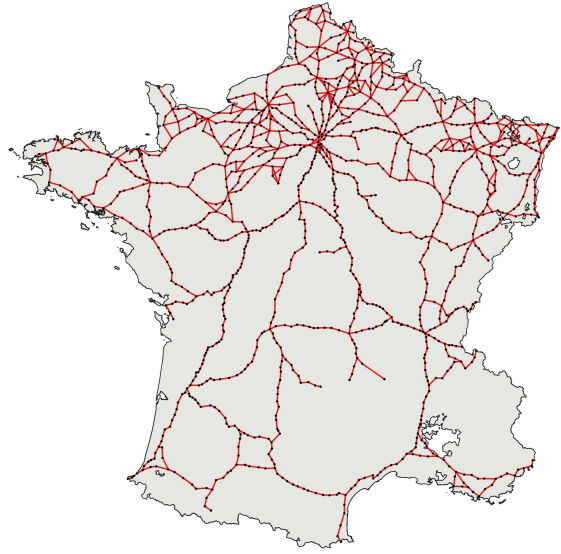
(a) 1721
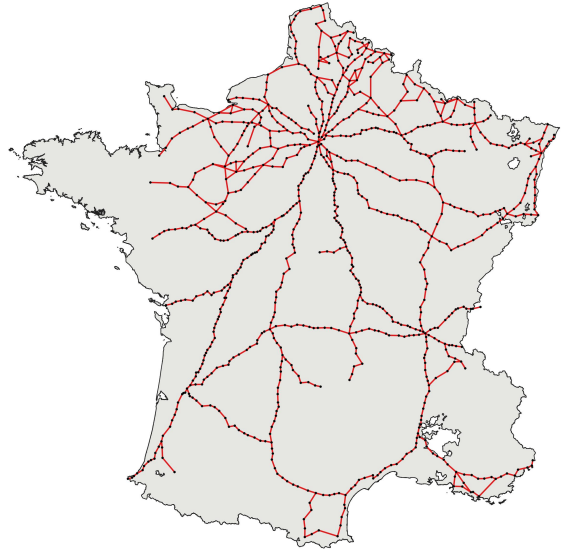
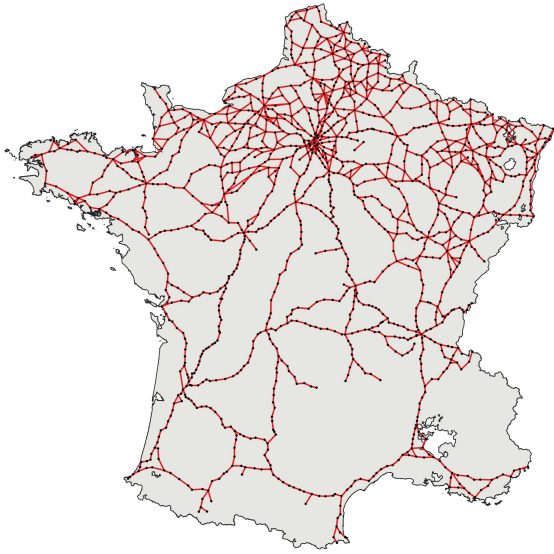(b) 1731

(c) 1741

(d) 1751

Figure A2. The Horse-Post Network (1721–51)

(a) 1762

(b) 1770

(c) 1780
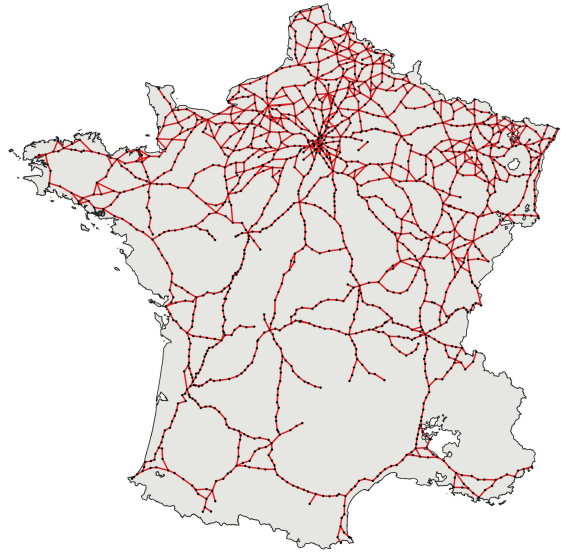
(d) 1790

Figure A3. The Horse-Post Network (1762–90)
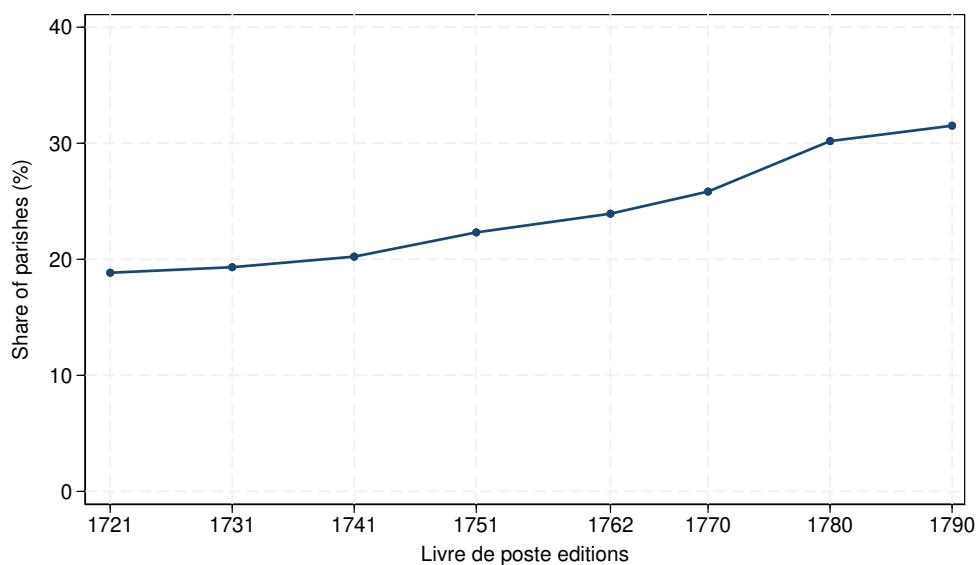
Figure A4. Share of Parishes with a Nearby Horse-Post Relay (1721–90)

Notes. This figure shows the share parishes – among 35 thousand – with a nearby postal relay, i.e., a postal relay in their (1793) canton between 1721 and 1790.

Figure A5. Flow of Horse-Post Relays (1721–90)

Notes. This figure shows the flow of horse-post relays between 1721 and 1790. *Gains* stands for newly created relays in the preceding decade, while *Losses* stands for retired relays in the preceding decade.
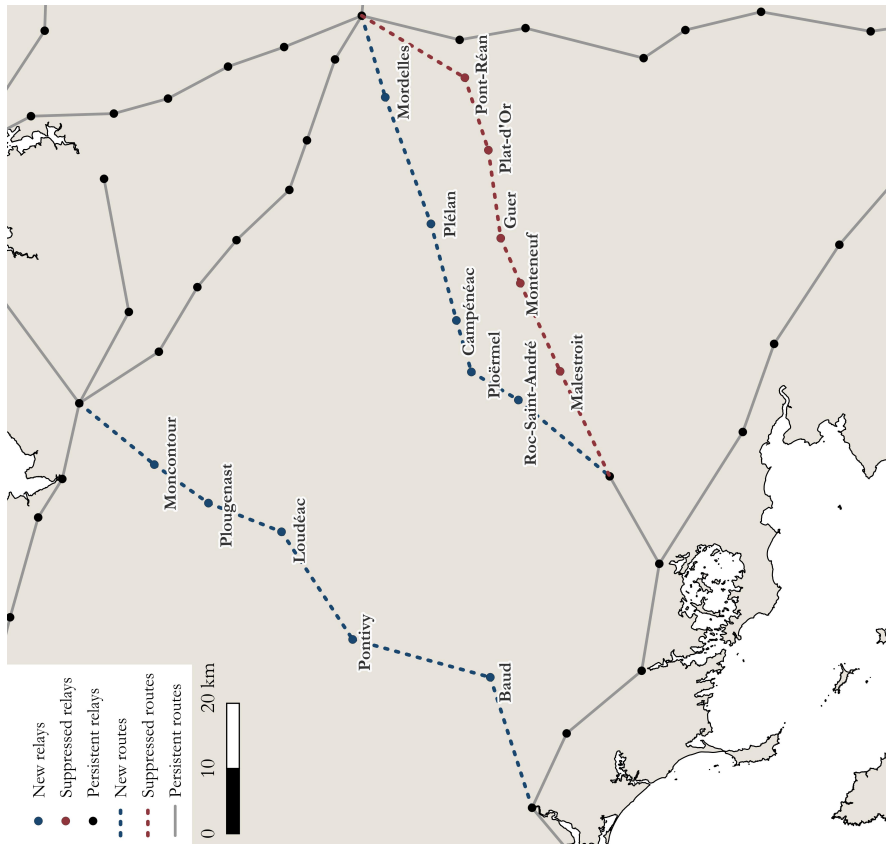
(a) New and Retired Horse-Post Relays and Routes (1760–70)
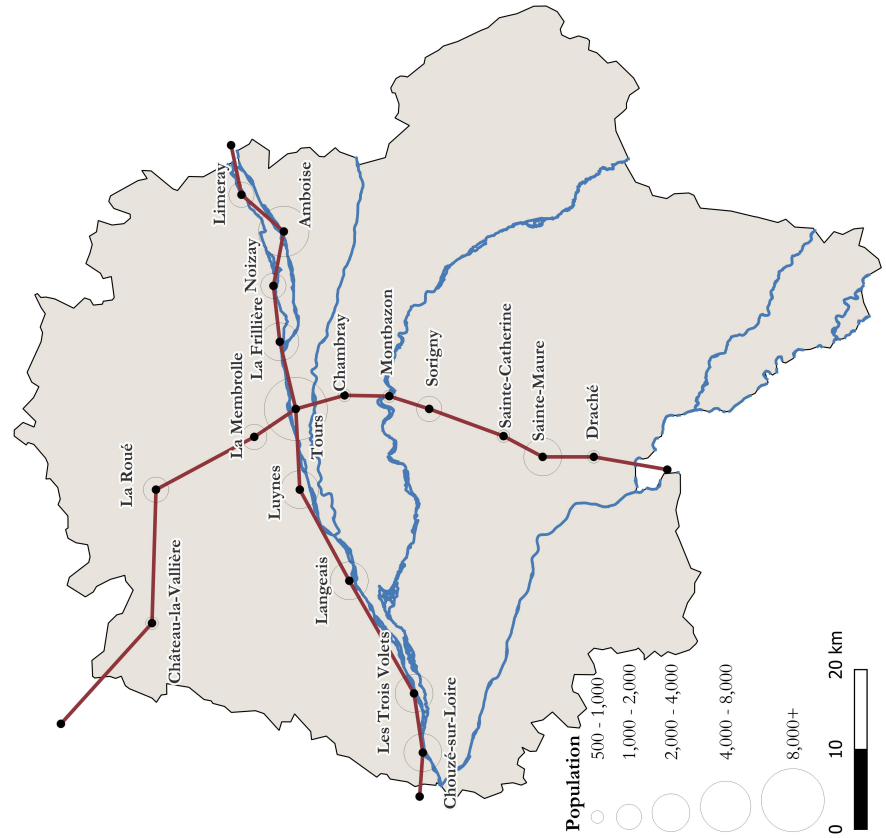
(b) Horse-Post Network in Touraine (1770)

Figure A6. Local Spatial Distribution of the Horse-Post Network in the 1760s and 1770s

Notes. This figure displays two instances of the local spatial distribution of the horse-post network in the 1760s and 1770s. Panel (a) focuses on the 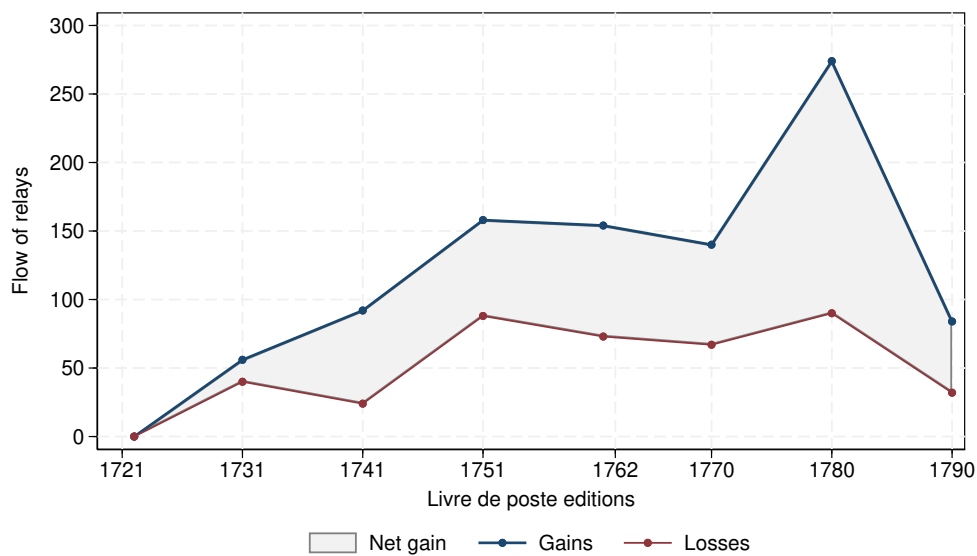newly created and retired horse-post relays and routes in the region of Brittany between 1760 and 1770. *Persistent* relays and routes correspond to relays and routes that were present in both 1760 and 1770. Panel (b) focuses on the region of Touraine in 1770 – more precisely, in the post-Revolution 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.

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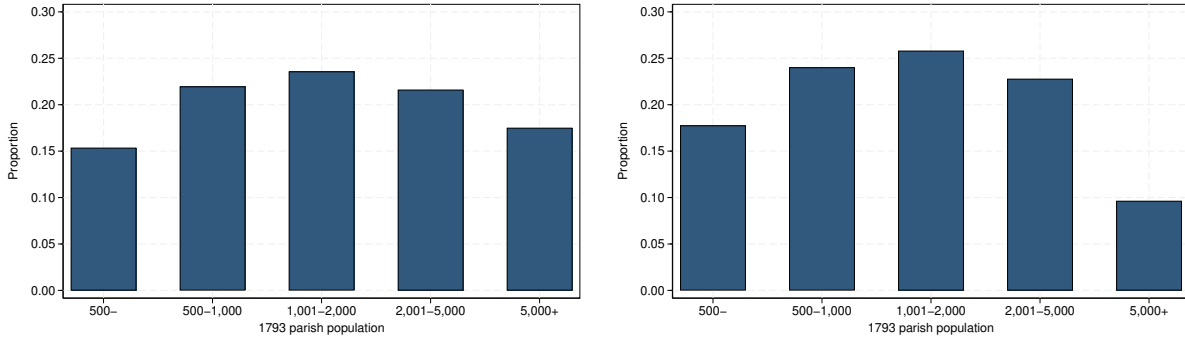
(a) All Horse-Post Relays

(b) New Horse-Post Relays

Figure A7. Population of Parishes with a Horse-Post Relay (1721–89)

Notes. This figure displays the distribution of the 1793 population among the parishes that had a horse-post relay during the eighteenth century. Panel (a) contains all 1,693 parishes that ever had a relay between 1721 and 1790. Panel (b) contains the 866 parishes that did not initially have a relay in 1721 but later had one between 1731 and 1790.
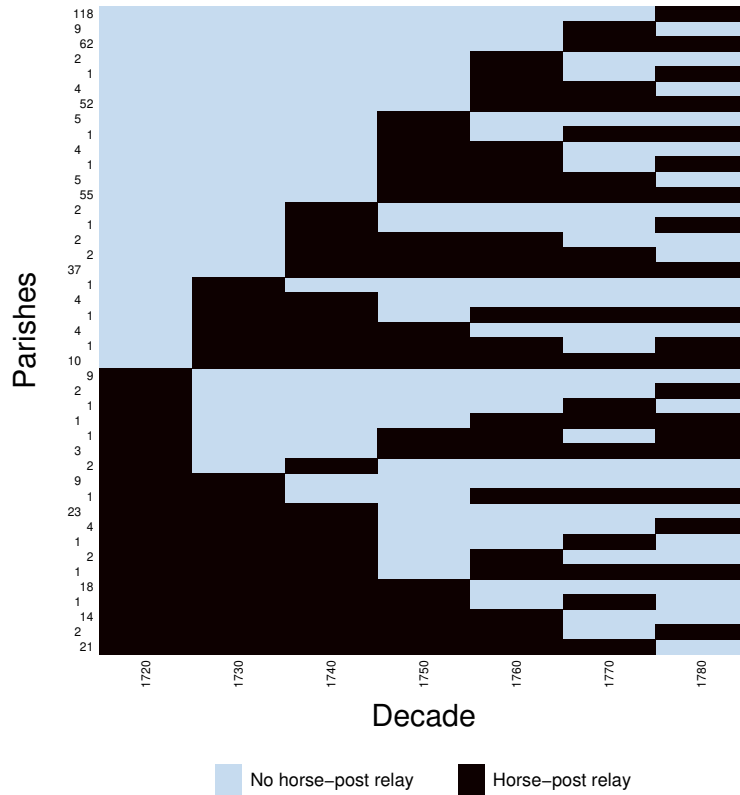
Figure A8. Collapsed 43 Treatment Histories among Parishes (1721–90)

Notes. This figure displays the 43 treatment histories among parishes that switched treatment at least once between 1721 and 1790. 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.

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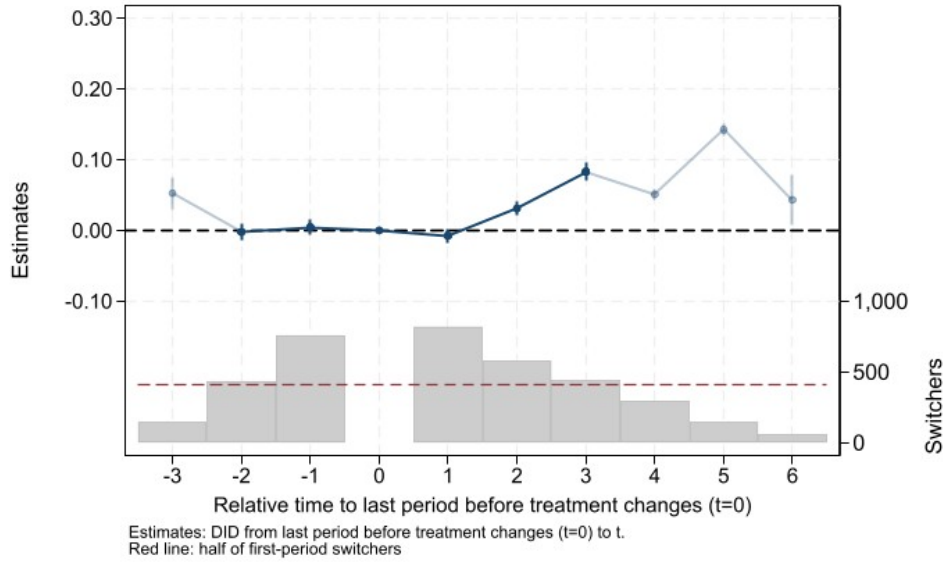
Figure A9. Event-Study Effects of New Horse-Post Relays on Rebellions

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 (2024 [2023]) `did_multiplegt_dyn` Stata command. The specifications correspond to Column (7) 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 six 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.
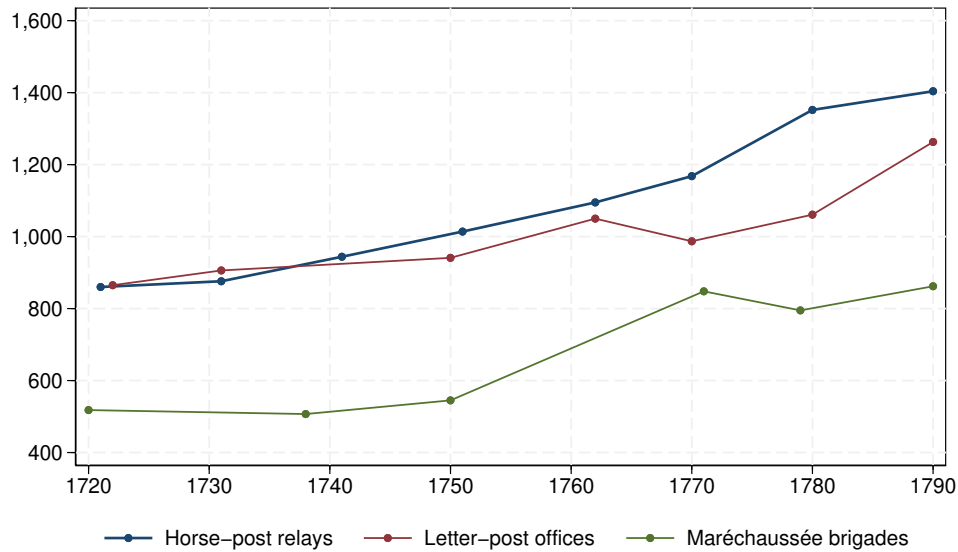
Figure A10. Horse-Post Relays, Letter-Post Offices, and Maréchaussée brigades (1720–90)

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(a) 1720–2 (b) 1790
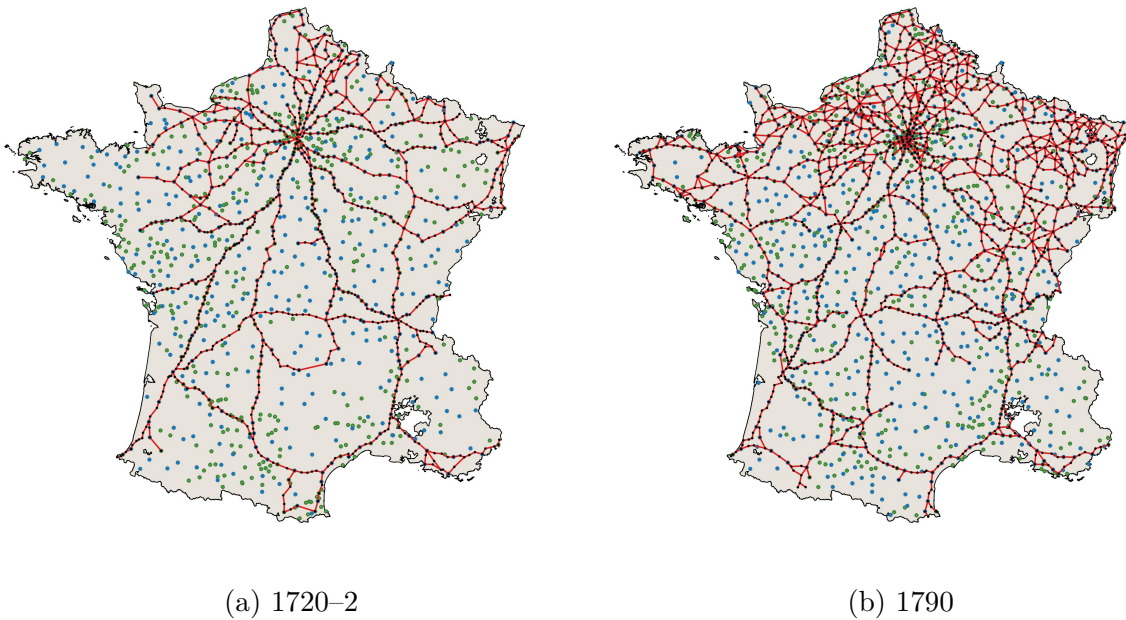
Figure A11. The Horse-Post Network, Letter-Post Offices, and Maréchaussée Brigades

Notes. This figure displays distribution of horse-post relays (black dots) based on the 1721 and 1790 editions of the *Liste générale des postes de France* together with the distribution of letter-post offices (green dots) based on the 1722 and 1790 editions of the *Almanach royal* and of maréchaussée brigades (blue dots) based on the Fressin's (2021) *Atlas historique de la gendarmerie.*
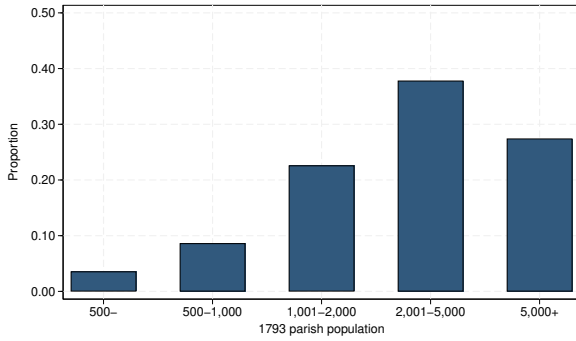
(a) All Letter-Post Offices
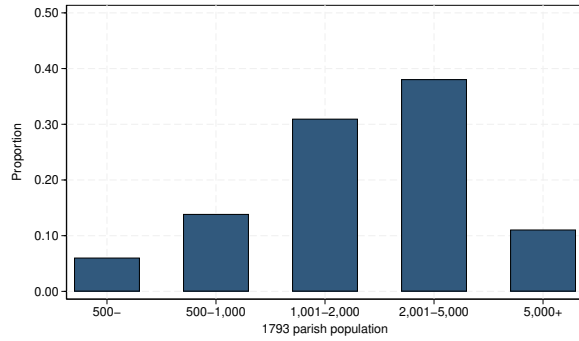
(b) New Letter-Post Offices
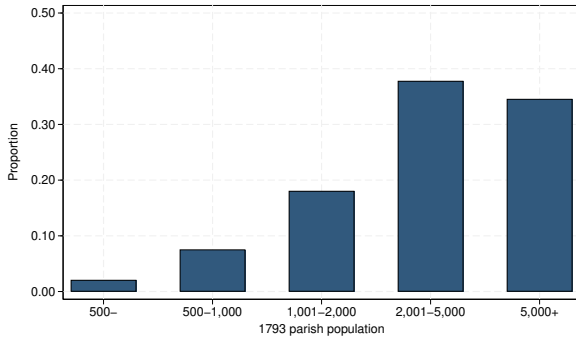
(c) All Maréchaussée Brigades
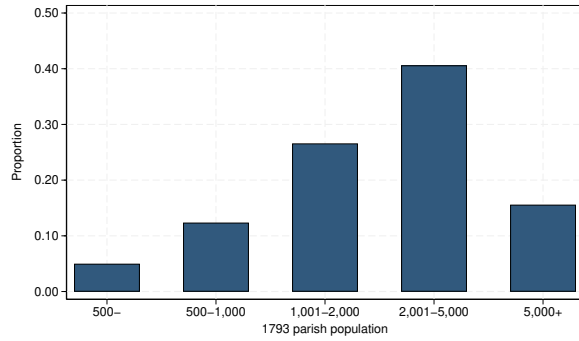
(d) New Maréchaussée Brigades

Figure A12. Population of Parishes with a Letter-Post Office or a Maréchaussée Brigade (1721–90)

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 1,482 parishes that ever had a letter-post office between 1721 and 1790. Panel (b) contains the 621 parishes that did not initially have a letter-post office in 1721 but later had one between 1731 and 1790. Panel (c) contains all 1,102 parishes that ever had a maréchaussée brigade between 1721 and 1790. Panel (d) contains the 589 parishes that did not initially have a maréchaussée brigade in 1721 but later had one between 1731 and 1790.
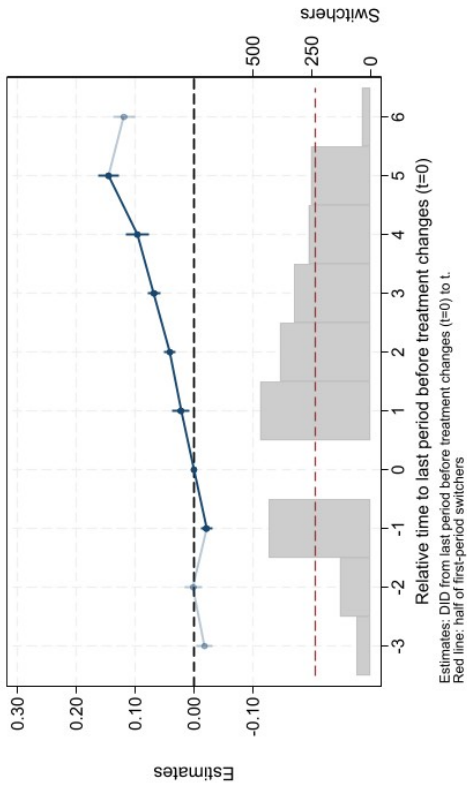
(a) Horse-Post Relays, Accounting for Letter-Post Offices
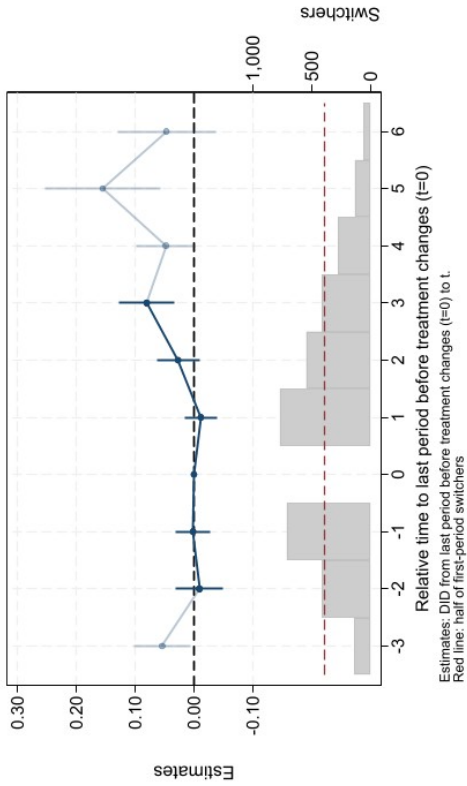
(b) Letter-Post Offices

Figure A13. 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'Haultfœuille 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 (2024 [2023]) did_multiplegt_dyn Stata command. Both panels: the unit of observation is a parish-decade from the 1720s 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 six 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.

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Figure A14. 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 (2024 [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 1730 and 1760 as data on maréchaussée brigades are missing for these periods.
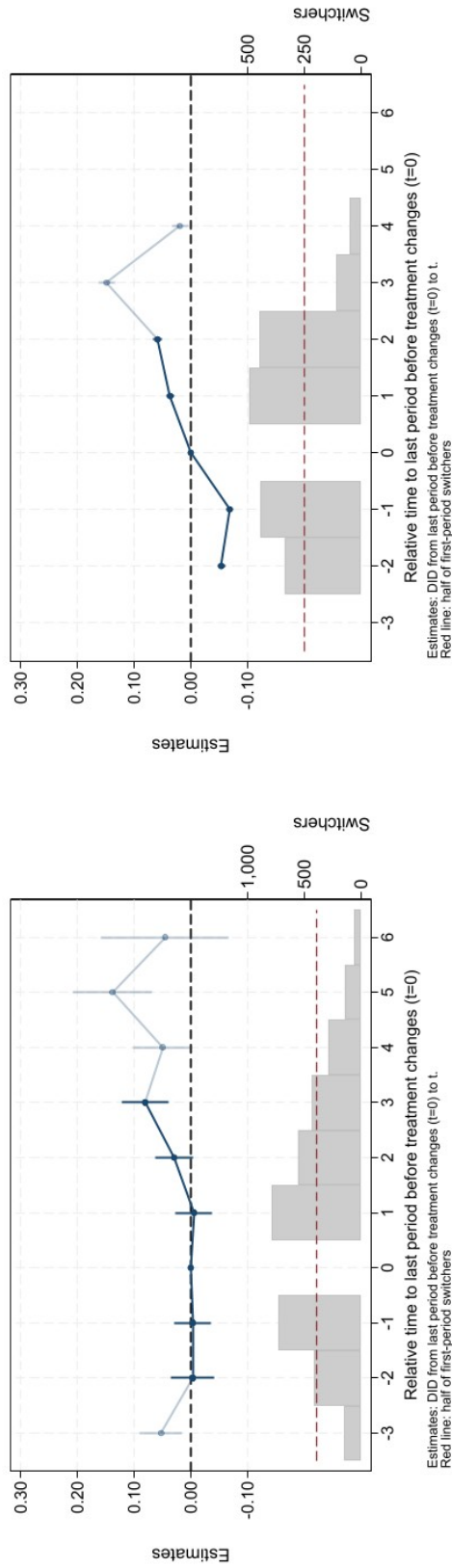
(a) Horse-Post Relays, Accounting for Maréchaussée Brigades

(b) Maréchaussée Brigades

Figure A15. 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'Haultfœuille 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 (2024 [2023]) `did_multiplegt_dyn` Stata command. Both panels: the unit of observation is a parish-decade from the 1720s 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 include the estimation to two leads and three lags in Panel (a) and one 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 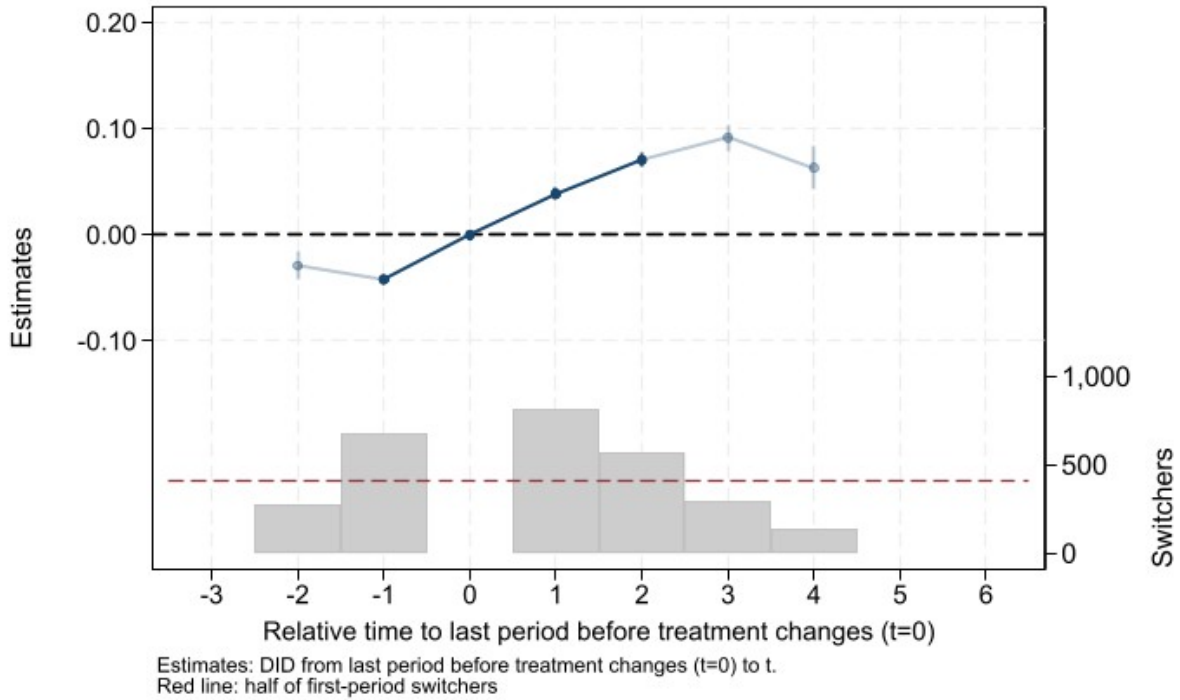dotted lines denote half of first-period switchers. The regression in Panel (b) excludes decades 1730 and 1760 as data on maréchaussée brigades are missing for these periods. We assume constant spatial distribution for these years in Panel (a).

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Table A1. Effect of the Horse Post on Tax Revenues in Languedoc

Outcome:	Change in tax revenues per capita				
	(1)	(2)	(3)	(4)	(5)
Horse-post relay	−0.189	0.256	0.685	−0.797	−2.571
	[0.557]	[0.570]	[0.527]	[0.650]	[1.726]
Controls	No	Yes	Yes	Yes	Yes
3 généralité FE	No	No	Yes	No	No
28 subdélégation FE	No	No	No	Yes	No
361 canton FE	No	No	No	No	Yes
Observations	2,336	2,336	2,336	2,336	2,336
(Within) R-squared	0.000	0.025	0.033	0.010	0.016

Notes. This table reports OLS coefficients from regressing the change in tax revenues from the *taille* in 1773 and the *taillon* in 1704 in *livres* per capita on an indicator variable that equals one if a parish ever hosted a horse-post relay during the eighteenth century. We use population data from the census of 1793. Tax income data is from Pélaquier's (2009) *Atlas historique du Languedoc*. The unit of observation is a parish in the Languedoc province. *Controls* include a set of indicator variables that equal one if the parish was the seat of an administrative center (évêché, recette de finances, subdélégation, bailliage, district, or département), an indicator variable that equals one if the parish hosted a political society during the Revolution, the change in the price of wheat between 1720 and 1780, and the log distance to the closest paved road. Estimates are calculated using Correia's (2023 [2014]) `reghdfe` State command. Robust standard errors are reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A2. Average Total Effect of New Horse-Post Relays on Rebellions: Shorter Panels

Outcome:	Number of rebellions				
	(1)	(2)	(3)	(4)	(5)
Horse-post relay	0.028***	0.030***	0.020***	0.030***	0.023**
	[0.004]	[0.004]	[0.005]	[0.007]	[0.009]
Panel	1720–80	1730–80	1740–80	1750–80	1760–80
Observations	15,208	13,970	9,838	7,175	4,778
Switchers (overall)	1,840	1,707	1,151	866	567
Switchers (at least once)	820	778	697	561	417
Outcome mean	0.023	0.025	0.027	0.030	0.032
Outcome residual s.d.	0.132	0.133	0.136	0.139	0.137
Periods $(-t; +T)$	$(-2;+3)$	$(-1;+3)$	$(-1;+2)$	$(-1;+2)$	$(-1;+2)$

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. *Observations* denotes the number of parish-decade observations effectively used in the estimation. *Switchers (overall)* denotes the total 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 (2024 [2023]) did_multiplegt_dyn Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \le 0.01$. ** $p \le 0.05$. * $p \le 0.10$.

Table A3. Average Total Effect of New Horse-Post Relays on Rebellions by Intensity

Outcome:	Number of rebellions			
	(1)	(2)	(3)	(4)
Horse-post relay	0.028***	0.011***	0.007**	0.009***
	[0.004]	[0.002]	[0.003]	[0.001]
Observations	15,208	15,208	15,208	15,208
Switchers (overall)	1,840	1,840	1,840	1,840
Switchers (at least once)	820	820	820	820
Intensity	Any	Weak	Moderate	Strong
Outcome mean	0.023	0.008	0.010	0.005
Outcome residual s.d.	0.132	0.073	0.083	0.056
Periods $(-t; +T)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$

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, as well as wheat prices and decade-by-canton fixed effects. *Observations* denotes the number of parish-decade observations effectively used in the estimation. *Switchers (overall)* denotes the total 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 (2024 [2023]) did_multiplegt_dyn Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \le 0.01$. ** $p \le 0.05$. * $p \le 0.10$.

Table A4. Average Total Effect of New Horse-Post Relays on Rebellions by Region

Outcome:				Number of rebellions					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Horse-post relay	0.028*** [0.004]	0.011 [0.009]	−0.045*** [0.004]	0.029*** [0.010]	0.115*** [0.023]	0.129*** [0.013]	0.020** [0.009]	0.039*** [0.005]	0.065*** [0.009]
Region	France	Paris	Normandy	Brittany	S. West	Languedoc	S. East	East	North
Observations	15,208	5,042	2,183	872	767	1,120	142	4,130	743
Switchers (overall)	1,840	653	205	209	113	115	36	439	64
Switchers (at least once)	820	320	89	80	53	51	15	187	23
Outcome mean	0.023	0.033	0.011	0.043	0.018	0.020	0.024	0.011	0.014
Outcome residual s.d.	0.132	0.151	0.096	0.150	0.168	0.130	0.115	0.095	0.102
Periods $(−t; +T)$	$(−2;+3)$	$(−2;+3)$	$(−2;+3)$	$(−2;+3)$	$(−1;+3)$	$(−1;+3)$	$(−2;+3)$	$(−2;+3)$	$(−2;+3)$

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, as well as wheat prices and decade-by-canton fixed effects. 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 généralités of Lille and Valenciennes. *Observations* denotes the number of parish-decade observations effectively used in the estimation. *Switchers (overall)* denotes the total 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. *Periods $(−t; +T)$* denotes the number of event-study effects and placebos estimated. Estimates are calculated using de Chaisemartin et al.'s (2024 [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. Average Total Effect of New Horse-Post Relays on Rebellions by Timing

Outcome:	Number of rebellions					
	(1)	(2)	(3)	(4)	(5)	(6)
Horse-post relay	0.031***	0.028***	0.029***	0.028***	0.075***	0.067***
	[0.010]	[0.004]	[0.009]	[0.004]	[0.014]	[0.005]
Wheat prices	No	Yes	No	Yes	No	Yes
Decade × canton FE	No	Yes	No	Yes	No	Yes
Specification	Baseline		After post		Next decade	
Observations	211,003	15,208	211,003	15,208	176,137	10,903
Switchers (overall)	2,455	1,840	2,455	1,840	1,811	1,319
Switchers (at least once)	1,065	820	1,065	820	779	580
Outcome mean	0.023	0.023	0.021	0.021	0.025	0.025
Outcome residual s.d.	0.231	0.132	0.225	0.126	0.237	0.133
Periods $(-t; +T)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$

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. *After post* denotes specifications where rebellions that occurred in the year the *Liste générale des postes* was published are omitted. *Next decade* denotes specifications where rebellions of the next decade are assigned. For instance, rebellions that occurred in 1730–9 are assigned to the 1721 edition of the *Liste générale des postes*. *Observations* denotes the number of parish-decade observations effectively used in the estimation. *Switchers (overall)* denotes the total 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 (2024 [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. Sources of Rebellious Events

Type of sources	Rebellions	Base rates
All		
Archives	5,692	
Secondary sources	5,068	90% of all rebellions
	914	16% of all rebellions
National archives	2,257	45% of rebellions with archival sources
Series E — Minutes of government council	202	9% of rebellions with national archival sources
Series Z1A — Financial administration (cours des aides)	1,109	49% of rebellions with national archival sources
Series Z1C — Maréchaussée jurisdiction	438	19% of rebellions with national archival sources
Départemental archives	2,257	45% of rebellions with archival sources
Series B — Courts and justices	1,253	56% of rebellions with départemental archival sources
Series C — Provincial administration	912	40% of rebellions with départemental archival sources

Notes. This table reports the sources of the rebellions from Nicolas's (2002) survey that occurred between 1721 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.

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Table A7. Average Total Effect of New Horse–Post Relays on Rebellions by Type of Sources

Outcome:				Number of rebellions				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Horse-post relay	0.028*** [0.004]	0.025*** [0.003]	0.013*** [0.002]	0.029*** [0.004]	0.024*** [0.004]	0.019*** [0.004]	0.028*** [0.004]	0.017*** [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
Observations	15,208	15,208	15,208	15,208	15,208	15,208	15,208	15,208
Switchers (overall)	1,840	1,840	1,840	1,840	1,840	1,840	1,840	1,840
Switchers (at least once)	820	820	820	820	820	820	820	820
Outcome mean	0.023	0.021	0.009	0.022	0.018	0.021	0.018	0.019
Outcome residual s.d.	0.132	0.122	0.078	0.129	0.115	0.125	0.111	0.118
Periods $(-t;+T)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$

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, as well as wheat prices and decade-by-canton fixed effects. 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 A6. *Observations* denotes the number of parish-decade observations effectively used in the estimation. *Switchers (overall)* denotes the total 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. *Periods $(-t;+T)$* denotes the number of event-study effects and placebos estimated. Estimates are calculated using de Chaisemartin et al.'s (2024 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.

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

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Table A8. Examples of Rebellions Used in the Analysis

Year	Parish	Horse post	Summary	Description	Intensity	Social categories	Weapons
1766	Brest	1740	Attack on public building	Three public clerks are mobbed as they try to grab a bottle. The arrival of the judges does not restore calm. Fifty men arrive with the master of the castle, who take the clerks to their offices. The mob continued to protest, then threw stones at the castle, smashed the windows and tore off the containers.	Strong (>50)	No information	Rocks
1771	Chantilly	1730	Attack on public official	A car is transporting 3 people without a permit from the messenger bureau. The inspector of the bureau impounds the car. But other messengers bar the road and armed with batons insult the inspector, who takes refuge in the nearby tavern. They argue that this is illegal on the Prince's land.	Weak (4–10)	Journeymen	Sticks and bars
1775	Xertigny	1770	Resistance to arrest	Two maréchaussée horsemen, in disguise, come to arrest a deserter soldier. The village colludes with the soldier, and even the farm employees.	Medium (11–50)	Artisans, notables	None
1781	Mirande	1770	Resistance to militia draw	On the day of the militia draw, uproar and threats from the crowd in the town of Sauviac, in the presence of the authorities (subdélégué, notables...). Those who did not have sticks went to cut some in the woods outside the town. The first consul (a doctor), wearing a chaperon and led by the armed inhabitants of Mirande (craftsmen), tried to calm things down. The agitated people agreed to leave the town and the gates were closed. Two arrests.	Medium (11–50)	Peasants, agricultural workers	Sticks, bars, and knives
1788	Poligny	1770	Resistance to militia draw	A soldier in the Enghien regiment said that he was suddenly attacked by several people from the village of Tourmort, who hit him several times with large sticks they were armed with.	Weak (4–10)	Peasants	Sticks and bars

Notes: This table reports examples of cases used in the analysis. Descriptions are provided verbatim from Nicolas's (2002) survey.

Table A9. Average Total Effect of New Horse-Post Relays on Rebellions

Outcome:	Number of rebellions			
	(1)	(2)	(3)	(4)
Horse-post relay	0.028***	0.014***	0.014***	0.010***
	[0.004]	[0.004]	[0.003]	[0.004]
Parish ever hosted				
A letter-post office	Yes or no	No	Yes or no	No
A maréchaussée brigade	Yes or no	Yes or no	No	No
Observations	15,208	10,001	10,929	8,954
Switchers (overall)	1,840	1,203	1,314	1,080
Switchers (at least once)	820	532	589	480
Outcome mean	0.023	0.015	0.014	0.013
Outcome residual s.d.	0.132	0.103	0.108	0.102
Periods $(-t; +T)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$

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, as well as wheat prices and canton-by-decade foxed effects. *Observations* denotes the number of parish-decade observations effectively used in the estimation. *Switchers (overall)* denotes the total 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 (2024 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \le 0.01$. ** $p \le 0.05$. * $p \le 0.10$.

Given the concurrent development of the letter-post system and maréchaussée brigades, we provide estimates of the development of the horse-post 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.

Heterogeneity

Results of the population-weighted regression in Column (6) of Table 3 suggest a stronger rebellions response to exposure to horse-post relays in more populous parishes. We now assess whether this heterogeneity can account for the average total treatment effects we identify. We capture heterogeneity in population size by dividing 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. We then expand the full specification by further including population group-by-decade fixed effects to compare changes in rebellious activity across parishes within the same canton *and* population group. We report the results in Column (2) of Table A10. The estimate of 0.011 is significant at the one-percent level, and roughly half the size of the baseline, consistent with our previous results. To account for the potential relationship between the number of rebellions and population, we also run this specification when the outcome is an indicator variable that equals one if there was at least one rebellion. The estimate in Column (7) of 0.011 is again roughly half the size of the baseline estimate, suggesting that while part of the results are linked to the relationship between population and rebellion, half are due to heterogeneity in the response to exposure to the horse post in more populous parishes.

We further assess the nature of this heterogeneity by including parish type-by-decade fixed effects, where we define types according to whether parishes were the seat of an administrative center, where we consider six types of administrative centers: those of subdélégations, *bailliages*, *évêchés*, *recettes des finances*, *districts*, and *départements*—with the last two administrative divisions created right after the Revolution. We similarly find lower estimates than the baseline in Columns (3) and (8), but not as low as the previous ones, reinforcing our interpretation.

In addition, we explore whether differential response across taxation zones can explain our results. We classify each parish into 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 then include taxation zone-by-decade fixed effects. Results in Columns (4) and (9) are nearly identical to baseline estimates.

Finally, we assess whether our results may be driven by the connectivity of parishes to the network of paved roads by including connectivity-by-decade fixed effects, where we divide parishes along quartiles of distance to a paved road: less than 500 meters, 0.5–1 kilometer, 1–3, and over 3 kilometers. Estimates in Columns (5) and (10) are identical to the baseline, suggesting little heterogeneity along connectivity.

Table A10. Average Total Effect of New Horse-Post Relays on Rebellions Accounting for Heterogeneity across Parish Types

Outcome:	Number of rebellions					𝟙[rebellion]				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Horse-post relay	0.028*** [0.004]	0.011*** [0.004]	0.017*** [0.003]	0.030*** [0.004]	0.028*** [0.005]	0.024*** [0.003]	0.011*** [0.003]	0.014*** [0.003]	0.026*** [0.003]	0.028*** [0.004]
7 decade × groups FE		Population	Seats	Gabelles	Roads		Population	Seats	Gabelles	Roads
Observations	15,208	5,437	12,383	14,866	5,822	15,208	5,437	12,383	14,866	5,822
Switchers (overall)	1,840	1,238	1,505	1,832	1,408	1,840	1,238	1,505	1,832	1,408
Switchers (at least once)	820	548	669	816	634	820	548	669	816	634
Outcome mean	0.023	0.023	0.023	0.023	0.023	0.016	0.016	0.016	0.016	0.016
Outcome residual s.d.	0.132	0.131	0.131	0.132	0.132	0.099	0.098	0.098	0.099	0.098
Periods (−t; +T)	(−2;+3)	(−2;+3)	(−2;+3)	(−2;+3)	(−1;+3)	(−2;+3)	(−2;+3)	(−2;+3)	(−2;+3)	(−1;+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, as well as wheat prices and decade-by-canton fixed effects. Columns (2) and (7) include 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. Columns (3) and (8) include 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, districts, and départements. Columns (4) and (9) include 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.* Columns (5) and (10) include 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. The outcome is the number of rebellions in Columns (1)–(5) and an indicator for the occurrence of at least one rebellion in Columns (6)–(10). *Observations* denotes the number of parish-decade observations effectively used in the estimation. *Switchers (at least once)* denotes the total 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. *Periods (−t;+T)* denotes the number of event-study effects and placebos estimated. Estimates are calculated using de Chaisemartin et al.'s (2024 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.

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

Consequences for Revolution-Era Political Societies

Political societies were clubs created between 1789 and 1793 in which local notables discussed political affairs, social issues, and reforms passed by the National Convention, but also coordinated revolutionary action. Over this period, about six thousand political societies were created. They played a critical role in the diffusion of the ideas of the Revolution (Boutier, Boutry and Bonin, 1992). The most prominent ones were sponsored by the Parisian *Club des jacobins*, which was pivotal during the Revolutionary period.

We assess whether the dynamic effects of the expansion of the horse-post network on rebellious activities in the *run-up* to the Revolution played a *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:

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

where $\texttt{societies}_{pc}$ denotes political societies (all or Jacobin societies) created between 1789 and 1793 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 A11. 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 A11. The Horse Post, Rebellions, and Political Societies

	Political societies			
	All		Jacobin	
	OLS. Outcome: political societies			
log rebellions	0.340***	0.118***	0.174***	0.062***
	[0.010]	[0.010]	[0.008]	[0.006]
	First stage. Outcome: log rebellions			
Horse-post relay	0.239***	0.088***	0.239***	0.088***
	[0.014]	[0.011]	[0.014]	[0.011]
Cluster-adj. F-stat	292.799	252.193	292.799	252.193
	Reduced form. Outcome: political societies			
Horse-post relay	0.378***	0.147***	0.180***	0.058***
	[0.013]	[0.011]	[0.010]	[0.007]
	2SLS. Outcome: political societies			
Horse-post relay	1.587***	1.671***	0.756***	0.662***
	[0.090]	[0.235]	[0.045]	[0.109]
Controls	No	Yes	No	Yes
Observations	35,087	35,087	35,087	35,087

Statistics. All political societies: 0.145 (mean); 0.300 (residual s.d.). Jacobin societies: 0.022 (mean); 0.127 (residual s.d.). log rebellions: 0.077 (mean); 0.226 (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.

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

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.[1] The base shapefile of the extent of France in 1789 we use in Figures 2, 5, A2, A3, A6, and A11 is from Gay, Gobbi and Goñi (2024) based on data in Gay, Gobbi and Goñi (2023).

Historical GIS of the horse-post network   To create the historical GIS of the horse-post network displayed in Figures 2, A2, A3, A6, and A11, we digitized the 1721, 1731, 1741, 1751, 1762, 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.[2] 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 1720, 1730, 1740, 1750, 1760, and 1761 editions (Granderoute, 1991). 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.[3] 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 générale des postes de France*.[4]

Rebellions   We gather information on rebellions throughout the eighteenth century 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,

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[1]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.

[2]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; Granderoute, 1991). In addition to the lists of horse-post relays and itineraries, these books also contained a small map of the horse-post network (Verdier, 2007, pp. 8–10; Verdier, 2009*a*, pp. 3–4).

[3]Specifically, we use IGN's (2021) ADMIN-EXPRESS 2021 shapefile of communes as our reference GIS in RGF-Lambert93 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).

[4]Contemporary maps of the horse-post network proceeded in the same way, i.e., by linking relays through straight lines (Verdier, 2009*b*). In fact, these were 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).

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 40 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 record was then created – independently from the HISCOD project (Chambru and Maneuvrier-Hervieu, 2024) – and will soon be made available.

Administrative and territorial divisions We assign each parish to a specific généralité based on Gay, Gobbi and Goñi (2024), which draws on Brette (1904). For subdélégations, we use data from Cristofoli et al. (2021), which draws from Arbellot et al.'s (1986) historical atlas.[5] Finally, we assign each parish to a canton based on information in `cassini.ehess.fr` (Motte et al., 2003; Motte and Vouloir, 2007).

Wheat prices To construct a parish-level measure of decade-average wheat prices, we first compute decade-average wheat prices in *livre tournois* per *setier* at 132 locations available in Ridolfi's (2019) 8,616 quotations over the eighteenth century. We then 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 135×146 matrix. Finally, we compute spatially weighted price averages for each decade and each parish polygon.

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.[6]

Connectivity We assess the connectivity of parishes to the network of paved roads according to 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*,

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

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

recettes des finances, *districts*, and *départements*—with the last two administrative divisions created right after the Revolution. We collect this information from 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.

Historical GIS of letter-post offices To create the historical GIS of letter-post offices displayed in Figure A11, 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 1722 (pp. 270–88), 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 the following 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 A11 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 1793, together with their affiliation to the Jacobin societies from Boutier, Boutry and Bonin (1992, pp. 77–101).

Software Appendix

Treatment histories To display the 43 treatment histories of the horse-post relays in Figure A8, 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 the horse-post (and letter post) on rebellion reported in Tables 2, 3, A2–A5, A7, and A9–A10 and in Figures 6, A9, A14, and Panels (b) of Figures A13 and A15, we use de Chaisemartin et al.'s (2024 [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 A13 and A15, 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 A11, we use Correia's (2023 [2014]) `reghdfe` State command in the OLS and reduced-form panels – which we also use in Table A1 – and Correia's (2023 [2014]) `ivreghdfe` Stata command in the first-stage and 2SLS panels.

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