



The Pearson Institute Discussion Paper No. 2024-2

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**THE PEARSON INSTITUTE**  
FOR THE STUDY AND RESOLUTION OF GLOBAL CONFLICTS

# Bourbon Reforms and State Capacity in the Spanish Empire\*

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March 2024

## Abstract

We study the fiscal and political consequences of state modernization in the Spanish colonial empire in Latin America. We focus on the introduction of a new corps of provincial governors called *intendants* in the late 18th century. Leveraging the staggered adoption of the reform and administrative fiscal microdata, we show that the intendency system sizably increased Crown revenue by strengthening state presence in the periphery and disrupting local elite capture. Politically, the reform reduced rebellions by previously exploited indigenous peoples. However, naming patterns reveal that the intendants heightened anti-Spanish sentiment among Creole elites, plausibly contributing to the nascent independence movement.

**Keywords:** State Capacity, Taxation, Bureaucracy, Conflict, Elites, Colonialism, Independence, Latin America

**JEL codes:** D73, D74, H71, N46, P48

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\*We would like to thank Charles Angelucci, Luz Marina Arias, Luis Baldomero-Quintana, Agustin Bergeron, Ernesto Dal Bó, Lena Edlund, Claudio Ferraz, Sandra García-Uribe, Francisco Garfias, Jenny Guardado, Ruixue Jia, Herbert Klein, Mark Koyama, Madina Kurmangaliyeva, Benjamin Marx, Ralf Meisenzahl, Stelios Michalopoulos, Roger Myerson, Gerard Padró i Miquel, Elias Papaioannou, Luigi Pascali, Giacomo Ponzetto, Gerard Roland, Marcos Salgado, Emily Sellars, Erik Snowberg, Marco Tabellini, Joachim Voth, and participants at multiple seminars and conferences for providing valuable comments and suggestions. David Arboleda, Valeria Borrero, David Carbonell, Andrea Constantin, Manuela Llano, and Andrés F. Molano provided excellent research assistance. El Colegio de Mexico, Richard Garner, José Joaquín Pinto, and Werner Stangl (HGIS de las Indias) kindly shared historical data. Generous financial support for this project was provided by the Development Economics Center, the Becker Friedman Institute, and the Pearson Center for the Study and Resolution of Global Conflicts at the University of Chicago, and CIDER at UBC. All remaining errors are ours.

# 1 Introduction

The state's ability to perform essential functions, such as raising revenue or enforcing law and order, is fundamental to economic development (Besley and Persson, 2011; Dincecco and Katz, 2016; Johnson and Koyama, 2017). Influenced by the work of Charles Tilly (1992), a growing literature has studied the historical development of state capacity in Western Europe. Much less is known about the historical experiences of state-building in other parts of the globe, particularly those under colonial rule in the developing world. Colonial possessions were distant, extensive, and diverse. These features posed unique organizational challenges for developing a capable bureaucracy (Finan et al., 2017; Besley et al., 2022). Moreover, colonial policies were inherently imposed from the outside and hardly incorporated the voices of colonial subjects (Acemoglu, 2005; Acemoglu and Robinson, 2012, 2020; Besley, 2020). Under these conditions, any efforts at reform could easily disrupt the political equilibrium between the ruling power and local elites.

We study the fiscal and political impact of one of the most ambitious administrative and territorial reforms implemented in colonial times: the intendancy system introduced by the Bourbon Crown in Spain's American colonies during the late 18th century. Stretching from present-day Mexico to Argentina, the intendancy reform represents a "second conquest of America... a bureaucratic conquest" (Lynch, 1973, p.7). Before the reform, the colonial state centered around four viceroys and twelve high courts (*Audiencias*). These were concentrated in the larger cities that roughly correspond to the capitals of present-day countries. Outside the main cities, administrative authority was in the hands of local officers called *corregidores*. These were fixed-term Crown appointees, who often paid for their positions and earned meager salaries, which they compensated through corruption and the exploitation of indigenous communities. The *Creole* elite, corresponding to the descendants of early Spanish colonizers, had limited access to high office in the colonial government but profited from the indigenous labor and their dealings with the *corregidores*.

Starting in 1782, the Spanish Crown introduced a new corps of intermediate provincial governors called *intendants*. These were carefully selected, well-remunerated, appointed indefinitely, and had authority over all areas of government. Each intendant governed over a new intermediate administrative unit called *intendancy*. Several features allow us to study the effects of this reform. First, we focus on a comparable set of units governed by the same institutions provided by the Spanish Crown. Second, the intendancy system was externally imposed and responded to the Crown's urge to raise revenue and strengthen its military apparatus following a series of military defeats, most notably the British capture of Havana in 1762. Third, the intendancy system was introduced across most of the empire in a short span of five years thanks to the efforts of *secretary*

*of the Indies* José de Gálvez, but implementation stalled after his sudden death in 1787. As a result, the reform did not reach parts of the viceroyalty of New Granada in modern-day Colombia.

For our analysis, we leverage granular administrative data on colonial public finances and construct several new datasets, including detailed biographies for each intendant, a transcontinental dataset on indigenous rebellions, a panel on the availability of cartographic information, and a novel measure of pro-independence activity based on a large catalog of correspondence.

Our empirical strategy exploits the staggered introduction of the intendency system across the empire in a Difference-in-Differences (DiD) design. Our historical background research reveals that the Crown worked towards the simultaneous implementation of the reform throughout the empire but faced idiosyncratic delays associated with crafting detailed regulations for the intendants, determining the location and size of the intendancies, and logistical difficulties affecting the arrival of the new appointees to their posts. We document that the timing of the reform is uncorrelated with a battery of observable geographic and socioeconomic characteristics, and we use event-study analyses to validate the parallel trends assumption for our main outcomes. Our findings are also robust to using pertinent alternative DiD estimators that address problems in settings with staggered treatment timing (de Chaisemartin and D'Haultfoeuille, 2020; Callaway and Sant'Anna, 2021).

We start our empirical analysis focusing on the fiscal impact of the intendency system, relying on administrative microdata from 85 royal treasuries located throughout the empire. Building on previous digitizing efforts by Tepaske and Klein (1982, 1986) and Pinto (2016), we consolidated a harmonized panel at the treasury-year level for the period 1770-1800. Our DiD design with treasury and year fixed effects reveals that the reform led to an approximately 30% increase in Crown revenue in the treasuries overseen by the intendants. This result is robust to multiple changes in measurement, sample composition, or econometric specification, and indicates that the intendency system strengthened *fiscal capacity*, a fundamental building block of state capacity and a robust correlate of long-run development (Besley and Persson, 2011; Berwick and Christia, 2018).

We provide evidence supporting two main mechanisms that drive this improvement in fiscal capacity. First, the intendancies strengthened the presence of the state in the periphery, as evidenced by a 66% reduction in the average distance per treasury to the nearest administrative center. The reform also increased the cartographic knowledge available to the Crown, which we document using a new dataset based on the universe of colonial maps in the Archive of the Indies. This expansion of mapped areas suggests that the intendency system also improved the informational capacity of the state (i.e. *legibility*), another prominent aspect of state capacity (Scott, 1998; Garfias and Sellers, 2022a). We connect these findings on territorial presence with our fiscal results by showing that the increase in Crown revenue was larger near the new intendency capitals and *not* driven by the traditional centers of economic activity (e.g., ports, mines).

Our second mechanism focuses on the changes in the selection of colonial officers and their

disruption of local elite capture. Based on a new biographical dataset for the universe of intendants, we show that those born in Spain or lacking experience in the colonial government were more effective, which suggests increased alignment with the Crown and higher immunity to local capture (Spenkuch et al., 2023). Younger intendants were also more effective, plausibly reflecting stronger career concerns. The fiscal impact of the intendants is also positively correlated with their job tenure, in line with positive returns to experience. Based on disaggregated fiscal data, we document increases in the share of revenue corresponding to the indigenous poll tax, previously collected by the corregidores, and to war contributions paid by the Creole elites. These results suggest that the reform reduced corruption in tax collection but also disrupted the economic privileges of the elites.

Our fiscal results indicate that the intendancy system meaningfully strengthened colonial state capacity. The reform achieved its goal of increasing Crown revenue by expanding the presence of colonial authority in the periphery and by ameliorating agency problems and local elite capture of the bureaucracy. We further show that the reform led to a parallel increase in Crown expenditures. However, these were mainly concentrated in military and administrative expenses, and remittances to Spain, with a negligible impact on the provision of local public goods. These changes negatively impacted colonial elites, whose fiscal obligations rose with no corresponding improvement in public goods, and who faced the disruption of their economic privileges under the status quo. At the same time, the reform seemingly reined in the exploitation of indigenous peoples. These observations motivate the second fundamental contribution of our analysis, where we study the effects of the reform on the *political* attitudes and behavior of the Crown's colonial subjects.

To this end, we first consolidate a transcontinental dataset of indigenous rebellions and use it to show that the intendancy system decreased their incidence. This reduction in internal conflict constitutes evidence of an improvement in another key aspect of state capacity related to preserving *law and order* (Hobbes, 1651; Weber, 1919). While fewer rebellions could reflect more effective control and repression, the historical record suggests that indigenous people enjoyed much improved governance under the intendants (von Humboldt, 1811; Golte, 2016).

We then turn our attention to the Creole elites who saw their privileges curtailed by the modernizing effort of the Bourbons. We directly examine the elite's sentiment towards the Crown using historical records from over 700,000 baptisms. We show that the intendancy system *decreased* the share of male newborns named after the most salient figures in the colonial state, such as the viceroys or the King himself. This effect is entirely driven by Creoles, with a negligible impact among individuals with an indigenous surname. These results suggest that the intendancy system led to growing Creole animosity towards the Crown. Motivated by this finding, we explore the medium-term link between the intendancy system and the Creole-led independence movement that would gain traction during the early 19th century. Using another new dataset based on a large catalogue of letters in the Archive of the Indies, we show that provinces experiencing larger in-

creases in Crown revenue under the intendants exhibited more revolutionary activity during the early independence period (1807-1811). This result suggests that the Spanish Crown's efforts at state modernization plausibly contributed to the demise of its colonial empire.

Our paper contributes to the literature on state capacity (Bardhan, 2016; Johnson and Koyama, 2017; Berwick and Christia, 2018; Dincecco and Wang, 2022). Besley and Persson (2011) highlight the ability to raise revenue and enforce the law as defining features of a strong state. Focusing on Western Europe, a large literature has explored the relationship between the threat of war, the strengthening of state capabilities, and the development of inclusive political institutions (North and Weingast, 1989; Tilly, 1992; Stasavage, 2010; Dincecco and Prado, 2012; Gennaioli and Voth, 2015; Dincecco and Katz, 2016; Angelucci et al., 2022; Becker et al., 2022; Cantoni et al., 2022). Work on areas outside of Europe is more limited and little is known about the process of state-building in regions exposed to colonial rule in the developing world.<sup>1</sup> Notable exceptions include work by Xu (2018, 2019) on patronage in the British empire and Garfias and Sellars (2021, 2022a,c) on the transition to direct rule and fiscal modernization in colonial Mexico.

We document a positive causal impact of administrative reform on several dimensions of state capacity, including fiscal and informational capacity, and rule of law. In line with Chambru et al. (2022) for revolutionary France, we uncover considerable benefits from extending and homogenizing the territorial reach of the state, but we do so for an enormous empire facing sizable logistical and monitoring challenges. Our colonial setting also lacks inclusive political institutions. We show that state modernization can fail to create a common interest and may fuel political opposition in this environment. Overall, our findings highlight the importance of consensus and reciprocity for effective state-building. These ideas date back to classic thinkers such as Locke (1690) and Rousseau (1762) and have been recently revived and developed by Acemoglu (2005), Acemoglu and Robinson (2020), and Besley (2020). Our findings also uncover deep social cleavages in colonial society and set the stage for the weak states and incohesive polities that would emerge from the independence process in Latin America (Centeno, 2002; Mazzuca, 2021; Schenoni, 2021).

We also contribute to the growing literature on bureaucracy and the organizational economics of present-day states (Finan et al., 2017; Besley et al., 2022; Vogler, 2022). Previous work has studied public servants' recruitment, incentives, and oversight (e.g., Dal Bó et al., 2013; Khan et al., 2016; Colonnelli et al., 2020; Bandiera et al., 2021). These important drivers of bureaucratic effectiveness have been mostly explored within a given organizational structure, and there is limited evidence on the impact of changes to this structure. In a notable exception, Snowberg and Ting (2019) develop a formal model to study the deployment of increasingly specialized layers of bu-

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<sup>1</sup>One exception is the historical study of bureaucratic recruitment, subnational governance, and fiscal development in imperial China (Chu, 1962; Zelin, 1984; Bai and Jia, 2016; Ma and Rubin, 2019). There is also growing interest in the historical development of state capacity in the United States in the 19th century (Moreira and Pérez, 2021; Aneja and Xu, 2022; Mastroiocco and Teso, 2023).

reaucracy to solve problems of varying complexity. In a similar spirit, and overcoming the limited availability of performance measures that is characteristic of this literature, we show that introducing a new intermediate layer of supervisors improves governance along several dimensions. The disruption of elite capture plays a prominent role in our setting and speaks to the importance of missional alignment (Besley and Ghatak, 2018; Spenkuch et al., 2023; Khan, 2023). Our findings also highlight that policy reforms aimed at improving bureaucratic performance may disrupt the political equilibrium between the ruler and the ruled and can compromise regime survival if the interests of elites are affected (Acemoglu and Robinson, 2013; Garfias and Sellars, 2022b).

This paper builds on a large historical literature on the Spanish colonial empire.<sup>2</sup> General histories of the intendancy system include Fisher (1929) and Navarro García (1959), while Lynch (1958), Deustua-Pimentel (1965), Fisher (1970), and Pietschmann (1996) provide detailed regional case studies. We contribute to this literature by collecting new data and using modern empirical techniques to estimate the causal impact of the intendancy system on fiscal and political outcomes. Substantively, our findings show that the reform achieved its goals of improving governance and raising fiscal revenue. Politically, our findings lend support to the hypothesis that the “imperial reform planted the seeds of its own destruction” (Lynch, 1973, p.2). Our paper speaks to a thriving new literature on the Bourbon reforms in historical political economy that has studied—often in more local settings—aspects other than the intendancy system, such as the end of office-selling, tax centralization and trade liberalization (Arias, 2013; Guardado, 2018; Valencia Caicedo, 2019; Guardado, 2022; Salgado, 2021; Ellingsen, 2022; Garfias and Sellars, 2022c).

The rest of the paper is organized as follows. Section 2 provides the institutional background. In Section 3, we introduce our data sources and present our empirical strategy. We show our results on fiscal capacity and underlying mechanisms in Section 4. Section 5 presents our findings on the political reaction by indigenous groups and the Creole elites, as well as the medium-term link between the reform and the nascent movement for independence. Section 6 concludes.

## 2 Historical Background

### 2.1 Institutional Setting

In the late 18th century, the Kingdom of Spain dominated a vast colonial empire in the Americas, which extended from present-day Mexico in the north to Argentina in the south. The empire was administratively divided into four viceroyalties: New Spain, New Granada, Peru, and Río de

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<sup>2</sup>See Haring (1947) for a general overview of the empire. Sánchez Bella (1968) and Klein (1998) characterize colonial public finances. Marichal (2007) and Kuethé and Andrien (2014) explore the geopolitical context of the 18th century and the Bourbon reforms. Lohmann (1957) and Moreno-Cebrián (1977) study the *corregidores*, while Burkholder and Chandler (1977) study the *audiencias*. On independence, see Lynch (1973) and Rodríguez (1998).

la Plata.<sup>3</sup> Each viceroyalty had as its highest authority a viceroy based in the cities of Mexico, Bogotá, Lima, and Buenos Aires, respectively. The highest legal authorities were twelve high courts (*Audiencias*) located in major cities that roughly correspond to the capitals of present-day countries. The *Audiencias* also played a consultative and supervisory role vis-à-vis the viceroys and an executive role in areas distant from the viceregal capitals (Burkholder and Chandler, 1977; Salgado, 2021). A handful of military *Captaincies* were also scattered throughout the continent.

Since the early 16th century, the Crown deployed a system of royal treasuries (*cajas reales*) that collected revenue, paid for the operation of the colonial government, and shipped the surplus to Spain (Klein, 1998). There were four main sources of revenue: a poll tax paid by indigenous peoples, mining taxes on gold and silver, state monopolies over certain goods (e.g., tobacco), and taxes on domestic and external trade. Accordingly, the treasuries were mostly located near mines, ports, and areas with large indigenous populations. Crown officials were largely responsible for tax collection except for a few instances of tax farming (Garfias and Sellars, 2022c).

Outside of the larger cities, the territory was divided into smaller units called *corregimientos*, each under the authority of a local officer called *corregidor*.<sup>4</sup> The Crown introduced the *corregidores* to centralize authority and improve governance in the 16th century.<sup>5</sup> However, the salaries of the *corregidores* were hardly updated over almost two centuries, as we show in Figure B1. Over time, this incentivized the *corregidores* to look for alternative sources of income, most prominently the forced sale of overpriced goods, such as cattle and textiles, to the indigenous peoples through an institution called *repartimiento*.<sup>6</sup> The *corregidores* also mishandled revenue from the indigenous poll tax, charging exempt individuals (e.g., women and the elderly) and appropriating part of the collected revenue (Fisher, 1970). After the Crown instituted the sale of offices in the late 17th century, *corregidor* positions mostly attracted profit-seeking individuals who made a large initial payment to secure a five-year appointment and spent their term trying to recover their investment (Guardado, 2018).<sup>7</sup> In 1749, a widely circulated exposé claimed that “the tyranny suffered by the Indians stems from the insatiable desire for riches on the part of those who come from Spain to rule over them” (Juan and De Ulloa, 1749). Lynch (1958, p.22) further characterizes the *corregidor* as

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<sup>3</sup>The viceroyalties of New Spain and Peru were established shortly after the initial conquest in 1535 and 1542. New Granada and Río de la Plata were separated from Peru in 1739 and 1776. The empire also had possessions in Asia, including the Philippines, Guam, and the Mariana Islands. These are outside the scope of our study.

<sup>4</sup>These officials were also called *alcalde mayor* in New Spain or *gobernador* in Río de la Plata, the latter mostly in remote and sparsely populated areas (Haring, 1947). New Spain was also subdivided into *Kingdoms* and *Provinces*, each led by an official with ill-defined powers who was also referred to as *gobernador* (Pietschmann, 1996).

<sup>5</sup>*Corregidores* replaced the Crown’s initial form of indirect rule through an extractive institution called *encomienda* (Faguet et al., 2022). The Spanish Crown’s early efforts at centralized rule stand in contrast with the English experience after the Norman conquest centered around tax farming by Crown-appointed sheriffs (Angelucci et al., 2022).

<sup>6</sup>For instance, a mule costing 11 pesos was forcibly sold for 35 pesos in Peru in 1778 (Golte, 2016, p.133).

<sup>7</sup>Golte (2016) provides an example of a *corregidor* who reports total expenses of 127,000 pesos, including 16,000 pesos for the appointment, 41,000 pesos in goods for the *repartimiento*, and 19,000 in interest. His total salary was 4,000 pesos, while *reported* sales from the *repartimiento* generated a further 99,000 pesos.



*“the very archetype of erring officialdom, whose repertoire included almost every device known in the history of administrative corruption - the farmed and unaccounted revenue, the holding of royal funds in deposit to be used as private capital, the forced Indian labour without pay, and above all the notorious repartimiento, or forced sale of merchandise at outrageous prices to the unfortunate natives.”*

As such, the corregidores were key intermediaries in the balance of power between the Crown and the *Creole* elites (Grafe and Irigoien, 2012; Arias, 2013). The Creoles were the American-born descendants of the early Spanish colonizers. They had limited access to the top positions in the colonial administration, which were reserved for Spanish-born officers. They also had limited representation except for city councils handling local affairs. Still, the Creoles benefited economically from the status quo in various ways (Golte, 2016). They often financed and earned interest on the initial payments made by the corregidores for their position and supplied the goods for the repartimiento system. Since these goods had to be paid with money, indigenous peoples sold their labor to the mines, textile mills, and agricultural farms owned mainly by Creoles.<sup>8</sup> Those who failed to pay were punished with forced labor in these same productive units. Golte (2016) estimates that almost half of the indigenous workforce was mobilized by the repartimiento in Peru in 1754 while only 6% was drafted for corvee labor in the mines through the *mita* institution (Dell, 2010).

Although the Crown was aware of the misgovernance in the empire, the 16th and 17th centuries under the Habsburg royal dynasty were characterized by institutional inertia and economic stagnation. Mechanisms of accountability, including an end-of-term evaluation for colonial officers, were largely ineffectual and became worse after the sale of royal offices allowed the Creoles to increasingly capture the Audiencias (Burkholder and Chandler, 1977; Salgado, 2021; Guardado, 2022). Since the corregidores were first instance judges in their jurisdictions, indigenous peoples lacked formal channels through which to air their grievances against them and resorted instead to sporadic riots and rebellions (Taylor, 1979; O’Phelan Godoy, 1985; Golte, 2016).

## **2.2 The Intendancy Reform**

The (French) Bourbon dynasty replaced the (Austrian) Habsburg line after Charles II died childless in 1700. While the early Bourbon Kings did little to improve governance in the Americas, the British capture of the vital port of Havana in 1762 prompted Charles III to embark on a broad program of colonial reform.<sup>9</sup> The most ambitious policy in this reform program arguably was the

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<sup>8</sup>See Faguet et al. (2022) on *encomiendas* in Colombia and Rivadeneira (2023) on *concertajes* in Ecuador.

<sup>9</sup>The Bourbon reforms also include the creation of the viceroalties of New Granada (1739) and Río de la Plata (1776), the ban on the sale of offices in 1750 (Guardado, 2018, 2022) and the liberalization of maritime trade in 1765 (Ellingsen, 2022). We verify below that these other margins of reform do not drive our results.

introduction of the intendency system, which Deustua-Pimentel (1965, p.xxvi) describes as “the masterpiece of a vast plan of political, economic, and social reorganization.”

A crucial figure in this process was José de Galvez, who spent the period 1765-1771 as *visitador general* of New Spain, an extraordinary appointment with wide-ranging powers (Priestley, 1916). As one of his tasks, Gálvez had to evaluate the viability of introducing a system of *intendants* in the colonies. The intendants were a corps of provincial governors created in France in the 16th century to centralize power and raise more revenue (Sasaki, 2021). As early as 1743, high-ranking Spanish officials advocated for the adoption of the intendency system in the overseas empire, which the Crown first introduced in the Spanish mainland in 1749 (Navarro García, 1959; Kuethe and Andrien, 2014). Having experienced firsthand the corruption and misgovernance affecting the colonies, Gálvez reported to the Crown in 1768 that

*“the remedy will be to introduce the intendant system, whereby men of capacity will supplant these greedy incapable tyrants who oppress the people and absorb the revenues which they should pay to the Crown... Most of the alcaldes [corregidores] are men of meager intelligence, who do not know how to assist the viceroy; they devote their energies to acquire riches... Some alcaldes are honest, but overwhelmed with debts; most of them think it proper to appropriate the tributes, of which the King receives only half what he should, to indemnify themselves for the purchase of their positions”* (quoted in Priestley, 1916, p.290)

Gálvez’s original report included a proposal for the creation of eleven intendancies in New Spain and was approved by the King in 1769 with the caveat that further discussion of boundaries and logistics was still needed. In 1776, Gálvez was appointed Secretary of the Indies, the highest office for matters concerning the colonies. He immediately appointed *visitadores* in Peru, New Granada, and Quito, instructing them to plan for the introduction of intendants in these regions (Navarro García, 1959). Over the following years, Gálvez developed a detailed corpus of legislation governing the intendency system that would soon arrive to America.

The first ordinance of Intendants was issued for the viceroyalty of Río de la Plata in 1782.<sup>10</sup> The ordinance, reproduced in Fisher (1929), included 276 articles and created eight *intendancies* as a new intermediate unit of territorial administration. Each intendency was governed by an intendant, who remained subordinated to the viceroy but had ample executive power over matters of justice, public finance, and war. “The intendant was very much like a little viceroy in his own area” (Lockhart and Schwartz, 1983, p.353). Figure B2 illustrates the schematic changes to the colonial hierarchy caused by the introduction of this new administrative layer. The Crown directly

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<sup>10</sup>Early pilots with more limited powers were established in Havana and New Orleans in 1764, followed by Sonora and Sinaloa in northwest Mexico in 1769, and Venezuela in 1776.

appointed the intendants and gave preference to candidates born in Spain. They had indefinite terms and were paid 6,000 pesos per year, much more than the average of 1,380 pesos earned by the corregidores in 1780 (see Figure B1) (Moreno-Cebrián, 1977). The ordinance also replaced the corregidores with a new body of local deputies called *subdelegates* and banned the repartimiento. The viceroy appointed the subdelegates based on a shortlist provided by the intendant, who oversaw their work. They were paid a fixed percentage (3-5%) of their collected tax revenue.

The intendancy system was next introduced in the viceroyalty of Peru in 1784 and in the Audiencias of Guatemala, Quito, and Chile in 1785, 1786, and 1787 respectively. The reform also reached the viceroyalty of New Spain in 1787, alongside an updated version of the ordinance of intendants. The only region untouched by the reform was the part of New Granada corresponding to present-day Colombia. The untimely deaths of Gálvez in 1787 and Charles III in 1788 stalled the Bourbon reform program and prevented the full adoption of the system, although the ordinance of intendants for New Granada had already been drafted (Figure B3 reproduces the front page) and the viceroy had been instructed to be ready for implementation (Navarro García, 1959). A copy of this ordinance allegedly laid on Gálvez’s desk at the time of his death (Kuethe and Andrien, 2014). Elsewhere, the new intendancies would remain in place until the demise of the empire and the rise of new independent nations in the 19th century. In the words of Navarro García (1959), “twelve years were enough for Gálvez to profoundly alter the general outlook of the New World.”

## 3 Empirical Strategy

### 3.1 Data

Our empirical study of the intendancy system relies on data from multiple sources, mostly spanning the period 1770-1800. For our fiscal analysis, we construct a harmonized panel dataset at the treasury-year level based on administrative data. We complement this data with several novel transcontinental datasets, including a grid-cell level panel on cartographic information, a consolidated regional panel on the incidence of indigenous rebellions, an individual-level dataset on baptismal records, detailed biographies for the universe of intendants, and a regional dataset on insurrectionist activity in the early 19th century based on a large catalog of correspondence. We now briefly introduce each of our main data sources. Appendix A provides more detailed information.

**Fiscal accounts from the royal treasuries.** We assemble annual fiscal data for 85 royal treasuries between 1770 and 1800. We retrieve the raw data based on the previous efforts by Tepaske and Klein (1982, 1986) and Pinto (2016, 2017). These sources cover the entire Spanish empire in the Americas except for Central America (Audiencia of Guatemala) and the Greater Antilles (Cuba, Santo Domingo, Puerto Rico). For consistency, we impose a similar geographic restriction

in constructing all other datasets. The raw fiscal data corresponds to the consolidated summaries of revenue inflows and outflows (*cartas cuenta*) that colonial officers periodically sent to the central administration in Madrid. These accounts were audited at the accounting oversight agencies (*tribunales de cuentas*) in Mexico, Bogotá and Lima. The raw data is available at a highly granular level, corresponding to thousands of line items. We cross-validate the data with the original sources and remove items corresponding to carryover funds from previous years and other non-fiscal categories. We harmonize the currency to nominal *pesos de ocho* and the periodicity to the yearly level. We show below that our results are robust to adjusting for inflation.

We compute disaggregated totals for the main revenue and spending categories following Klein (1998). We break down total revenue into separate categories for its four main components: indigenous poll tax, state monopolies, mining, and trade taxes. We also study the extraordinary war contributions called *donativos*, which were mostly paid by the Creole elites and rose in importance during our sample period, as well as other unclassified revenues and remittances. As part of our robustness checks, we verify that our results are unaffected by whether we include or exclude the latter. On the expenditure side, we create disaggregated categories for military spending, administrative spending (total, tax collection), and remittances. We also provide an alternative hand-coded aggregation of expenditure items associated with public good provision (e.g., roads, hospices).

**Geographical features.** We geocode the treasuries and match them to the corresponding intendancies using data from the HGIS de las Indias project by Stangl (2020). For present-day Colombia, where the reform was not implemented, we match the corresponding treasuries to nine provincial jurisdictions from this same source. The diamond markers in Figure 1 show the location of the royal treasuries, which are spread out throughout the continent. We also match the treasuries to the location of other economic and political institutions, including ports, mines, and the capitals of the intendancies, viceroyalties, and audiencias. We construct a battery of predetermined geographic and socioeconomic covariates to examine potential correlates of the implementation of the reform. The variables we consider include geographic characteristics (e.g., elevation, temperature), locational characteristics (e.g., distance to the nearest river or coast), and the pre-colonial number of ethnicities in the surrounding area. We also measure provincial population, average treasury revenue, and the number of indigenous rebellions, all before 1783.

**Intendant biographies.** We construct a detailed biographical dataset for the universe of intendants (136 in total). Lynch (1958), Fisher (1970), Navarro García (2009), and Lacoste (2021) provide information for the intendants of specific viceroyalties, which we complement with the more comprehensive biographical dictionary of Spain's *Real Academia de Historia* and other online sources.<sup>11</sup> For each intendant, we record birth and death years and locations, as well as information on background characteristics, including education, nobility, marital status, and military

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<sup>11</sup>Available at <https://dbe.rah.es/>. Last accessed: March 13, 2024.

experience. Our data also includes work histories detailing previous experience in the colonial administration, start and end year for each intendant appointment, and end-of-appointment outcomes (e.g., further appointments, death). For the appointment dates, we distinguish between the *de jure* official appointment and the *de facto* arrival of each intendant to their post.

**Historical maps.** The volumes in Torres Lanzas (1900, 1906a,b, 1921) contain a catalog of the universe of maps, architectural plans, and similar images found in the Archive of the Indies in Seville, which is the main repository of Spanish colonial documents. Each entry briefly describes the document's content, author, and production date. We have digitized this information and assigned a latitude and longitude to each document based on the geographical landmarks mentioned in the description. We also characterize the size of the area covered by the document (e.g., building, city, province). The resulting dataset has 768 entries and covers the period 1543-1823. Figure B4 shows the aggregate geographic coverage of the maps in our dataset. We merge this information with a yearly panel of 25 x 25 km grid cells matching the geographic coverage of our fiscal data. To minimize the impact of measurement error, we assign each map to the grid cell corresponding to its coordinates and its four neighbors (i.e., sharing an edge). We also verify that our empirical results are robust to using cells of alternative sizes. For the empirical analysis, we construct a time-varying variable that indicates the share of cells per region-year with cartographic information available to the Crown, using as the unit of observation the intendancies for the treated areas and pre-existing provinces for untreated areas in New Granada.

**Indigenous rebellions.** We pool a wide range of regional primary sources to construct a trans-continental dataset of indigenous rebellions at the event level (Taylor, 1979; O'Phelan Godoy, 1985; Sala i Vila, 1989; Fisher et al., 1990; McFarlane, 1993; Moreno Yañez, 2014; Golte, 2016; Stangl, 2020). For each event, we record the start and end year and the exact location where it occurred (i.e., village). We use this information to cross-check and avoid double-counting of events across sources. If available, we also record the cause of the event, its nature (e.g., dispute, riot), and the identity of any salient leaders. Our consolidated dataset includes 352 events taking place in 281 different locations between 1770 and 1799. We then collapse the data into a region-year panel of incidence and intensity of rebellions, using the same units of observation as in our maps dataset. In doing so, we have verified the geographical coverage of our sources to distinguish areas without rebellious activity from those lacking information. Figure B5 presents the geography of aggregate indigenous rebellions during our sample period across the continent.

**Naming patterns.** We retrieve baptismal records from a large organization offering genealogical information. The raw data records the full names, sex, and the date and place of baptism of close to 900,000 individuals born between 1770 and 1800 in the present-day countries of Mexico, Panama, Colombia, Ecuador, Peru, Bolivia, Chile, Paraguay, Argentina, and Uruguay. After initial cleaning and processing, we are left with approximately 720,000 individuals whose baptism we

can confidently assign to 169 different locations (cities or regions). For each baptism, we identify the corresponding viceroy in office for that location and year. Since all of the viceroys were men, we exclude women from the sample, which leaves us with close to 350,000 observations. We then parse the full name in the baptismal record into separate words and create a new variable indicating a match between any of these words and the first name of the viceroy. Using regional catalogs of indigenous surnames, we also identify individuals who likely belonged to indigenous communities. As part of our robustness checks, we verify that our results are unaffected if we drop the final word in the name, which plausibly corresponds to a family name, or if we ignore the two most common names among the viceroys: Antonio and Manuel. We also verify that our results are robust to considering the name of the King (Charles III and IV) or the corresponding intendant. For the empirical analysis, we collapse the data at the region-year level, computing the share of male newborns named after the viceroy, and we drop a handful of regions with erratic patterns of data availability. Figure B6 shows the geographic distribution of the data.

**Insurrectionist correspondence.** Torres Lanzas (1912) provides a comprehensive catalog of colonial correspondence held in the Archive of the Indies. Each entry corresponds to one letter and indicates the writing date and location. A short descriptive text provides additional information on the sender, recipient, and content. We digitized all the information for each entry until 1811. There are very few letters before 1807, corresponding to Napoleon’s invasion of Spain and the abdication of King Charles IV, an event exploited by local insurrectionists. We geocoded each letter by hand based on the location of any events described, which may differ from where the letter was written (e.g. an insurrection in Quito as reported from Lima). We also generated a dummy to indicate whether the letter referred specifically to events denoting insurrectionist activity against the Crown. Focusing on the period 1807-1811 (i.e., fully after the intendency reform), the resulting dataset includes 1280 entries related to events in 62 different locations. For the analysis, we collapse the data to the region level and measure the share of letters with insurrectionist content relative to the total volume of correspondence. Figure B7 shows the individual locations included in the data and the intensity of insurrectionist correspondence.

## 3.2 Research Design

We study the impact of the intendency system using a Difference-in-Difference (DiD) research design based on the staggered introduction of the reform across the Spanish colonies. The variation that we exploit combines temporal differences across macro-regions (e.g., viceroyalties) in the *de jure* adoption of the intendency system as well as idiosyncratic variation within these regions in the *de facto* arrival date of the first intendant to each of the new intendancies. We further exploit the fact that the reform was never implemented in part of the viceroyalty of New Granada. We define

an intendancy as starting to operate only when an intendant effectively arrives to govern. We use our detailed intendant biographical data to precisely define this year for each location.

The historical record suggests a high degree of randomness in the timing of reform along both dimensions. At the macro level, José de Gálvez had expressed vocal support for the intendancy system from his time as *visitador* of New Spain in the 1760s and actively worked on the preparations for the reform since his appointment as Secretary of the Indies in 1776. However, crafting the detailed ordinance of intendants with its hundreds of articles required lengthy deliberation and fine-tuning. The system roll-out further required extensive consultation with the viceroys and *visitadores* – amid substantial technological constraints – to determine the number of intendancies to be introduced, their extension, and their capital. Gálvez’s correspondence shows that he worked simultaneously on multiple fronts to introduce the system throughout the Spanish colonies (Navarro García, 1959; Kuethe and Andrien, 2014).

At the micro level, the time gap between the creation of an intendancy and the arrival of its first intendant ranges from one to three years. Our biographical data-collection effort revealed that the variation in effective arrival dates largely relates to further deliberation and bureaucratic hurdles on individual appointments. Also important were the logistical frictions associated with long journeys by sea and land, and the adaptation to a new natural environment. A prominent example concerns Benito Perez, intendant of Yucatan, who was captured by the British while sailing to his post and detained for several months (Navarro García, 2009). In another case, several new appointees experienced delays awaiting printed copies of the ordinance of intendants (Lynch, 1958).

The map in Figure 1 shows the effective start dates of the different intendancies.<sup>12</sup> As mentioned in Section 2, the intendancy system was first introduced in the viceroyalty of Río de la Plata (encompassing present-day Argentina, Paraguay, Uruguay, and Bolivia), with the ordinance of intendants published in 1782 and the initial intendants arriving in 1783. The system was then extended to the viceroyalty of Peru in 1784, followed by the audiencias of Guatemala (present-day Guatemala, Nicaragua, El Salvador, Honduras, and Costa Rica) and Quito (Ecuador) in 1785 and 1786, respectively.<sup>13</sup> Finally, the reform was introduced in the audiencia of Chile and the viceroyalty of New Spain (Mexico) in 1787. As detailed in section 2.2, part of the viceroyalty of New Granada corresponding to present-day Colombia never adopted the intendancy system and serves as a pure control.<sup>14</sup> This failure to adopt the reform in Colombia was the unintended byproduct of

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<sup>12</sup>Figure B8 shows more detailed maps for each viceroyalty, including the former corregimientos.

<sup>13</sup>Unfortunately, fiscal data is unavailable for the audiencia of Guatemala and we thus exclude it from our analysis.

<sup>14</sup>Gálvez appointed an intendant in Venezuela as an early pilot in 1776. This intendant was akin to a military *Captain General* with extended executive powers, had jurisdiction over multiple provinces (Caracas, Cumana, Guayana, Maracaibo, and Isla Margarita), and was not regulated by the ordinance of intendants. Due to these anomalies, we exclude Venezuela from our baseline analysis but verify that our results are robust to its inclusion. Also contentious is the implementation of the intendancy system in Quito (the intendant coincided with the president of the audiencia and the system did not reach the small province of Jaén de Bracamoros), and in the *Banda Oriental* (present-day Uruguay),

Gálvez’s untimely death rather than a deliberate choice.

Ultimately, the fast roll-out of the system across most of the empire suggests limited geographic targeting. As part of our validation checks, we show below that the timing of adoption is uncorrelated with a battery of predetermined geographic and socioeconomic covariates and that our results are robust to excluding any treasury, region, or viceroyalty. In part of our analysis we also exploit differences in the announcement versus the effective year of implementation.

Our DiD strategy compares changes in our outcomes of interest as different locations adopt the intendency system. The cross-sectional unit of observation in our baseline analysis of fiscal outcomes is the royal treasury, but we verify that our results are robust to aggregating to the regional level (intendency/province). We also use this higher degree of aggregation when studying other outcomes, including the availability of cartographic information and the incidence of indigenous rebellions. We include unit (e.g., treasury) fixed effects in our regressions to account for differences in time-invariant characteristics between locations. We also include year fixed effects to flexibly account for common shocks (e.g., inflation, external conflict, death of Gálvez). We estimate the following econometric specification:

$$y_{it} = \alpha_i + \delta_t + \beta \times \mathbb{1}(\text{Intendency})_{it} + Z'_{it}\psi + \varepsilon_{it} \quad (1)$$

where  $y_{it}$  is an outcome of interest in unit  $i$  at year  $t$ , and  $\alpha_i$  and  $\delta_t$  are unit and year fixed effects.  $\mathbb{1}(\text{Intendency})_{it}$  is an indicator function that takes the value of one after an intendency is established (i.e., the effective arrival date of the first intendant). Our coefficient of interest is  $\beta$ , which captures the average difference in the outcome after the reform between units under the governance of the intendants and those that were not, relative to the difference before the reform.  $\varepsilon_{it}$  denotes the error term, which we cluster at the level of the cross-sectional unit of observation (treasury or region). Alternatively, we provide additional results using randomization inference.

The vector  $Z'_{it}$  corresponds to a series of predetermined cross-sectional covariates interacted with year-fixed effects that account for potential time-varying effects of geographic, locational, demographic, and historical characteristics that could bias our estimates. Panel (a) in Figure 2 shows estimates from a regression of the year of reform on these variables. Panel (b) shows the corresponding results for a discrete measure of early (1783-1784) vs. late adopters (1786-1787). As expected from the historical discussion above, the standardized point estimates suggest that these characteristics are largely uncorrelated with the timing of the reform.<sup>15</sup> The balance in predetermined covariates persists if we include Colombia among the late adopters in Panel (c). Panel (d) provides further evidence of balance for the time gap between the formal announcement of the

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which served as a military buffer zone between Spain and Portugal. In our baseline analysis, we consider Quito and Montevideo treated and Jaén untreated, but we consider alternative coding choices for robustness in Table B2.

<sup>15</sup>Only one characteristic (log distance to the coast) shows a negative correlation in certain specifications.



introduction of the intendency system and the effective arrival of the first intendant.

Our identifying assumption for  $\beta$  is that the difference in outcomes across locations would have remained constant in the absence of the intendency system, conditional on the fixed effects and predetermined controls. We provide evidence in support of this *parallel trends* assumption by estimating the following event-study model:

$$y_{it} = \alpha_i + \delta_t + \sum_{\tau \neq -1} \gamma_\tau \times \mathbb{1}(\text{Intendency})_i + Z'_{it}\psi + \varepsilon_{it} \quad (2)$$

where  $\tau < 0$  corresponds to years before the reform. The associated coefficients ( $\gamma_\tau$ ) must remain stable and close to zero to validate the parallel trends assumption. The estimates of  $\gamma_\tau$  for  $\tau \geq 0$  correspond to years after the reform and allow us to examine its dynamic impact.

We estimate equations (1) and (2) using Ordinary Least Squares (OLS). As part of our robustness checks, we also consider alternative estimators that address potential issues in settings with staggered treatment and heterogeneous effects (de Chaisemartin and D’Haultfoeuille, 2020; Callaway and Sant’Anna, 2021). We additionally report results for an alternative research design based on the synthetic-control method, focusing on the part of New Granada where the reform was never adopted (Abadie, 2021). Based on the latter we provide a back-of-the-envelope decomposition of the overall impact of the reform between the intensive and extensive margins.

## 4 Results: Fiscal Capacity

This section presents our results on the effects of the intendency system on the Spanish Crown’s ability to raise revenue from its American colonies. We present our baseline estimates on total revenue and a large battery of robustness checks. We then delve deeper into the underlying mechanisms. Finally, we study the reform’s impact on expenditure and public good provision.

### 4.1 Total Revenue

One of the main goals of the intendency system was to increase colonial revenue and the reform awarded the intendants extensive powers over fiscal matters. In the words of Haring (1947, p.134-136), the “purpose of this reorganization of local government was the increase of royal revenues by improving the fiscal administration of the colonies... the most important services of the *intendentes* were to be in the collection of royal revenues.” Hence, our main outcome of interest in evaluating the performance of the reform is the total yearly revenue entering each royal treasury.

Figure 3 plots point estimates and 95% confidence intervals for the coefficients  $\gamma_\tau$  in equation (2), using as dependent variable the natural logarithm of total revenue. The estimates for the years

before the adoption of the intendency system are statistically insignificant and generally close to zero, supporting the parallel trends assumption. In contrast, the estimated coefficients steadily increase after the reform and become statistically significant after two years. This increase in revenue stabilizes after five years at around 50 log points and persists for over a decade.

Table 1 shows the corresponding estimates of  $\beta$  from equation (1). Column 1 reports the most parsimonious specification with treasury and year fixed effects. The results show that adopting the intendency system led to an average increase in revenue of 29 log points (approximately 34%). This effect is precisely estimated and suggests a sizable increase in fiscal capacity. To put this magnitude into perspective, the intendency system had a much larger fiscal impact than the elimination of patronage in the appointment of British colonial governors (4-6 log points in Xu, 2018), or the provision of monetary incentives for tax collectors in present-day Pakistan (9-13 log points in Khan et al., 2016). Our estimated effect is closer to the 44% increase in revenue caused by involving local chiefs in tax collection in the Democratic Republic of Congo (Balán et al., 2022). The intendency system was, thus, very successful at generating additional revenue for the Crown.

Even though Figure 2 provides evidence of balance in predetermined covariates, we further verify that our results are not confounded by their potential time-varying effects. For this purpose, we sequentially introduce a series of controls corresponding to these fixed characteristics interacted with year fixed effects. We group these covariates into geographic (elevation, land suitability, temperature, precipitation, malaria suitability, and terrain ruggedness), locational (log distance to nearest river and coast), pre-colonial (number of ethnicities), and political (number of indigenous rebellions from 1700 to 1783). The results in Columns 2-5 of Table 1 remain unchanged as we progressively introduce these different sets of controls. If anything, the estimated effect of the reform becomes larger with the additional controls.

In Column 6, we include as an additional regressor an indicator equal to one for all years following the *de jure* announcement of the adoption of the intendency system in the macro-region (viceroyalty or audiencia) where the treasury is located. This variable allows us to exploit the differential timing between the Crown's decision to introduce the intendency system in a given region (which could be correlated with unobservable regional shocks) and the more idiosyncratic arrival of the first intendant. The results suggest a small decrease in revenue in the interim period following the announcement – though this estimate is imprecise and statistically insignificant – and a sharp increase when the first intendant arrives. We estimate a net impact of 34 log points, close to our baseline estimates. These additional results confirm that the driver behind the increase in fiscal capacity is the effective arrival of the intendant (i.e., the actual implementation of the reform) and not merely the announcement of the adoption of the system.<sup>16</sup>

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<sup>16</sup>Column 1 of Table B1 provides very similar estimates to our baseline results if we exclude the interim period between the announcement and the arrival of the first intendant. This further suggests a negligible anticipation effect.

## 4.2 Robustness Checks

We consider additional robustness tests, including changes in estimation methods, research design and statistical inference. We also address potential threats to identification and verify the robustness of our findings to alternative ways of measuring revenue or exposure to the reform. This section summarizes the results from these tests. We reserve all figures and tables for the Appendix.

A growing literature has explored the limitations of two-way fixed effects (TWFE) regressions like the one we use in settings with staggered treatment timing and heterogeneous effects (de Chaisemartin and D’Haultfoeuille, 2023; Roth et al., 2023). The fundamental issue concerns *forbidden comparisons* between already-treated units that receive a negative weight and lead to potentially misleading results. Moreover, validating the parallel trends assumption based on leading coefficients may also be unreliable under these conditions.

We address these concerns in different ways. First, we calculate the sum of negative weights in our analysis following de Chaisemartin and D’Haultfoeuille (2020). Reassuringly, this number is minuscule in our setting (-0.009), which suggests negligible bias. We then replicate our analysis using the alternative estimator proposed by de Chaisemartin and D’Haultfoeuille (2020). This estimator rules out forbidden comparisons and provides an unbiased estimate of the treatment effect for all cells (treasury-year) that switch treatment status. Furthermore, this estimator is robust to heterogeneous and dynamic effects if the treatment is binary and staggered, as is the case in our setting. Figure B9 shows that the estimates of  $\gamma_\tau$  in equation (2) are largely unchanged, with an estimated effect of the intendancy system on total revenue of 33 log points (p-value<0.05).

We also implement an alternative estimator proposed by Callaway and Sant’Anna (2021) to address these same problems. This estimator relies exclusively on the never-treated group for comparison (present-day Colombia in our case) and offers the twin advantages of relying on a weaker parallel trends assumption for the post-reform period and of being doubly robust to potential model misspecification. Figure B9 shows the corresponding estimates of  $\gamma_\tau$  in equation (2), which are also very similar to our baseline results and yield an estimated effect size of 25 log points (p-value: 0.085). Overall, the evidence from these alternative estimators indicates that our baseline results are not systematically affected by the identification issues raised by the recent econometrics literature (de Chaisemartin and D’Haultfoeuille, 2023; Roth et al., 2023). We verify below that these alternative estimators also yield similar results for our other main outcomes of interest: mapped area, expenditure, indigenous rebellions, and Creole naming patterns.

Exploiting that present-day Colombia offers us a pure control where the reform was never implemented, we also consider an alternative research design based on the synthetic control method (SCM). This allows us to relax the parallel trends assumption (Abadie, 2021). Panel (a) in Figure B10 plots average yearly revenue in treated and untreated treasuries and suggests a sharp divergence in the post-reform years. Panel (b) shows the SCM results: we use a weighted average of

the treated treasuries to best match average log revenue in the untreated ones up to 1782, when the roll-out of the intendancy system began, and then use these weights to predict this outcome for later years. The synthetic control closely matches average revenue in the never-treated treasuries before the reform and suggests a sizable difference in revenue afterwards. The gap in log total revenue between the never-treated areas and the synthetic control averages 0.12 in the post-reform period (p-value: 0.083). A comparison with our baseline estimate of 29 log points (column 1 in Table 1) suggests that the extensive margin approximately represents 41% of the total fiscal impact.<sup>17</sup>

We verify that our findings are robust to alternative ways of measuring revenue. Columns 2 and 3 in Table B1 provide similar results if we use as dependent variable log total revenue per capita based on colonial censuses from the late 18th century or if we adjust for inflation.<sup>18</sup> Column 4 verifies that our results are robust to the inclusion of an additional control corresponding to a time-varying dummy for treasuries that adopt double-entry bookkeeping. Column 5 shows that our results do not change if we eliminate external remittances from total revenue. Column 6 shows similar results if we aggregate the unit of observation to the region-year level (i.e., intendancies or provinces). This addresses concerns about contamination bias among neighboring treasuries.

As mentioned in Section 2, the intendancy system was the pinnacle of Spain's imperial modernization program. Other Bourbon reforms included creating new administrative units, most notably the viceroyalty of Río de la Plata in 1776, and the liberalization of maritime trade starting in 1765 (Ellingsen, 2022). We address the potentially confounding effect of these policies in various ways. In Column 7 of Table B1, we show that our results are robust to controlling for treasuries in Río de la Plata interacted with year fixed effects, which fully absorb the contribution of this viceroyalty to our estimates. In Column 8, we show that our results are likewise unaffected if we control for a time-varying measure of the distance to the nearest active port, which plausibly captures the effect of changes in trade. We also account for other potential confounders, such as the possibility that roll-out timing could reflect stalling by those viceroys who were less supportive. Column 9 of Table B1 shows that our results are robust to using viceroy-specific instead of global year fixed effects. We also consider the possibility that the reform's implementation may have been affected by conflict events such as Peru's Túpac Amaru rebellion in 1780. Column 10 shows that our findings are unchanged if we drop from the sample those treasuries in high-conflict areas before 1783.

More generally, we address concerns about potential reform targeting by showing in Figure B12 that our results are not sensitive to the exclusion of any treasury, intendancy/province, or even entire viceroyalties. Focusing instead on ambiguity in the treatment assignment, in Table B2 we

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<sup>17</sup>Figure B11 replicates our event-study analysis dropping the never-treated treasuries. The corresponding estimate of  $\beta$  is 0.23 (p-value: 0.026), which suggests that the extensive margin represents 21% of the total impact.

<sup>18</sup>We construct a treasury-specific price index combining data for various goods (e.g., grains, beef, fish, vegetables, wine, textiles) from several cities throughout Latin America (Buenos Aires, Santiago, Arequipa, Potosí, Lima, Popayán, Zacatecas) based on data from Garner and Stefanou (1993); Johnson and Tandeter (1990); Torres (2015).

consider alternative assignments for areas where the implementation of the intendancy system is ambiguous and show that the results do not vary (e.g., Venezuela’s pilot from 1776). Figure B13 further shows that our results are also unaffected if we exclude from the sample treasuries with three or more missing observations, equivalent to a 40% reduction in sample size.

In our main analysis, we cluster the standard errors at the treasury level. Alternatively, we implement a randomization inference procedure comparing our baseline results to 500 placebo estimates in which we randomize the years and locations of adoption of the intendancy system. For these placebos, we allow the adoption dates to be independent or to vary by macro-region (vicerealty or audiencia). Figure B14 plots the resulting distributions of estimates and shows that our baseline results fall at the right tail and are very unlikely to have arisen by chance ( $p < 0.05$ ).

### 4.3 Mechanisms

The previous results reveal a sizable boost in Crown revenue after introducing the intendancy system. In this section, we unpack several of the mechanisms driving this effect, grouping them into two broad margins of administrative reorganization. First, the reform furthered the territorial reach of the colonial state far from the traditional centers of economic and political power. Second, the reform also improved the missional alignment between the Crown and its functionaries and disrupted the capture of the colonial state by local elites.

#### 4.3.1 State Presence in the Periphery

Before the reform, the main colonial administrative centers were the capitals of the four viceroalties and the dozen or so audiencias spread out across the continent. Vast territories were governed from these headquarters and state presence dwindled as the distance to the urban centers where they were located increased: “the need was not so much better government as more government” (Lynch, 1958, p.282-284). The intendancy reform implied the introduction of a new administrative division and the designation of intendancy capitals as a new set of intermediate administrative centers. This plausibly increased the state’s ability to enforce policy throughout the territory. Panel (a) in Figure 4 shows the distribution of distances to the viceregal, audiencia, and intendancy capitals from each royal treasury. The average treasury was 500 km away from the audiencia and almost 900 km away from the viceregal capital, but only 200 km away from the intendancy capital. Panel (b) plots estimates of  $\gamma_\tau$  in equation (2), using the distance to the nearest administrative center as the dependent variable. The results show that adopting the intendancy system led to a reduction of approximately 300 km, equivalent to 66% of the pre-reform sample mean.<sup>19</sup>

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<sup>19</sup>The heterogeneity in the pre-reform coefficients is driven by the creation of the vicerealty of Río de la Plata in 1776, as well as the new audiencias of Caracas (1786), Cuzco (1787), and Buenos Aires (1783).

Another important dimension of state capacity, beyond mere state presence, involves knowledge of the territory and the people being governed (Scott, 1998; Garfias and Sellars, 2022a). The weak territorial presence of the colonial state before the reform meant that the Crown knew little about its vast possessions. Article 53 of the ordinance from 1782 tasked the intendants with touring their intendancies once a year and producing detailed reports and maps with information on the local geography and economy (Fisher, 1929). We use a novel dataset based on the universe of maps from the colonial period deposited in the Archive of the Indies to study the success of the reform along this margin.<sup>20</sup> Figure 5 shows estimates of  $\gamma_\tau$  in equation (2), using as a dependent variable the coverage of each region (intendancy/province) with cartographic information. The mapped area remains stable in the decade leading up to the reform but increases sharply after the adoption of the intendancy system.<sup>21</sup> Column 1 in Table 2 shows that the mapped area increased by 1.1 percentage points on average after the reform. This is a meaningful improvement in *informational capacity*, equivalent to 12% of the sample mean, and suggests that the reform allowed the Crown to access more updated and detailed information about the colonies. The remaining columns show that this result is robust to changes in the sample period or in the set of maps included in the sample, as well as to changes in the construction of the dependent variable.

We connect these findings to the fiscal impact of the intendancy system by studying heterogeneous effects based on fixed characteristics of the location of the royal treasuries. Table 3 shows results from a modified version of equation (1) that includes the interaction between the reform indicator and a separate one for each characteristic. In line with the notion that the new intendancy capitals became relevant administrative centers, Column 1 shows that the intendancy system led to a 40 log-point increase in revenue in treasuries that coincided with an intendancy capital but only to an 18 log-point increase in those that did not, though the difference is not precisely estimated. Column 2 corroborates this finding using an alternative measure for intermediate cities based on diocese (bishopric) capitals, for which the difference is highly significant. Some of the top beneficiaries of the reform include Huamanga and Trujillo in Peru, and Paraguay and Salta in Argentina. In contrast, Columns 3-5 show that the impact of the reform was much smaller in the traditional centers of political power represented by the capitals of the viceroyalties, archdioceses, or audiencias. Columns 6-7 similarly show that the reform was also largely ineffective in the traditional centers of economic activity, namely ports and mines. These results suggest that the intendancy system was most effective in intermediate cities with weak state presence before the reform.

We further explore the territorial heterogeneity in the fiscal impact of the reform in Figure 6. In panel (a), we interact the reform indicator with dummies for quartiles of the distance to the

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<sup>20</sup>The metadata from these maps reveal that many of these documents were submitted by the intendants to fulfill their duties. For example, entry 101 in Torres Lanzas (1906b) corresponds to a map of the town of Chihvata (Peru) submitted by the intendant of Arequipa, Antonio Alvarez, as a supporting document for his yearly visit in 1786.

<sup>21</sup>Panel (a) in Figure B15 provides similar results for alternative DiD estimators. Sum of negative weights: zero.

intendancy capital. We observe that the reform led to a roughly 40 log-point increase in revenue in the first and second quartiles, which correspond to treasuries located at the capitals or at a moderate distance, consistent with the previous results. In contrast, the fiscal impact drops substantially and becomes statistically insignificant in the third and fourth quartiles, corresponding to larger distances. These results suggest that the intendants improved fiscal capacity near their headquarters but struggled to improve governance and raise revenue in more distant areas. The historical record points to the vast extension of the intendancies and their poor infrastructure as major obstacles to the intendants' ability to tour them regularly (Lynch, 1958; Fisher, 1970). As a result, their capacity to monitor their deputies arguably worsened as the distance from the capital increased.<sup>22</sup>

Having shown above that adoption of the reform was uncorrelated with previous fiscal capacity, Panel (b) shows results from a modified version of equation (1) in which we interact the reform indicator with dummies for quartiles of average revenue in the pre-reform period (1770-1782). The results for the first three quartiles are comparable and suggest a 40-50 log-point increase in revenue. In contrast, the point estimate for the fourth (i.e., top) quartile is very small and not statistically significant. This result aligns with our finding of a small fiscal impact in the traditional centers of power or revenue and suggests that the effectiveness of the intendancy system stemmed from a strengthening of state presence in peripheral areas that the Crown had previously neglected.

#### **4.3.2 Missional Alignment and Elite Capture**

Under the status quo, the Crown put little effort into selecting the corregidores. Crown envoys reported that the colonies were “governed by the caprice of an insatiable greed of those who command the provinces... here everything is private interest, nothing public good.” (quoted in Fisher, 1970, p.11-12). A pillar of the intendancy system was the careful selection of a competent bureaucracy that “would combine effective action in local administration with complete subordination to central authority” (Lynch, 1958, p.46). Crucially, the reform aimed to select as intendants individuals who had a strong alignment with the interests of the Crown. “The intendant had a separate appointment from the crown, communicated directly with the crown ministries” (Lockhart and Schwartz, 1983, p.353). In this regard, delegation of authority to the intendants aimed to ameliorate agency and informational problems in the organization of the empire (Angelucci et al., 2023).

We study changes in the selection of royal officers by examining whether the intendants' observable characteristics help explain their fiscal performance, drawing on our hand-coded biographical dataset.<sup>23</sup> Panel (a) in Figure 7 shows results from a modified version of equation (1)

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<sup>22</sup>Table B3 provides the corresponding numerical estimates aggregating the bottom and top two quartiles (i.e., above vs below median). We also verify that these gradients are robust to using continuous measures instead.

<sup>23</sup>Our data-collection effort revealed very limited biographical information on the corregidores, which prevents us from comparing them to the intendants directly. Still, we find this difference in the availability of information between the two positions informative regarding the prominence of the intendants in the colonial administration.

that interacts the reform indicator with time-varying indicators for different characteristics of the incumbent intendant. Each set of estimates corresponds to a separate regression focusing on a specific characteristic. We find that intendants born outside of the Americas (the vast majority in Spain) greatly outperform their peers born in the continent. Similarly, those intendants lacking previous experience in the colonial government were also somewhat more effective, as well as those below the age of fifty. We do not find significant differences based on nobility or previous military experience. Table B4 provides the corresponding numerical estimates and verifies that the results are similar if we consider all characteristics simultaneously or if we add our battery of controls.

The significant difference in fiscal performance for intendants born outside the Americas or lacking experience in the colonial government suggests that the success of the intendancy system stemmed in part from the appointment of *outsiders* not captured by local interest groups. This finding aligns with recent work documenting worse performance among modern bureaucrats serving in their home districts in China and India (Jia and Nie, 2017; Xu et al., 2021). It also aligns with abundant historical evidence showing that enforcement of royal policy before the reform was extremely weak, with intendant Mata from Cuzco writing to Gálvez in 1785: “Here they laugh at the orders of the king” (quoted in Fisher, 1970, p.45). Further evidence of the importance of elite capture comes from the fact that the American intendants that we find to be less effective were prominent members of Creole society, and their appointment “was a deliberate attempt to encourage Creole support for the intendant system” (Fisher, 1970, p.37). Our additional finding of a larger fiscal impact among intendants appointed at a younger age plausibly reflects their stronger career concerns (Bertrand et al., 2019). Our biographical data supports this interpretation insofar as the position of intendant was often a stepping-stone to higher ranking posts, with six former intendants going on to become viceroys and four others promoted to presidents of audiencias.

Another important innovation of the intendancy system was the intendants’ indefinite term. This contrasts the five-year term awarded to the corregidores, who were akin to *roving bandits* with short time horizons and strong predatory incentives (Olson, 1993). We examine the link between intendants’ length of tenure and their fiscal impact by estimating a modified version of equation (1) that disaggregates the reform indicator into separate dummies for the incumbent’s years in office. The results in panel (b) of Figure 7 show a positive correlation between length of tenure and fiscal impact. This correlation cannot be interpreted causally, as it could reflect that better intendants remain in office for longer, but it is consistent with positive returns to experience. This seems likely given the large informational frictions faced by the incoming administrators. If so, part of the success of the reform also stemmed from intendants’ indefinite appointments and longer time horizon.

Our data allows us to study disaggregate fiscal categories that also suggest improved governance and reduced elite capture. Table 4 shows estimates of  $\beta$  in equation (1) using as dependent



variable the share of total revenue accruing from different sources. We focus on the main traditional sources of revenue: the indigenous poll tax, Crown monopolies, and taxes on trade and mining. We also consider the exceptional war contributions called *donativos* (Marichal, 2007). The results show that the reform shifted revenue towards more direct taxation in the form of the indigenous poll tax or *donativos* (Columns 1 and 5) and reduced the share corresponding to indirect taxation on economic (trade and monopolies) or extractive (mining) activity (Columns 2-4).<sup>24</sup> The growing importance of direct forms of taxation, which generally require stronger oversight and more demanding monitoring capabilities, also reflects the consolidation of fiscal capacity.

Plausibly contributing to the increase in revenue from the indigenous poll tax was a reduction in corruption, as suggested by the available qualitative evidence of fraud in tax collection by the corregidores (Fisher, 1970; Moreno-Cebrián, 1977). In the case of *donativos*, these roughly corresponded to a wealth tax and were increasingly charged to the Creole elites.<sup>25</sup> Their growing importance suggests that the intendancy system encroached on the economic privileges of the local elites. This will prove decisive in the political results that follow.

#### 4.4 Expenditure and Public Good Provision

So far, we have established that the intendancy system produced a significant increase in fiscal revenue due to the strengthening of state presence in the periphery and the improved selection of colonial officers. We now turn our attention to the impact of the reform on public spending, which is also crucial for understanding its political ramifications. Panel (a) in Figure 8 shows estimates of  $\gamma_\tau$  in equation (2) using log total spending as dependent variable. In line with our findings for revenue, the coefficients for the pre-reform period are mostly small and insignificant, while those after the reform show a sharp increase in spending.<sup>26</sup> The corresponding estimate of  $\beta$  in Column 1 of Table 5 indicates that the intendancy system led to an average increase in spending of 39 log points.<sup>27</sup> Column 2 shows that the intendancy system had a small and insignificant impact on the probability that the treasury had a deficit (i.e., spending exceeds revenue). This suggests that the additional spending was synchronized with the extra revenue generated by the reform.

In Columns 3-7, we again leverage the granularity of our fiscal data to provide disaggregate estimates on the share of total expenditure corresponding to different categories, based on the classification by Klein (1998). The results suggest a largely null impact on the composition of expenditure, with no meaningful change in the shares corresponding to military expenses (Column

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<sup>24</sup>Table B5 replicates these results using a logarithmic transformation of revenue from each source as the dependent variable. We find evidence of positive growth in revenue from all sources except monopolies and trade.

<sup>25</sup>Marichal (2007, p.277) reports that “Spaniards (whites) were to contribute 2 pesos per head of family, castes and mulatos 1 peso, and Indian peasants ... half a peso” as part of a *donativo* in New Spain in 1798.

<sup>26</sup>Panel (b) in Figure B15 provides similar results for alternative DiD estimators. Sum of negative weights: -0.011.

<sup>27</sup>Table B6 verifies that this result is robust to the inclusion of the additional sets of controls from Table 1.

3), administrative expenses (column 4) or external remittances (Column 6). These categories represent 70% of total spending on average, suggesting that the bulk of colonial revenue before and after the reform was destined for war, bureaucracy, and external remittances.<sup>28</sup> Column 5 shows a larger and more precise reduction in the share corresponding to tax collection. The estimated decrease of 5pp for this category is equivalent to 52% of the sample mean and suggests that the intendency system led to a sizable improvement in the efficiency of the colonial fiscal apparatus.<sup>29</sup>

We also find a large 11 pp increase in the expenditure share corresponding to various other expenses (Column 7). To establish whether this result reflects increased spending on public goods other than defense, we hand-coded a new variable corresponding to all line items related to public goods provision (e.g., roads, bridges, contributions to hospitals, schools, or religious organizations). The results in Column 8 show a null impact of the intendency system on the share of total spending corresponding to this category. Moreover, the sample mean of this share is only 3%, indicating that the provision of public goods in the colonies was a negligible concern for the Crown. Alternatively, in Column 9, we use additional data from Stangl (2020) to study a tangible independent measure of public goods provision: the number of colonial postal offices per region. Once again, we find a null effect.

The findings in this section suggest that the intendency system led to a large expansion in royal spending, but did not significantly affect its composition. While we do not directly observe the ultimate allocation of funds transferred back to Spain, in panel (b) of Figure 8 we draw on data by Marichal (2007) to provide descriptive evidence on the yearly amount of colonial transfers reaching the central administration in Madrid. The graph shows a sharp increase in the fiscal surplus generated by the empire that coincides with the introduction of the reform and persists until the end of the 18th century. This further confirms that the greater fiscal capacity caused by the intendency system did not translate into improved provision of local public goods. Colonial subjects were more effectively taxed, but seemingly saw little economic benefits. This plausibly affected their political attitudes towards the Crown, as we study in the next section.

## 5 Results: Political Outcomes

The results in the previous section indicate that the adoption of the intendency system led to an increase in the extractive capacity of the state, as well as in the legibility of the territory and its people. This strengthening of state capacity impacted colonial subjects and their relation to the state and plausibly had heterogeneous effects in the highly stratified colonial society. In this

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<sup>28</sup>Results for the logarithmic transformation in Table B7 show increases in military and administrative spending.

<sup>29</sup>Figure B16 re-estimates the fiscal impact of the reform based on a back-of-the-envelope calculation deducting increasingly larger administrative costs. The estimated net revenue gain remains precisely estimated above 25% in even the most demanding cost scenarios.

section, we study the *political* consequences of the intendency system, focusing on the political behavior of two key social groups: the indigenous peoples and the Creoles. We then explore the longer-term impact of the reform and its potential link to the independence movement that would gain traction during the early 19th century.

## 5.1 Indigenous Peoples

One of the motivations for introducing the intendency system was to remedy the abuses suffered by the indigenous peoples. As described in section 2, the corregidores compensated for their paltry wages by imposing highly overpriced goods on the indigenous peoples through an institution called *repartimiento*. Failure to pay was punished with forced labor, often in perpetuity. In their exposé, Juan and De Ulloa (1749, p.77,82) describe the repartimiento system as “cruelly wicked” and go on to ask: “who can deny that the Indians are in worse condition than slaves?”

Indigenous peoples lacked institutional channels through which to air their grievances since the corregidores were the first-instance judges and the audiencias were hundreds of kilometers away. As a result, the indigenous communities occasionally resorted to riots and other spontaneous acts of violence. There is a strong connection between these events and the repartimiento (Taylor, 1979). The analysis of several dozen indigenous rebellions in Peru in the 18th century by Golte (2016) concludes that every single one was motivated by this practice. Túpac Amaru, who led the largest indigenous insurrection in Peru in 1780, stated that his goal was that “this class of officials [the corregidores] should be completely removed, that their repartimientos should end” (quoted in Fisher, 1970, p.22). As part of the intendency reform, the Crown banned the repartimiento and tasked the intendants with ensuring the welfare of the indigenous peoples (Fisher, 1929).

Motivated by these facts, we use a novel transcontinental dataset to provide quantitative evidence on the impact of the intendency system on indigenous rebellions. This panel pools information from multiple regional sources, and we harmonized it to account for differences in coverage and geographic scope. Figure 9 shows estimates of  $\gamma_\tau$  in equation (2) using the number of indigenous rebellions in a region (intendency/province) as the dependent variable.<sup>30</sup> The estimates for the pre-reform years are generally close to zero and statistically insignificant, except for a spike shortly before the reform that is driven by the widespread violence from the Túpac Amaru insurrection. Following the reform, the point estimates are systematically negative, though marginally significant, and suggest a decline in indigenous rebellions. Table 6 provides the corresponding estimates of  $\beta$  in equation (1). Our baseline results in Column 1 show that the intendency system led to 0.29 fewer episodes of rebellion per year. This is a large effect, equivalent to 117% of the sample mean. This estimate remains very similar but loses precision when we introduce our battery

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<sup>30</sup>Panel (c) in Figure B15 provides similar results for alternative DiD estimators. Sum of negative weights is zero.

of controls for the time-varying effect of predetermined covariates in Column 2. The remaining columns show that the results are also robust to changes in the dependent variable, such as using the natural logarithm of rebellions or an indicator for the incidence of any such events.

The previous results suggest that the intendancy system reduced contentious political behavior by indigenous groups. This reduction in internal conflict constitutes evidence of an improvement in another key dimension of state capacity, namely *law and order* (Hobbes, 1651; Weber, 1919). This finding is plausibly driven by a reduction in indigenous peoples' willingness to rebel, now enduring fewer abuses than under the corregidores. Alternatively, this result could also reflect an improvement in the repressive capacity of the state and a reduction in indigenous people's ability to rebel. While we cannot fully adjudicate between these explanations, the historical record provides little evidence of contentious relationships between the intendants and indigenous communities and lends greater support to the former (Lynch, 1958; Fisher, 1970; Pietschmann, 1996).

Moreover, the historical record suggests that even though the intendants struggled to fully root out the repartimiento, living conditions among indigenous groups largely improved. Based on his first-hand experience in New Spain, von Humboldt (1811, p.183) claims that "the establishment of intendancies, during the ministry of the count de Galvez was a memorable epoque for Indian prosperity. The vexations to which the cultivator was incessantly exposed... have diminished under the intendants." If so, the increase in revenue from the indigenous poll tax documented in Table 4 could also reflect a higher incorporation of indigenous peoples into the colonial fiscal apparatus.<sup>31</sup>

## 5.2 Creoles

The situation for the Creoles was the reverse image of that faced by indigenous communities before the reform. While the latter were systematically exploited under the status quo, the former enjoyed substantial economic privileges. Creole merchants provided funding to the corregidores and the goods for the repartimiento system, while also benefiting from the supply of cheap indigenous labour, in what Golte (2016, p.120) describes as "an economic mechanism involving a large share of the dominant groups in colonial society." The Creoles' main grievance was their unequal footing with respect to their European peers, as documented by von Humboldt (1811, p.205): "the most miserable European, without education... thinks himself superior to the whites born in the new continent." High-ranking posts such as that of viceroy were reserved for officers born in Spain, although the sale of offices under the Habsburg dynasty enabled the Creole elites to access positions in the audiencias (Burkholder and Chandler, 1977). Regarding policy, the Creoles leveraged their economic clout and the weakness of the colonial state to bend it in their favor (Grafe and Irigoín,

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<sup>31</sup>For example, Corregidores often collected the repartimiento simultaneously with the poll tax. Indigenous peoples often hid from the corregidores to avoid paying the former, which dampened tax revenue (Moreno-Cebrián, 1977).

2012). Under these conditions, “Spanish Americans had little need to declare formal independence, for they enjoyed a considerable degree of *de facto* independence” (Lynch, 1973, p.4).

The modernizing efforts of the Bourbons fundamentally altered the socioeconomic landscape to the detriment of the Creole elites. Even before the adoption of the intendancy system, the Crown reduced the presence of Creoles in the audiencias by putting an end to the sale of offices and actively favoring peninsular candidates (Burkholder and Chandler, 1977).<sup>32</sup> The intendancy reform further encroached on the interests of the Creole elites along several dimensions. First, the reform took power away from the corregidores, who were sometimes Creoles or under Creole influence, and awarded it to a new corps of intendants mostly brought from Spain and lacking ties to the local elites. Second, the ban on the repartimiento disrupted the functioning of the colonial economy and eliminated a major source of profits for the Creoles. Third, as shown above, the reform led to increased tax revenue, partly driven by the donativos that were more heavily charged to the Creoles. In sum, Bourbon reformism “mounted a direct attack on local interests and disturbed the delicate balance of power within colonial society” (Lynch, 1973, p.2).

One crucial aspect of the intendancy system that plausibly contributed to the Creoles’ growing grievances was their lack of involvement in the design and implementation of the reform. Spain imposed this policy on its colonies without consultation in a canonical example of non-consensual state-building (Acemoglu, 2005; Acemoglu and Robinson, 2020; Besley, 2020). “The Bourbon reformers believed in an absolutist state, not one based on consensus” (Rodríguez, 1998, p.22). They also thought that “reform should be dispensed by the monarch to the people” (Fisher, 1970, p.156). Moreover, the fiscal organization of the empire meant that “wealthy Creoles were continually being pressured... for donations... to pay for remote dynastic wars in Europe” (Williamson, 2010, p.200). Our fiscal results show that little of the extra revenue raised due to the intendancy system benefited the local communities where this revenue was generated. “While the colonies were thus made to yield a greater quota of taxation, they were not consulted either about revenue or expenditure” (Lynch, 1973, p.11). This geographical disconnect between the sources of revenue and the destination of royal spending presumably fueled political animosity towards the Crown.

We provide quantitative evidence on the impact of the intendancy system on the political attitudes of the Creoles by studying naming patterns.<sup>33</sup> Focusing on male newborns, we draw on a novel dataset based on baptismal records to examine the share that was named after the incumbent viceroy in their region. Key to our setting, the sample of newborns is elite-biased since the Creoles were the group most compliant with baptisms and births’ registration. Moreover, the baptismal records predominantly originated in urban centers where the Creole population was concentrated.

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<sup>32</sup>Figure B17 shows that the share of Creoles in audiencias dropped from 53% in 1770 to 30% in 1780.

<sup>33</sup>Previous research has found names to be a meaningful outcome in the study of cultural assimilation and individualism among other topics (Fouka, 2019; Abramitzky et al., 2020; Bazzi et al., 2020; Assouad, 2020).

Figure 10 shows estimates of  $\gamma_\tau$  in equation (2). The share of newborns named after the viceroy remains relatively stable before the reform, but drops sharply after the adoption of the intendancy system.<sup>34</sup> Table 7 presents the corresponding estimates of  $\beta$  in equation (1). Our baseline estimate in Column 1 shows that the reform led to a sizable reduction of 10.8 pp in the share of male newborns named after the viceroy. In columns 2 and 3, we use several regional catalogs of indigenous surnames to distinguish between individuals who likely belonged to indigenous communities and those more likely to be Creoles. Only 5.3% of the names in our data have an indigenous surname, which further suggests that these baptismal records correspond almost entirely to Creoles. The results show that the effect on individuals with non-indigenous surnames is almost identical to our baseline estimate, while the impact on individuals with an indigenous surname is negligible and statistically insignificant. This heterogeneous impact on naming patterns plausibly reflects the asymmetric socioeconomic effect of the intendancy system on these social groups.

The previous results are based on a match between the first name of the viceroy and any of the words in the newborn's name. Columns 4 and 5 show that our baseline estimates are unchanged if we drop the final word from the individual names, which likely corresponds to a family name, or if we drop the two most common viceroy names (Antonio and Manuel). We focus our baseline analysis on the viceroys because they are the most prominent figure in the colonial state other than the King, while also providing a non-negligible pool of names both before and after the intendancy reform. Additionally, Columns 6 and 7 show that our results are robust to also considering the name of the King (Charles III and IV) or the corresponding intendant. Table B8 further verifies that these results are robust to including our battery of controls for the time-varying effect of predetermined covariates or controlling for other characteristics of the baptismal records.

Our findings suggest that the intendancy system led to a meaningful shift in attitudes by the Creole elites towards Spain and its representatives. The reform strongly reduced the economic privileges and *de facto* independence that the Creoles had enjoyed during the previous centuries of colonial rule, who seemingly responded with growing antipathy towards the Crown:

*“The incursions of the Bourbon state impinged upon both the political authority and economic interests of local Creole oligarchies, and, by thus attacking the standing of Creoles in their own communities, led them to assert the American part of their dual identity as ‘españoles americanos’ [Spanish Americans]” (McFarlane, 1998, p.320)*

### 5.3 Aftermath

Our main study of the intendancy system, its impact on state capacity, and its political consequences ends in 1800. The paucity of data largely prevents us from continuing the analysis into

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<sup>34</sup>Panel (d) in Figure B15 provides similar results for alternative DiD estimators. Sum of negative weights: -0.065.

the 19th century. In this section, we draw on the available information to shed light on the longer-term consequences of the intendancy reform. In line with our previous findings, we focus on the reform's fiscal impact and political ramifications.

The early 19th century coincided with the demise of the Spanish Empire (Barbier, 1977). During the first decade, the tensions between the Creole elites and the colonial administration heightened throughout the continent, providing a fertile ground for independence movements. At the same time, constant warfare between the Spanish Crown and other European powers took a toll on the colonial economy, particularly after the British blockade on intercontinental trade amid the Anglo-Spanish War that began in 1796. The turmoil from these conflicts was only exacerbated by Napoleon's invasion of Spain in 1807. This led to the subsequent abdication of King Charles IV in 1808 and the overthrowing of Ferdinand VII during that same year. This power vacuum was exploited politically, leading to the first declarations of Latin American independence in 1809.

During this period, the collapse of the fiscal system and the seeds of the independence movement were interwoven. Panel (a) in Figure 11 tracks the share of treasuries with available information in our fiscal dataset, relative to the universe operating in 1800. The share of active treasuries falls below 50% by 1810 and there is a positive correlation between the speed of decline across the different viceroyalties and the onset of the independence process denoted by the dashed lines. With this important caveat, we can use the available fiscal data to estimate the medium-term impact of the intendancy system on total revenue. Panel (b) shows estimates of  $\gamma_\tau$  in equation (2) for a longer time horizon that extends up to 22 years after the adoption of the intendancy system. We find that the positive fiscal impact of the reform persists for over two decades.

The independence movement in Latin America only took shape in the 19th century. "It would have been difficult to predict in 1800 that a great cataclysmic upheaval was about to occur" (Rodríguez, 1998, p.12). Our difference-in-difference design is not well suited for studying such a phenomenon that did not exist before the introduction of the intendancy system. Hence, we focus on a cross-sectional analysis and examine the correlation between the fiscal impact of the reform and a measure of support for independence. Our measure of fiscal burden is the change in revenue among the treasuries in a given intendancy after the reform, where we exclude our pure control units from New Granada. We measure the intensity of pro-independence activity by drawing on a novel dataset based on a catalog of letters in the Archive of the Indies. For each letter, we hand-code the location of the events it refers to and whether they concern some form of political insurrection. We then calculate the share of letters with insurrectionist content. We focus on the early independence period from 1807 to 1811 to minimize the confounding impact of other events.

The results in Table 8 show a positive correlation between the fiscal impact of the intendancy system and references to insurrectionist activity in the corresponding intendancy. Column 1 indicates that regions with above-median growth in Crown revenue have 18 pp higher insurrectionist

content in their correspondence. This is equivalent to 161% of the sample mean. The remaining columns show that this result is robust to using the continuous measure of change in revenue, introducing viceroyalty fixed effects, or controlling for the baseline level of revenue before the reform. The latter accounts for the possibility that richer localities may have found independence more attractive. Panel (c) in Figure 11 illustrates the corresponding positive partial correlation. Our results are also robust to controlling for other policies, such as the change in the distance to the nearest active port as a result of the trade liberalization. We also verify that this correlation is robust to dropping three regions lacking correspondence during this period.

Even though this link is only suggestive, the evidence indicates that areas where the intendancy system was more successful in generating additional revenue also had stronger pro-independence activity. Our biographical data for the intendants provides further evidence in this direction, with 15% of active intendants killed during the first wave of independence around 1810. Hence, our results support the notion that the Bourbon's "imperial reform planted the seeds of its own destruction" (Lynch, 1973). Importantly, the Creole elites largely orchestrated the independence process, which had little involvement from indigenous peoples. For instance, Lynch (1958, p.55) characterizes Argentina's May revolution of 1810 as a "patrician revolution, accomplished by an elite who spoke for the people without consulting them." In stark contrast, "Indian communities remained the monarchy's most devoted adherents" (Rodríguez, 1998, p.4). In this regard, our finding of a positive correlation between the fiscal impact of the intendancy system and the independence movement aligns with the historical record and with our previous findings on the heterogeneous impact of the reform on indigenous groups and the Creole elites.

## 6 Conclusions

We study the impact of one of the most ambitious efforts at administrative reform in the colonial world and the cornerstone of the Bourbon Reforms: the intendancy system in Spain's American colonies. We find that this reform led to a sizable increase in several dimensions of state capacity: fiscal capacity, informational capacity, and law and order. These findings were driven by a stronger state presence in the periphery and by changes in the selection of royal officials that ameliorated local elite capture. At the same time, we document an increase in Creole antipathy towards the Crown after the implementation of the reform and provide suggestive evidence of a connection with the incipient movement for Latin American independence. Our findings suggest that the Bourbon reforms led to a more capable, yet unsustainable, state and highlight the importance of consensual state-building for long-run development (Besley, 2020; Acemoglu and Robinson, 2020).

The intendancy system introduced by Spain's Bourbon rulers – a canonical example of enlightened absolutism – provides a unique opportunity to study important economic questions within



a large bureaucracy. First, it provides several concrete measures of bureaucratic performance in a literature where such measures are elusive (Besley et al., 2022). Second, the reform entails re-designing the organizational hierarchy of the bureaucracy (Snowberg and Ting, 2019), in contrast to most of the recent academic focus on changes in recruitment or incentives within a fixed organizational framework. Third, our analysis reveals that improving the missional alignment of colonial officers with the interests of the Crown was crucial for disrupting local elite capture and ensuring the fiscal success of the reform (Spenkuch et al., 2023). Finally, and in contrast to previously studied European settings, we document that externally-imposed state building by the colonial power on its vast overseas empire generates animosity among local elites and imperils the survival of the political regime, rather than contributing to political consolidation.

We thus expand our understanding of state formation in the developing world beyond the traditional Tillian narrative and stress the importance of political factors and colonial institutions (Acemoglu et al., 2001). The reform we study did increase fiscal and informational capacity and even led to partial improvements in law and order, cementing three key pillars of the state capacity edifice. However, the intendancy system antagonized local elites, who felt alienated and rebelled a few decades later. This lesson on the importance of consensual state-building can be extended to other periods and geographic settings and is relevant for policy-making in the present day (Rohner and Zhuravskaya, 2023). The modernizing efforts of the Bourbons plausibly permeated the newly created republics that arose in the 19th century and their effects (intended and unintended) may have persisted in the long run. Exploring this possibility is a promising avenue for future research.

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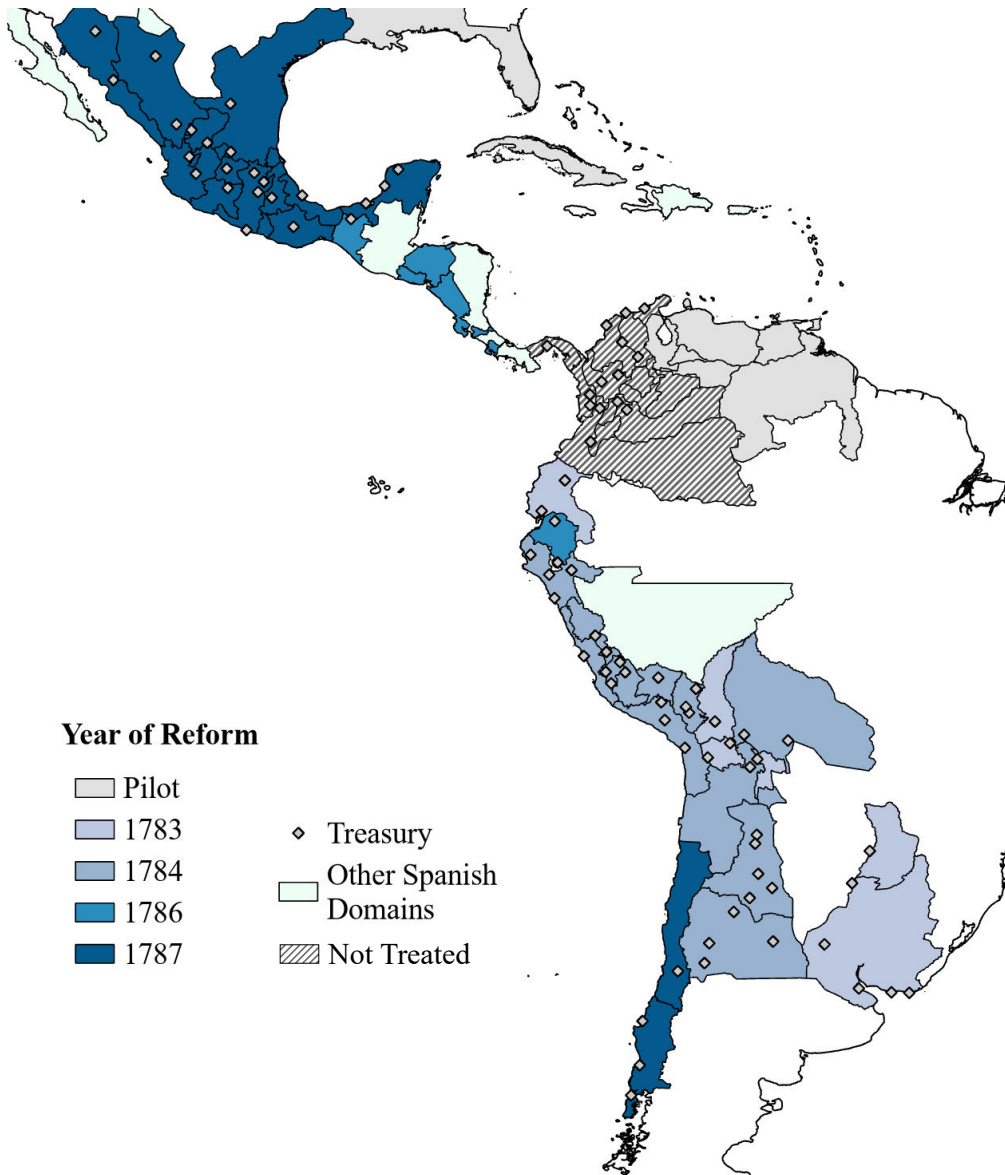
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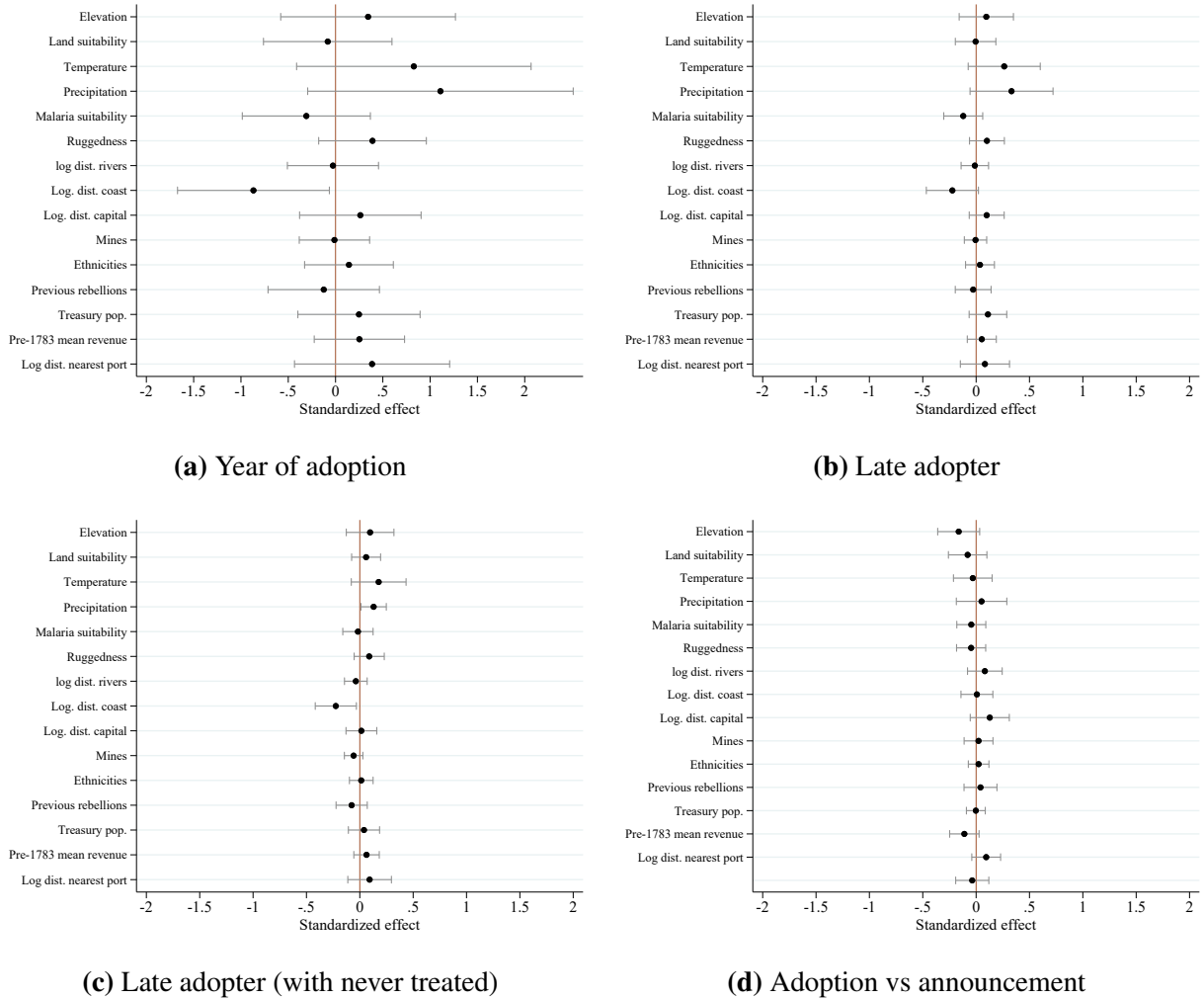
**Figure 1: Royal Treasuries and the Roll-out of the Intendancy System**



*Notes:* The map shows the geographical extension of each intendancy, using different shades of blue to denote the timing of reform. This timing corresponds to the year of arrival of the first intendante to each post. The part of the viceroyalty of New Granada corresponding to present-day Colombia, where the reform was not implemented, is displayed with diagonal black lines. Diamond markers show the location of royal treasuries.

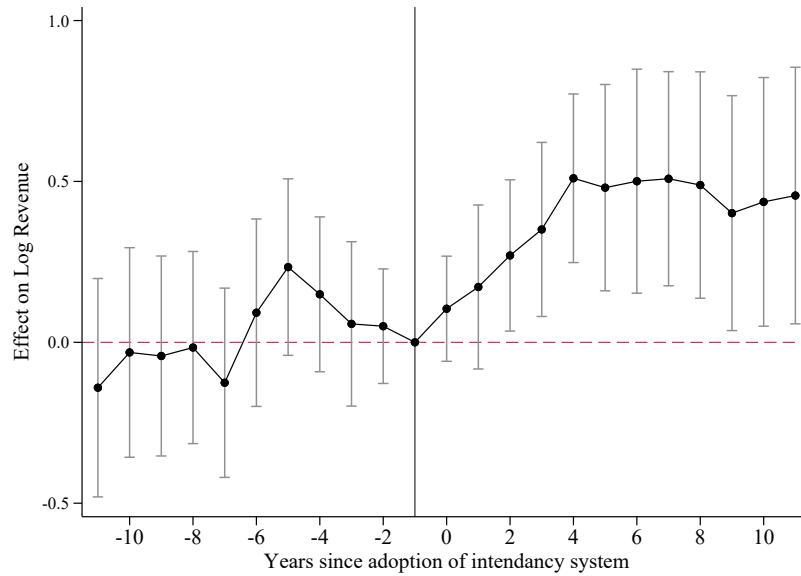


**Figure 2: Predetermined Covariates and the Roll-out of the Intendency System**



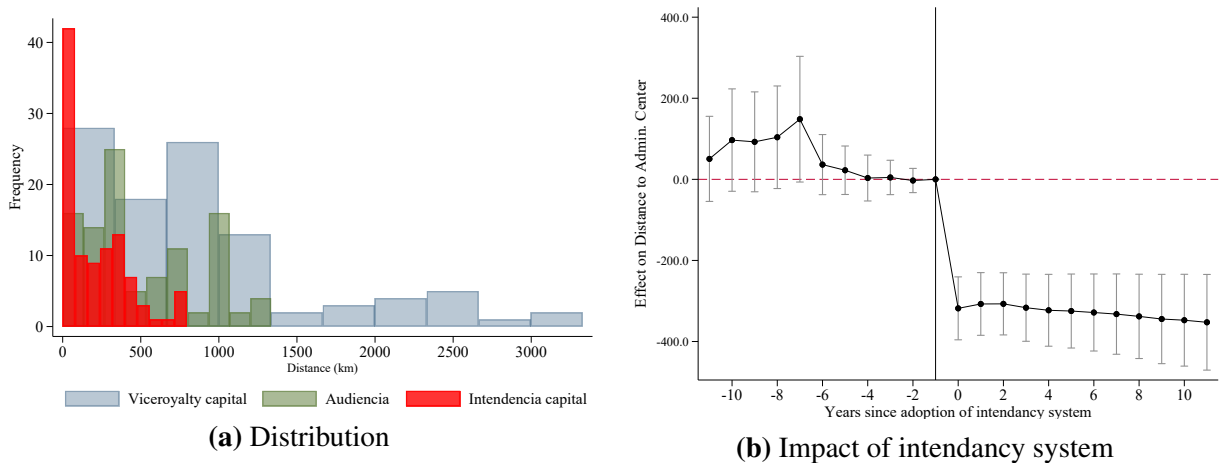
*Notes:* Each panel shows point estimates and 95% confidence intervals (with robust standard errors) from a regression of the timing of adoption of the intendency system on the predetermined characteristics listed on the left. The unit of observation is the royal treasury. In panel (a), the dependent variable corresponds to the year of adoption (i.e., the arrival of the first intendant). In panel (b), it is a dummy for treasuries located in areas that adopted the reform in 1786 or 1787 (late adopters). In panel (c), we include the untreated areas in present-day Colombia as late adopters. In panel (d), the dependent variable is the gap in years between the announcement of the introduction of the reform in a given area (vicerealty or audiencia) by the Crown and the effective year of adoption (arrival of first intendant).

**Figure 3: The Intendencia System and Fiscal Capacity**



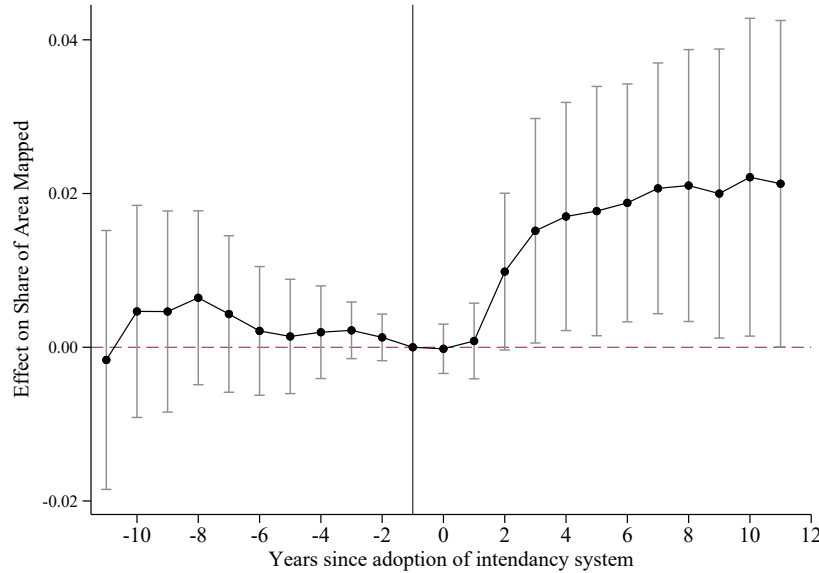
*Notes:* The figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is treasury-year and the dependent variable is log total revenue. Sample period: 1770-1800. Standard errors clustered by treasury.

**Figure 4: The Intendencia System and Distance to Administrative Centers**



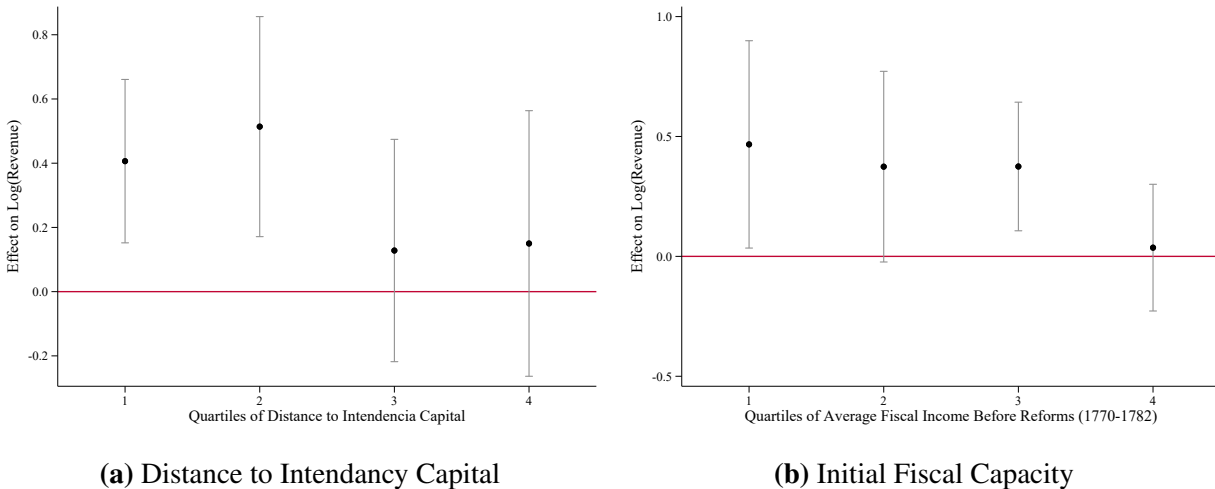
*Notes:* The histograms in panel (a) show the distance from each royal treasury to its corresponding viceregal capital, audiencia capital, and intendency capital. Panel (b) shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is treasury-year and the dependent variable is distance to the nearest administrative center. Sample period: 1770-1800. Standard errors clustered by treasury.

**Figure 5: The Intendancy System and Cartographic Information**



*Notes:* The figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is region-year, using intendancies for treated areas and provinces for never-treated ones. The dependent variable is the share of 25 x 25 km grid cells within a region-year that are covered by a map. Sample period: 1770-1800. Standard errors clustered by region.

**Figure 6: The Intendancy System and Fiscal Capacity: Treasury Characteristics**

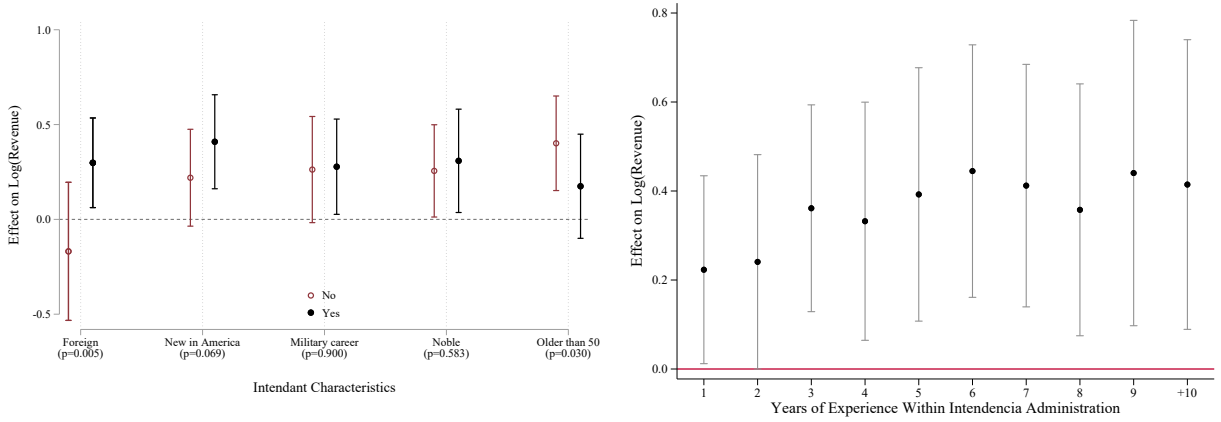


**(a) Distance to Intendencia Capital**

**(b) Initial Fiscal Capacity**

*Notes:* Each panel shows point estimates and 95% confidence intervals from a modified version of equation (1). In both panels, the dependent variable is log total revenue, the unit of observation is treasury-year, and the sample period is 1770-1800. In panel (a), we interact the reform indicator with a full set of dummies for quartiles of the distance to the intendancy capital. In panel (b), we interact the reform indicator with a full set of dummies for quartiles of average total revenue in the pre-reform period (1770-1782). Regressions in both panels include treasury and year fixed effects. Standard errors clustered by treasury.

**Figure 7: The Intendancy System and Fiscal Capacity: Intendant Characteristics**

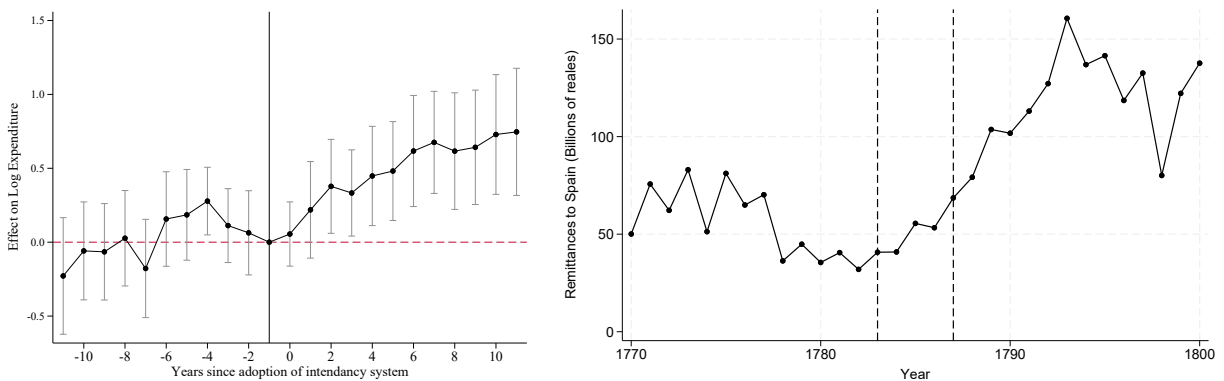


**(a) Intendant characteristics**

**(b) Length of tenure**

*Notes:* Both panels show point estimates and 95% confidence intervals from extended versions of equation (1). The dependent variable is log total revenue, the unit of observation is treasury-year, and the sample period is 1770-1800. In panel (a), we interact the indicator for adoption of the intendency system with separate complementary indicators for an intendant characteristic equal to zero or one. Each set of estimates corresponds to a separate regression based on the characteristics listed in the x-axis. In panel (b), we interact the indicator for adoption of the intendency system with separate complementary indicators for the length of tenure of the incumbent intendant in years. All regressions include treasury and year fixed effects. Standard errors clustered by treasury. The p-value at the bottom of panel (a) corresponds to the null hypothesis that both coefficients are equal.

**Figure 8: The Intendancy System, Crown Expenditure, and Remittances**

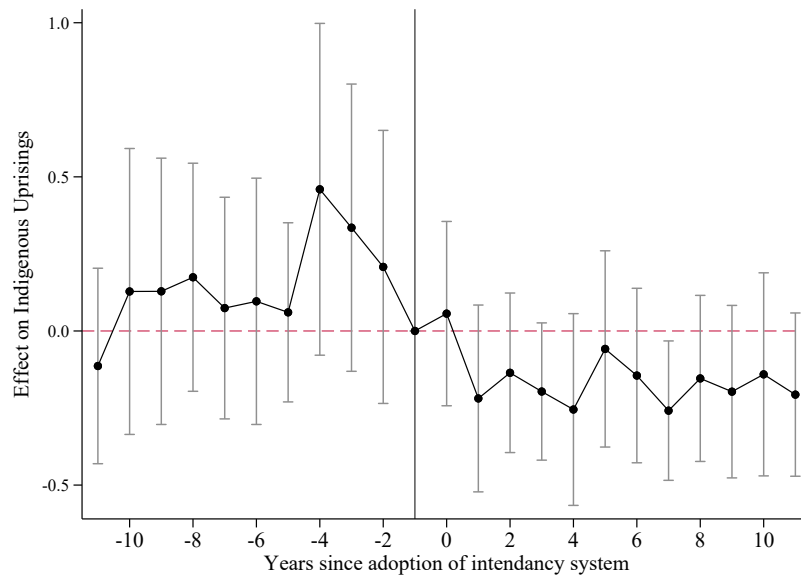


**(a) Impact of intendency system**

**(b) Remittances to Spain**

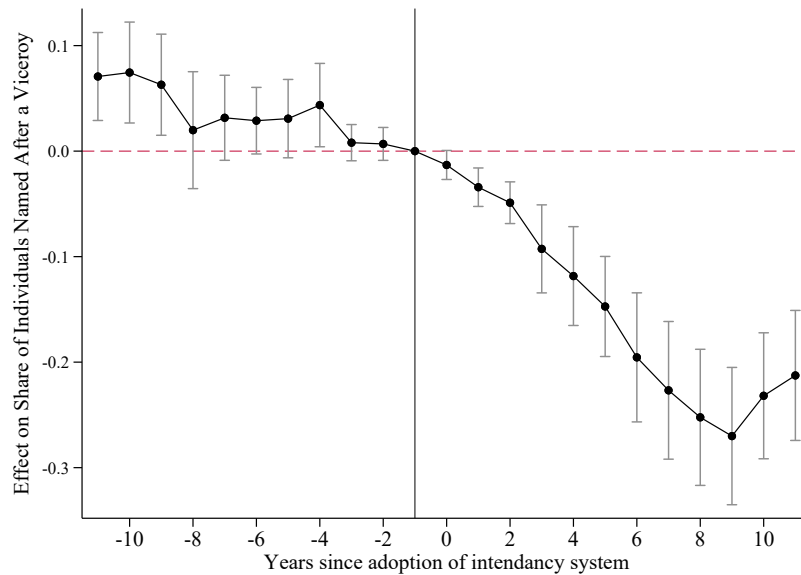
*Notes:* Panel (a) shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is treasury-year and the dependent variable is log total spending. Sample period: 1770-1800. Standard errors clustered by treasury. Panel (b) shows the 6-year moving average of total remittances from the American colonies to the central administration in Spain based on data from Marichal (2007).

**Figure 9: The Intendancy System and Indigenous Rebellions**



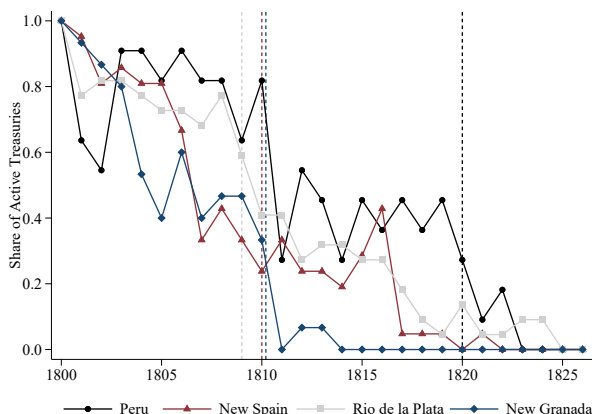
*Notes:* The figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is region-year, using intendancies for treated areas and provinces for never-treated ones. The dependent variable is the number of indigenous rebellions. Sample period: 1770-1800. Standard errors clustered by region.

**Figure 10: The Intendancy System and Naming Patterns**

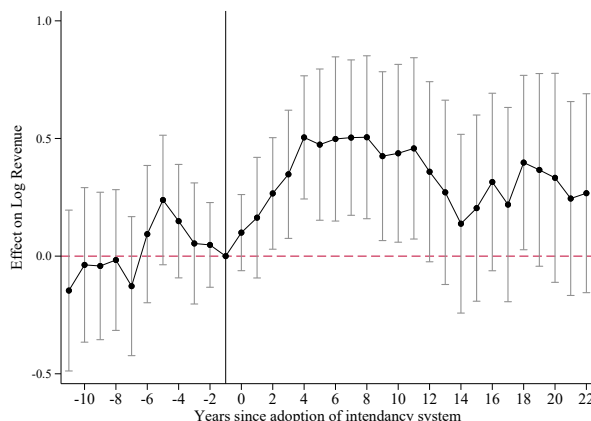


*Notes:* The figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is region-year, using intendancies for treated areas and provinces for never-treated ones. The dependent variable is the share of male newborns sharing a name with the corresponding incumbent viceroy. Sample period: 1770-1800. Standard errors clustered by region.

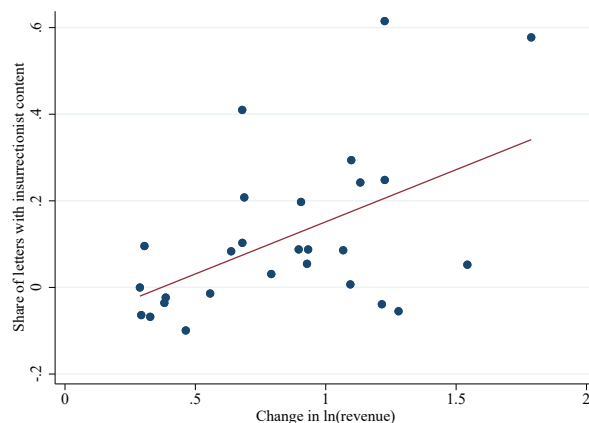
**Figure 11: The Intendancy System: Fiscal and Political Aftermath**



**(a) Treasury attrition**



**(b) Fiscal impact: medium run**



**(c) Insurrectionist letters and change in revenue**

*Notes:* Panel (a) shows the yearly share of treasuries with available information for each viceroyalty, relative to the universe in 1800. Dashed lines indicate the first declaration of independence in each viceroyalty. Panel (b) shows point estimates and 95% confidence intervals for  $\gamma_t$  in equation (2). The unit of observation is treasury-year and the dependent variable is log total revenue. The sample period starts in 1770, but the end date varies by treasury based on data availability. Standard errors clustered by treasury. Panel (c) shows the partial correlation between the share of letters with insurrectionist content (1807-1811) and log change in revenue between the time of adoption of the intendancy system and 1800, controlling for average revenue before the reform (i.e., Column 6 of Table 8).

**Table 1: The Intendancy System and Fiscal Capacity**

	Dependent Variable: Log Total Revenue					
	(1)	(2)	(3)	(4)	(5)	(6)
Intendancy	0.290** (0.115)	0.385*** (0.127)	0.356** (0.140)	0.340*** (0.127)	0.361*** (0.126)	0.430*** (0.132)
Announcement						-0.089 (0.130)
Mean Dep. Variable	718,607	718,607	718,607	718,607	718,607	718,607
R-Squared	0.938	0.945	0.947	0.949	0.951	0.951
Observations	1959	1959	1959	1959	1959	1959
Treasuries	79	79	79	79	79	79
Treasury FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Geographic controls		✓	✓	✓	✓	✓
Locational controls			✓	✓	✓	✓
Pre-colonial controls				✓	✓	✓
Political controls					✓	✓

*Notes:* The dependent variable is log total revenue in all columns. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years on or after the arrival of the first intendant to the intendancy where the treasury is located. Announcement is a dummy equal to one for years after the formal announcement of the adoption of the intendancy system in the macroregion (vicerealty, audiencia) where the treasury is located. All columns include treasury and year fixed effects. In Columns 2-5 we include predetermined covariates interacted with year fixed effects as additional controls. Geographic controls: elevation, land suitability, temperature, precipitation, malaria suitability, and ruggedness. Locational controls: log distance to rivers, and log distance to the coast. Pre-colonial controls: number of ethnicities. Political controls: number of indigenous rebellions before 1783. Standard errors clustered by treasury reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table 2: The Intendancy System and Cartographic Information**

	Cell length: 25km						# Unique locations
	Baseline	End year: 1811			50km	75km	
	(1)	(2)	No large maps	No neighbors		(6)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intendancy	0.011** (0.005)	0.013** (0.006)	0.008* (0.005)	0.003* (0.001)	0.009* (0.005)	0.015* (0.009)	0.727** (0.280)
Mean Dep. Variable	0.090	0.096	0.079	0.023	0.080	0.138	4.908
R-Squared	0.967	0.965	0.967	0.968	0.968	0.956	0.968
Observations	1200	1680	1200	1200	1200	1200	1200
Regions	40	40	40	40	40	40	40
Region FE	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓

*Notes:* The unit of observation is region-year, using intendancies for treated areas and provinces for never-treated ones. The dependent variable in Columns 1-6 is the share of grid cells within a region that are covered by a map. Intendancy is a dummy equal to one for years on or after the arrival of the first intendancy to each intendancy. All columns include region and year fixed effects. Columns 1-4 are based on 25km x 25km cells, while Columns 5-6 are based on 50km x 50km and 75km x 75km cells. In Columns 1-3 a cell is treated if a map falls in it or in any of its four neighbors (i.e., sharing an edge). Column 1 shows our baseline estimates for the sample period 1770-1800. Column 2 extends the sample period until 1811. Column 3 excludes larger maps with less precise geocoding. Columns 4-6 consider a cell mapped only if a map falls directly in it. Column 7 uses an alternative dependent variable defined as the number of unique locations with available maps within a region. Standard errors clustered by region reported in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table 3: The Intendancy System and Fiscal Capacity: Treasury Characteristics**

Characteristic (=1):	Dependent Variable: Log Total Revenue						
	Periphery:		Traditional centers of power and revenue:				
	Intendancy	Diocese	Viceroyalty	Archdiocese	Audiencia	Port	Mine
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intendancy [a]	0.179 (0.141)	0.178 (0.121)	0.297** (0.153)	0.295** (0.117)	0.294** (0.122)	0.328*** (0.123)	0.370*** (0.119)
Intendancy x Characteristic [b]	0.221 (0.143)	0.378** (0.156)	-0.130 (0.129)	-0.084 (0.133)	-0.025 (0.109)	-0.203* (0.112)	-0.248 (0.165)
Mean DV	718,607	718,607	718,607	718,607	718,607	718,607	718,607
R-Squared	0.939	0.939	0.938	0.938	0.938	0.938	0.939
Observations	1959	1959	1959	1959	1959	1959	1959
Treasuries	79	79	79	79	79	79	79
P-value $H_0 : [a] + [b] = 0$	0.003	0.001	0.232	0.145	0.026	0.291	0.469
Treasury FE	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓

*Notes:* The dependent variable is log total revenue in all columns. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years on or after the arrival of the first intendancy to the intendancy where the treasury is located. Intendancy x Characteristic is the interaction of the indicator for reform with a time-invariant dummy equal to one if the location of the treasury shares the characteristic listed in the column header. These characteristics correspond to the capitals of the intendancy, diocese, viceroyalty, archdiocese, or audiencia in Columns 1-5. The characteristics in Columns 6-7 correspond to the location of ports and mines. Standard errors clustered by treasury reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.



**Table 4: The Intendancy System and Fiscal Capacity: Sources of Revenue**

	Dependent Variable: Share of Revenue From						
	Indigenous	Monopolies	Trade	Mining	Donativos	Other	Remittances
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intendancy	0.033* (0.018)	-0.024 (0.028)	-0.052** (0.021)	-0.022 (0.025)	0.011* (0.006)	0.017 (0.031)	0.035 (0.036)
Mean DV	0.138	0.128	0.220	0.186	0.015	0.185	0.132
R-Squared	0.772	0.645	0.724	0.833	0.183	0.491	0.554
Observations	1950	1950	1950	1950	1950	1950	1959
Treasuries	79	79	79	79	79	79	79
Treasury FE	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓

*Notes:* The dependent variable is the share of total revenue from the source in the column header. The indigenous poll tax (tribute) in Column 1. Crown monopolies (e.g., tobacco, alcohol, mercury) in Column 2. Domestic and external trade taxes (alcabala and almojarifazgo) in Column 3. Mining taxes in Column 4. Exceptional war contributions called *donativos* in Column 5. Other sources of revenue in Column 6. Remittances from other treasuries in Column 7. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years on or after the arrival of the first intendant to the intendancy where the treasury is located. All columns include treasury and year fixed effects. Standard errors clustered by treasury reported in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table 5: The Intendancy System, Crown Expenditure, and Public Good Provision**

	Log Total Spending	Deficit (=1)	Share of total spending						# Post Offices
			Military	Administrative		Remittances	Other	Public goods	
				Total	Tax collection				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intendancy	0.383*** (0.125)	0.037 (0.065)	-0.021 (0.026)	-0.044 (0.033)	-0.050** (0.024)	-0.039 (0.041)	0.111*** (0.040)	-0.004 (0.015)	0.417 (1.506)
Mean DV	721,979	0.438	0.171	0.220	0.097	0.299	0.257	0.030	8.103
R-Squared	0.914	0.132	0.667	0.332	0.307	0.611	0.393	0.341	0.779
Observations	1937	1926	1936	1936	1936	1937	1936	1937	1200
Administrative units	79	79	79	79	79	79	79	79	40
Administrative unit FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓

*Notes:* The dependent variable is log total spending in Column 1 and a deficit indicator in Column 2. In Columns 3-8, the dependent variable is the share of total spending corresponding to the category in the header. Military spending in Column 3, administrative spending (total and tax-collection) in Columns 4-5, remittances to other treasuries and Spain in Column 6, other expenditures in Column 7, public goods in Column 8. Columns 3-7 are based on the classification of expenditure line items by Klein (1998), while Column 8 is based on our own hand-coding. The dependent variable in Column 9 is the number of post offices. The unit of observation is treasury-year in all columns except 9, where it is region-year (intendancy/province). Intendancy is a dummy equal to one for years on or after the arrival of the first intendant to the intendancy where the treasury is located. All columns include cross-sectional unit (treasury or region) and year fixed effects. Standard errors clustered by treasury (Columns 1-8) or region (Column 9) reported in parentheses. The mean of the dependent variable is reported in levels in Column 1. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table 6: The Intendancy System and Indigenous Rebellions**

	Dependent Variable: Indigenous Rebellions					
	Number		Dummy		Log	
	(1)	(2)	(3)	(4)	(5)	(6)
Intendancy	-0.288*** (0.076)	-0.240 (0.143)	-0.172*** (0.039)	-0.195** (0.076)	-0.158*** (0.038)	-0.149* (0.073)
Mean DV	0.246	0.246	0.164	0.164	0.143	0.143
R-Squared	0.306	0.469	0.342	0.513	0.337	0.497
Observations	960	960	960	960	960	960
Regions	32	32	32	32	32	32
Region FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Full controls		✓		✓		✓

*Notes:* The unit of observation is region-year, using intendancies for treated areas and provinces for never-treated ones. The dependent variable is indicated in the header: number of indigenous rebellions in Columns 1-2, an indicator for the incidence of any indigenous rebellions in Columns 3-4, and the log number of indigenous rebellions in Columns 5-6. Intendancy is a dummy equal to one for years on or after the arrival of the first intendand. All columns include region and year fixed effects. Even-numbered columns include an additional battery of controls: geographic, locational, pre-colonial, and political. Standard errors clustered by region reported in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table 7: The Intendancy System and Naming Patterns**

	Dependent Variable: Share of individuals sharing name with:						
	Baseline	Viceroy				Viceroy or King	Viceroy or Intendant
		Only Creoles	Only Indigenous	Dropping surname	No common names		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intendancy	-0.108*** (0.033)	-0.105*** (0.033)	-0.001 (0.001)	-0.103*** (0.029)	-0.109*** (0.031)	-0.109*** (0.033)	-0.103*** (0.034)
Mean Dep. Var.	0.066	0.056	0.002	0.058	0.040	0.071	0.099
R-Squared	0.345	0.348	0.216	0.352	0.363	0.343	0.400
Observations	1740	1740	1740	1740	1740	1740	1740
Regions	58	58	58	58	58	58	58
Region FE	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓

*Notes:* The unit of observation is region-year, based on the geographical units in the baptismal records. The dependent variable is indicated in the header: the share of male newborns named after the incumbent viceroy in Columns 1-5, the viceroy or the king in Column 6, and the viceroy or the intendant in Column 7. Column 1 provides our baseline results while columns 2-3 provide disaggregate results for individuals without or with an indigenous surname. Column 4 restricts the match to the viceroy to all but the last word of the individual's name. Column 5 drops the two most common viceroy names before matching. Intendancy is a dummy equal to one for years on or after the arrival of the first intendand. All columns include region and year fixed effects. Standard errors clustered by region reported in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table 8:** Change in Revenue under the Intendancy System and Insurrectionist Correspondence in the Early Independence Period

	Dependent Variable: Share of letters with insurrectionist content									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
High $\Delta$ Log revenue (=1)	0.183** (0.068)		0.247*** (0.082)		0.267** (0.095)		0.275** (0.096)		0.289*** (0.091)	
$\Delta$ Log revenue		0.141* (0.078)		0.193** (0.074)		0.241** (0.099)		0.326*** (0.100)		0.257** (0.096)
Mean DV	0.114	0.114	0.114	0.114	0.114	0.114	0.128	0.128	0.114	0.114
R-Squared	0.214	0.142	0.467	0.353	0.477	0.378	0.477	0.473	0.536	0.422
Observations	27	27	27	27	27	27	24	24	27	27
Viceroyalty FE			✓	✓	✓	✓	✓	✓	✓	✓
Control for baseline revenue					✓	✓	✓	✓	✓	✓
Omitting zeros							✓	✓		
Control for change in distance to ports									✓	✓

*Notes:* The unit of observation is an intendancy.  $\Delta$  in log revenue is the change in log revenue in the treasuries within an intendancy, measured between the adoption of the reform and 1800. High  $\Delta$  Log revenue is an indicator for intendancies with change in log revenue above the median. The dependent variable in all columns is the share of letters with insurrectionist content among those that refer to locations within the intendancy. The sample period is 1807-1811. Columns 3-10 include a viceroyalty fixed effect. Columns 5-10 further control for baseline revenue before the reform. Columns 7-8 drop intendancies without letters during our sample period. Columns 9-10 control for the change in the distance to the nearest port following the liberalization of trade. Robust standard errors reported in parentheses.

# Appendix (for online publication)

BOURBON REFORMS AND STATE CAPACITY IN THE SPANISH EMPIRE

Authors: Giorgio Chiovelli, Leopoldo Fergusson, Luis R. Martínez, Juan D. Torres, Felipe Valencia Caicedo

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# A Data Appendix

## Fiscal accounts from the royal treasuries

We retrieve the raw data based on the previous digitizing efforts by Tepaske and Klein (1982, 1986) for the viceroyalties of New Spain, Peru, and Río de la Plata.<sup>1</sup> In the case of New Granada, we complement the information for Ecuador in Tepaske and Klein (1982) with additional data for Colombia and Venezuela digitized and kindly provided by Pinto (2016, 2017). Starting with the raw/spreadsheet files for each of 85 royal treasuries between 1560 and 1826, we follow these steps to assemble the fiscal dataset:

1. We hand-check each raw file and line item for digitizing errors, typos or tab misalignments. We also cross-validated potential inconsistencies in the text and Excel files with respect to the original copies in Tepaske and Klein (1982, 1986). We standardize the files for the treasuries in New Granada to a comparable format to that of all other treasuries.
2. We harmonize item values into a single currency (*pesos de ocho*). For items reported in *pesos ensayados*, we convert them to pesos de ocho using the following formula: 1 peso ensayado = 1.6544 pesos de ocho. When items are only presented in pesos de oro we convert them to pesos de ocho using the following formulas: 1 peso de oro = 3.1 pesos de ocho. We retrieve these values from the introductory notes in Tepaske and Klein (1982). We then re-estimate total values accounting for currency conversion.
3. We harmonize reported date combinations. Raw data for each item covered different time periods within and across royal treasuries. Using start and end month-year combinations, we first identify annual items that cover the January-December period. Then we turn to items that cover alternative month-year combinations. These could be within the same year (e.g. February to June 1784) or covering more than a year (May 1772 to November 1773). For the latter, we split total item values ( $V$ ) into the number of months spanned ( $m$ ) and replace them for monthly item values ( $V/m$ ) with corresponding years. For instance, an item that spans May 1772 to November 1773 and has a value of 100 pesos spans 20 months. This item is divided into 20 monthly items with a value of 5 each, where 9 correspond to 1772 (adding a value of 45 to the sum of that year) and 11 to 1773 (adding a value of 55 to that year). After this process, we calculate the item sum by year.

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<sup>1</sup>This information is available in Excel and text files kindly provided by El Colegio de Mexico and Richard Garner: <https://realhacienda.colmex.mx/> and <https://www.insidemysdesk.com/hdd.html>. Last accessed: 08/07/2023.

4. We match item codes in the raw files to the item categories provided by Klein (1998). For items not found in these sources, as well as all treasuries in New Granada, we hand-coded all items to mimic the categories from Klein (1998). We then aggregate the annual item values into these revenue and expenditure categories.
5. We assign unique identifiers to each treasury and verify their opening and closing dates based on Tepaske and Klein (1982).

We then define the following fiscal variables following Klein (1998):

*Revenue:*

- Indigenous poll tax: “Taxes on Indians”
- State monopolies: “Royal Monopolies, Including Liquors and Bulas de Cruzada” + “Liquor, Wine, and Strong Drink”
- Trade taxes: “Trade, Commerce, and Agriculture”
- Mining taxes: “Mercury Sales” + “Mining and Minting”
- Donativos: “Donations, Loans, Special Assesments, and Subsidies”
- Remittances: “Income Remitted from Other Treasuries”
- Other revenue: “Extraordinary Income” + “Miscellaneous Income” + “Real Hacienda en Comun” + “Temporalidades” + “Taxes on Government and Church Officials”
- Carryover and non-fiscal: “Carryover from Previous Years” + “Debts Uncollected” + “Deposits, Advances, Individual Deposits” + “Specie and Products Held in Royal Treasury”
- Total revenue: Indigenous poll tax + State monopolies + Trade taxes + Donativos + Remittances + Other<sup>2</sup>

*Expenditure:*

- Military spending: “War and Defense”
- Tax collection: “Commercial and Agricultural Activity” + “Liquor, Wines, Etc.” + “Mercury Costs” + Mining and Minting” + “Royal Monopolies, Excluding Liquor and Papal Bulls”

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<sup>2</sup>We also define intendency-level total revenue by adding total revenue across royal treasuries inside the jurisdiction of an intendency.

- Administrative spending: “Administrative Expenses”
- Other spending: “Censos and Juros (Mortgages)” + “Donations, Loans, Special Assessments” + “Real Hacienda en Comun” + “Miscellaneous Expenses” + “Extraordinary Expenses”
- Remittances: “Remittances to Castile” + “Remittances to Other Treasuries” + “Remittances to the Philippines.” We also use data from Marichal (2007) to measure total remittances to Spain from the American Colonies in panel (b) of Figure 8.
- Carryover and non-fiscal: “Advances, Deposits, Etc.” + “Uncollected Debts” + “Carryover Funds” + “Specie, Etc., Reposing in the Treasury”
- Public goods: We hand-code this category by aggregating individual expenditure items (from the completely raw data) concerning non-military public goods expenses. This covers roads, bridges, other public works (e.g., wells), and contributions to hospitals, schools, and religious organizations.
- Total administrative: Tax collection + Administrative spending
- Total expenditure: Military spending + Total administrative + Remittances + Other spending

*Deficit:*

- Deficit: Takes a value of 1 if Total expenditure > Total revenue

For our empirical analysis in levels, we take the logarithm of each revenue and expenditure variable. For all other than total revenue and expenditure (which are always defined in our sample), we take the logarithm of the variable + 1. We also measure the share of total revenue or total expenditure corresponding to several different revenue and expenditure categories. We restrict the dataset to the 1770-1800 period for our main analysis, but allow the data up to 1826 to examine the aftermath of the reform.

## Geographical features

**Administrative boundaries:** We retrieve territorial data from the *Territorial gazetteer for Spanish America, 1701-1808*<sup>3</sup> by Stangl (2020) to identify the following administrative boundaries during the XVIII century Spanish empire:

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<sup>3</sup>See <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/YPEU5E>, last accessed 08/11/2023

- **Viceroyalties:** We identify polygons labeled as viceroyalties (“Virreinato”) after the adoption of all intendancies in 1787.
- **Intendancies:** We identify polygons labeled as intendancies, using the following variations: “Intendencia”, “Intendencia-Superintendencia”, “Superintendencia”, “Gobernacion-Intendencia”, “Gobernacion-Capitania General-Intendencia”, and “Corregimiento-Intendencia”. Since the territorial gazetteer is time varying, we pick polygons that correspond with the year of adoption of the intendancy.
- **Corregimientos:** We identify polygons labeled as corregimientos using the following keywords: “Corregimiento”, “Corregimiento-Alcaldia Mayor”, “Corregimiento-Intendencia”, “Corregimiento-Jurisdiccion”, “Corregimiento-Tenencia de gobierno”, “Corregimiento de naturales”, and “Corregimiento\*”. We restrict the scope of corregimientos to the extent of viceroyalties. We only pick corregimiento polygons that existed before the year of adoption of the corresponding intendancy and were shut down afterwards.
- **Provinces (New Granada):** We identify polygons labeled as large provinces in the territory of New Granada where intendancies were not adopted. These provinces remained after the adoption of the intendancy system and have a comparable size to that of intendancies.
- **Other Spanish domains and intendancy pilots:** We identify other domains in the Spanish Empire, such as Audiencias (and their capitals), Captaincies, other intendancies (Guatemala), pilot intendancies (Sonora, Sinaloa, Venezuela, Louisiana, Florida, and Cuba), military governorships (Maynas, Mojos, and Montevideo), and indigenous missions in the viceroyalty of Rio de la Plata.

### Treasury characteristics:

- **Coordinates:** We use the *Places gazetteer of Spanish America, 1701-1808* from Stangl (2020) to assign coordinates to each royal treasury (<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/FUSJD3>, last accessed 08/11/2023).
- **Establishment, inactivity, and shutdown:** Using data from the fiscal accounts (see “Fiscal accounts from the royal treasuries”), we identify establishment and shutdown dates, and periods of inactivity for each royal treasury. We cross-verify these periods with the introductory chapters of Tepaske and Klein (1982) and multiple online sources to distinguish between missing data, inactivity, and shutdown.



- **Institutions:** We hand-coded several variables indicating the presence of other institutions at the location of royal treasuries based on multiple sources: audiencia capital, intendancy capital, viceroyalty capital, port, mine, archbishopric, bishopric, and military fort.
- **Distance to administrative centers:** We group audiencia, viceroyalty, and intendancy capitals as administrative centers.<sup>4</sup> Then, we create a time varying measure between 1770 and 1800 of log distance from a royal treasury to its nearest administrative center. We also create measures of log distance to each type of administrative center capital and assign royal treasuries into quartiles of the distribution of this variable.
- **Initial fiscal capacity:** We average total revenue in each royal treasury between 1770 and 1782 (see “Fiscal accounts from the royal treasuries” for additional details). In addition, we assign royal treasuries into quartiles of the distribution of this variable.

#### **Intendancy characteristics:**

- **Intendancy adoption:** We build on multiple sources to characterize the roll out of the intendancy system. We distinguish between announcement dates from royal ordinances and effective adoption dates based on the arrival of the first intendant (our measure of the intendancy treatment). We follow the timeline in Navarro García (1959) to assign intendancy ordinance dates in each viceroyalty: 1782 in Rio de la Plata, 1783 in Quito, 1784 in Peru, 1786 in New Spain and Cuenca, and 1787 in Chile. For the effective adoption dates of the intendancy system, we rely on our reconstruction of intendant biographies (see “Intendant biographies” below.). We identify late adopters as intendancies where the first intendant arrived in 1786 or 1787. We also create a measure of the gap between adoption and announcement (e.g., the difference between effective adoption and announcement dates).
- **Colonial post offices:** We retrieve data from Stangl (2020) on the establishment of colonial post offices between 1770 and 1800 across the Spanish Empire. We aggregate post offices in each intendancy-year.

#### **Audiencia characteristics:**

- **Audiencia composition:** We collect data from Burkholder and Chandler (1977) on members of Audiencias between 1770 and 1800 to create composition shares between Creoles and Peninsulars.

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<sup>4</sup>Note that there can be overlap between these characteristics (i.e, Mexico City was the capital of the Viceroyalty of New Spain, the capital of the Mexico Audiencia, and the capital of the Intendancy of Mexico).

**Grid cells:** We use ArcGIS to construct a 0.2 x 0.2 grid that covers the rectangular extent of the coordinate points (34,-28), (-57 -123). Each cell is assigned a unique identifier. We have a total of 52,805 cells. The grid is clipped to the extent of Latin America using data on country boundaries retrieved from Natural Earth (see <https://www.naturalearthdata.com/downloads/10m-cultural-vectors/10m-admin-0-countries/>, last accessed 08/11/2023). In cases where a cell lies across two countries, we assign the country whose area is mostly covered. We repeat this process to clip the grid to the territorial scope of intendancies and our battery of covariates.

**Controls:** We describe below our battery of covariates. For elevation, land suitability, precipitation, malaria suitability, and ruggedness, we assign the mean value of the variable to the corresponding grid cell.

- **Elevation:** We retrieve average elevation raster data from the National Oceanic and Atmospheric Administration (NOAA) and U.S. National Geophysical Data Center.
- **Land suitability:** We retrieve the land suitability index raster data elaborated by Ramankutty et al. (2002)(<https://tinyurl.com/landsuitability>, last accessed 08/11/2023).
- **Temperature:** We use average annual temperature for 1961-1990 raster data from FAO/IIASA Global Agro-ecological Zones (GAEZ v3.0) (<https://gaez.fao.org/pages/data-viewer>, last accessed 08/11/2023).
- **Precipitation:** We use average monthly precipitation raster data for the 1961-1990 period from New et al. (2002) ([https://crudata.uea.ac.uk/~timm/grid/CRU\\_CL\\_2\\_0.html](https://crudata.uea.ac.uk/~timm/grid/CRU_CL_2_0.html), last accessed 08/11/2023).
- **Malaria suitability:** We retrieve the Malaria Ecology Index raster data from Kiszewski et al. (2004) and create a dummy variable that takes the value of 1 if the index takes a value greater than zero (<https://sites.google.com/site/gordoncmccord/datasets>, last accessed 08/11/2023)..
- **Ruggedness:** We retrieve the Terrain Ruggedness Index raster data in Riley et al. (1999) (<https://diegopuga.org/data/rugged/#grid>, last accessed 08/11/2023).
- **Distance to rivers:** We retrieve river vector data from Natural Earth and calculate the log distance between each cell and its nearest river (<https://www.naturalearthdata.com/downloads/10m-physical-vectors/10m-rivers-lake-centerlines/>, last accessed 08/11/2023)
- **Distance to coasts:** We retrieve coastline vector data from Natural Earth and calculate the log distance between each cell and its nearest coastline (<https://www.naturalearth>

[data.com/downloads/10m-physical-vectors/10m-coastline/](https://data.com/downloads/10m-physical-vectors/10m-coastline/), last accessed 08/11/2023)

- **Ethnicities:** We identify the number of ethnicities in each cell in the Ethnographic Atlas compiled by Murdock (1967) and processed by Chiovelli (2016).
- **Previous rebellions:** We aggregate indigenous rebellions in each intendancy before 1783 using data from Stangl (2020).
- **Historical mines:** We retrieve data on historical mines from the Mineral Resources Data System (MRDS) to count the number of mines in each grid cell (<https://mrdata.usgs.gov/mrds/>, last accessed 08/11/2023).
- **Distance to viceroyalty capital:** We construct a measure of log distance from each royal treasury to its corresponding viceroyalty capital city (Ciudad de Mexico, Santa Fe de Bogota, Lima, or Buenos Aires).
- **Population:** We retrieve data from *Demographic data, 1701-1808* by Stangl (2020) and assign the latest available population data before 1800 for each royal treasury based on its location (<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/QABIBG>, last accessed 08/11/2023). Whenever possible, we contrast the data with the direct sources, such as censuses ordered by viceroys during the late XVIII century (<https://tinyurl.com/newspaincensus>, last accessed 08/11/2023)
- **Pre-1783 revenue:** See “Initial fiscal capacity” for additional details.
- **Distance to ports:** We construct a measure of log distance from each royal treasury to its nearest port town. Our list of ports in towns with royal treasuries is as follows: Acapulco, Arica, Buenos Aires, Campeche, Concepcion, Lima, Montevideo, Veracruz, Guayaquil, Cartagena, Riohacha, and Santa Marta. We also include non-royal treasury port towns: Portobelo and Valparaiso. We distinguish between active ports before and after the second wave of trade liberalization in 1778 to create a time varying measure of distance to the nearest active port. We identify the following as active free trade ports before 1778: Veracruz, Cartagena, and Portobelo.

## Intendant biographies

We compile biographical data for the universe of intendants during the entire period in which the intendancy system existed (136 intendants between 1783 and 1821). Our main sources are Lynch (1958), Fisher (1970), Navarro García (2009), and Lacoste (2021). We cross-verify this

information with the biographical dictionary of Spain's *Real Academia de Historia*<sup>5</sup> and other online sources. We hand-code the following variables:

#### **Appointment and tenure as intendant:**

- **Appointment:** Date in which each intendant was appointed (*de jure*).
- **Effective arrival:** Date in which each intendant arrived to the post (*de facto*). We use the latter to define the effective date of intendency adoption based on the date of arrival of the *first* intendant.
- **Tenure:** We identify the date in which the intendant abandoned the post to create a measure of length of tenure in office spanning from 1 to 10+ years.

#### **Personal information:**

- **Birth:** Date and place of birth of the intendant. We use this data to create an indicator of age greater than 50 and foreign born if born outside of the Americas.
- **Death:** Date and place of death of the intendant.
- **Education:** We code the education level and academic/professional field of each intendant. We also create an indicator of non-military education.
- **Marital status:** We record the marital status of each intendant and information on the wife's birthplace and local connections.
- **Nobility:** We create an indicator of nobility status and list any nobility ranks.

#### **Previous experience:**

- **Military:** We identify if an intendant had a previous military career and their rank.
- **Past appointments:** We identify if an intendant had previous experience in the Spanish administration and the maximum position achieved. In some cases, current intendants had previously been appointed in other intendancies.
- **New in America:** We identify if this is the first position in the colonial government for each intendant.

#### **Post-intendancy events:**

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<sup>5</sup>Available at <https://dbe.rah.es/>. Last accessed: March 13, 2024.

- **Performance assessments:** We gather qualitative remarks on each intendant’s performance during their appointment (e.g., fiscal, economic, and military performance, misbehavior, relationship with the church, creoles, and natives)
- **Death:** we identify death causes for each intendant.
- **End-of-appointment outcomes:** We identify promotions, demotions and other post-intendancy outcomes in the career of each intendant.

## Naming patterns

We rely on genealogical information from a large organization to consolidate a dataset on baptismal records for approximately 900,000 individuals between 1770-1800. The data covers the present-day countries of Mexico, Panama, Colombia, Ecuador, Peru, Bolivia, Chile, Paraguay, Argentina, and Uruguay. We identify and clean birth dates and locations, which include country, region, and city of birth. This definition of region does not necessarily overlap with our definition of intendancies and provinces. Therefore, we geolocate regions in baptismal data and assign them to corresponding intendancy and province identifiers from our data. After cleaning the data and restricting it to men and regions with consistent baptismal data for the entire period, we end up with approximately 350,000 baptismal records.

We identify newborns named after a viceroy (intendant) as follows: We compile our data on first names and periods in office for viceroys and intendants. Then, we assign corresponding viceroy or intendant terms for each baptism with a given birth intendancy and year. We define a match if the first name of the incumbent Spanish official lies within the full name of a newborn. We create alternative definitions of a match, such as ignoring the newborn’s name final word or common viceroy names such as Antonio and Manuel. We also tag newborn names that are likely of indigenous origin (see “Indigenous surnames” below). We collapse matches at the region-year level. Our variables of interest are:

- **Share named after a viceroy:** Matches between newborn names and incumbent viceroy first names relative to total baptisms in a region-year.
- For robustness, we create alternative definitions of this variable: restricting the sample to baptismal records with likely indigenous origin (see “Indigenous surnames” below), restricting the sample to baptismal records without likely indigenous origin (likely creoles), excluding the newborn’s name final word, excluding common viceroy names such as Antonio and Manuel, allowing for matches with viceroy or king first names, and allowing for matches with viceroy or intendant first names.

## Baptism controls:

- **Births:** Total baptismal records in a region-year.

## Name controls

- **Register category:** Share of baptismal records provided by the Catholic church at the region-year level.
- **Register availability:** Share of baptismal records with no available source at the region-year level.
- **Words in name:** Average number of words in the full names of baptismal records in a given region-year.

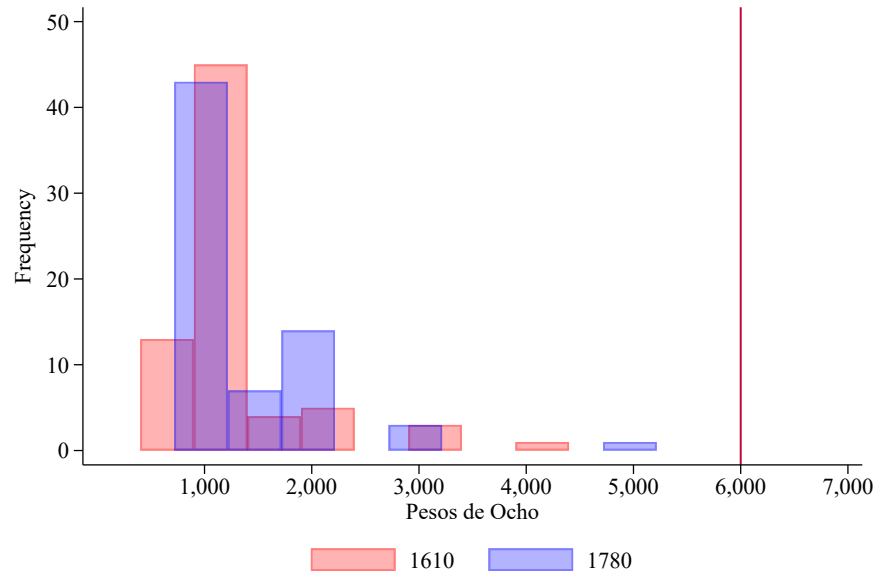
**Indigenous surnames:** We identify individuals plausibly belonging to indigenous groups based on the following regional catalogs of indigenous surnames.

- **Quechuan surnames of Peru:** (<https://apellidosperuanos.wordpress.com/apellidos-quechuas/> and <https://apellidosperuanos.wordpress.com/apellidos-quechuas-2/>, last accessed 03/13/2024)
- **Aymara indigenous surnames (Argentina, Chile, Peru, Bolivia):** (<https://es-academic.com/dic.nsf/eswiki/95853>, last accessed 03/13/2024)
- **Indigenous surnames of Argentina:** (<https://rdu.unc.edu.ar/bitstream/handle/11086/967/Apellidos%20ind%3Adgenas%20del%20tiempo%20de%20la%20conquista.PDF?sequence=1&isAllowed=y>, last accessed 03/13/2024)
- **Indigenous surnames of Colombia:** ([https://es.wikipedia.org/wiki/Anexo:Apellidos\\_ind%3ADgenas\\_de\\_Colombia](https://es.wikipedia.org/wiki/Anexo:Apellidos_ind%3ADgenas_de_Colombia), last accessed 03/13/2024)
- **Indigenous surnames of Mexico:** ([https://www.elespanol.com/curiosidades/apellidos-origen-indigena-vinculan-aztecas-mayas-america-latina-hispanoamerica/751924922\\_0.html](https://www.elespanol.com/curiosidades/apellidos-origen-indigena-vinculan-aztecas-mayas-america-latina-hispanoamerica/751924922_0.html) and <https://lasillarota.com/nacion/2022/8/28/estos-apellidos-sobrevivieron-la-conquista-espanola-390125.html>, last accessed 03/13/2024)
- **Indigenous surnames of Izalco (Mexico):** (<https://www.facebook.com/AdescoteculturalPuertoElTriunfo/photos/apellidos-ind%3ADgenas-cultura-izalcomuchos-pobladores-de-izalco-todav%3ADa-conservan-/1428498013844793/?paipv=0&eav=AfbWfjhBvzIR1Nz80FBH3YEL3n1tlCIKcdfiRSMxg8XnvVr0Iu83PfJ2hguqkcUaLcc&.rdr>, last accessed 03/13/2024)

- **Mapuche surnames of Chile:** (<https://www.mapuche.info/docs/NombresMapuche.html>, last accessed 03/13/2024)

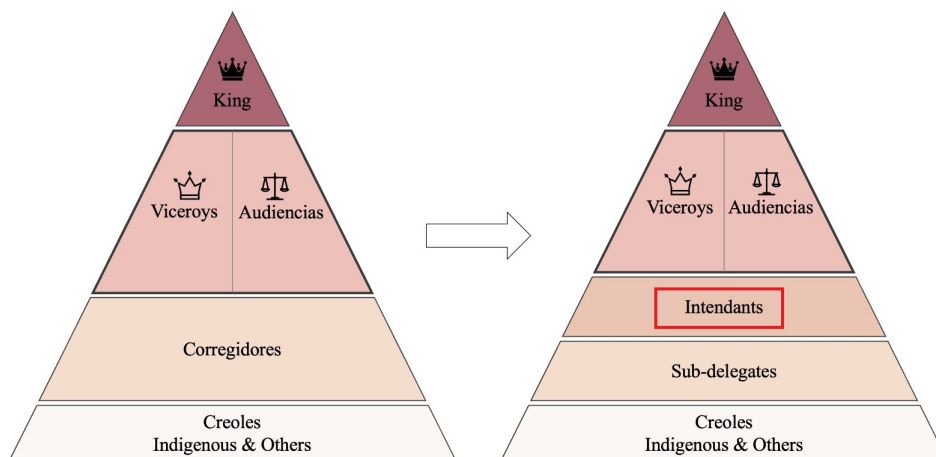
## B Additional Figures and Tables

**Figure B1:** Distribution of Corregidores' wages



*Notes:* The figure presents the distributions of corregidores' wages in 75 corregimientos in Peru for the years 1610 and 1780. Source: Moreno-Cebrián (1977). All wages were converted to pesos de ocho. The red line at 6,000 pesos corresponds to the salary assigned to all intendants.

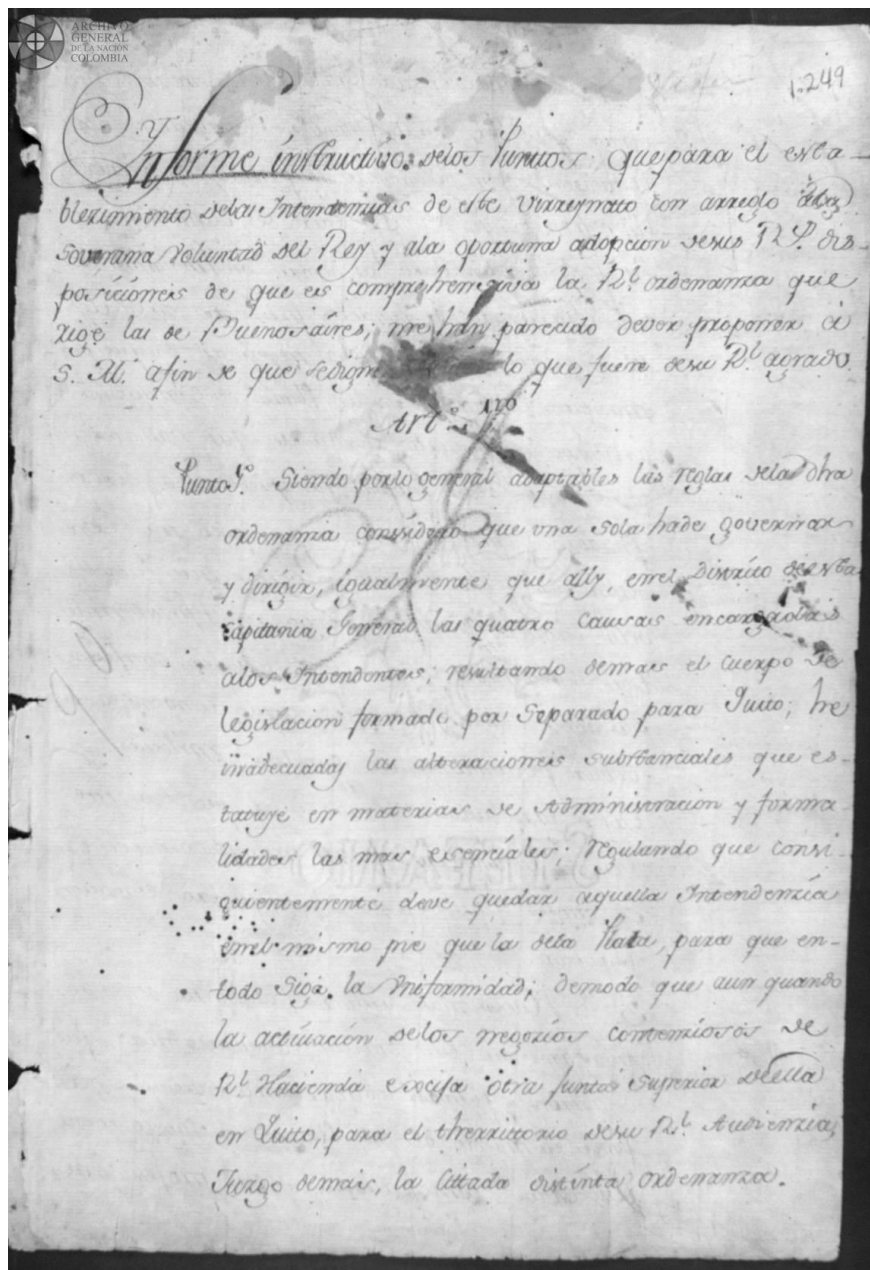
**Figure B2:** Organizational structure of the colonial administration



*Notes:* The figure shows the organizational structure of the colonial administration before and after the introduction of the intendency system.

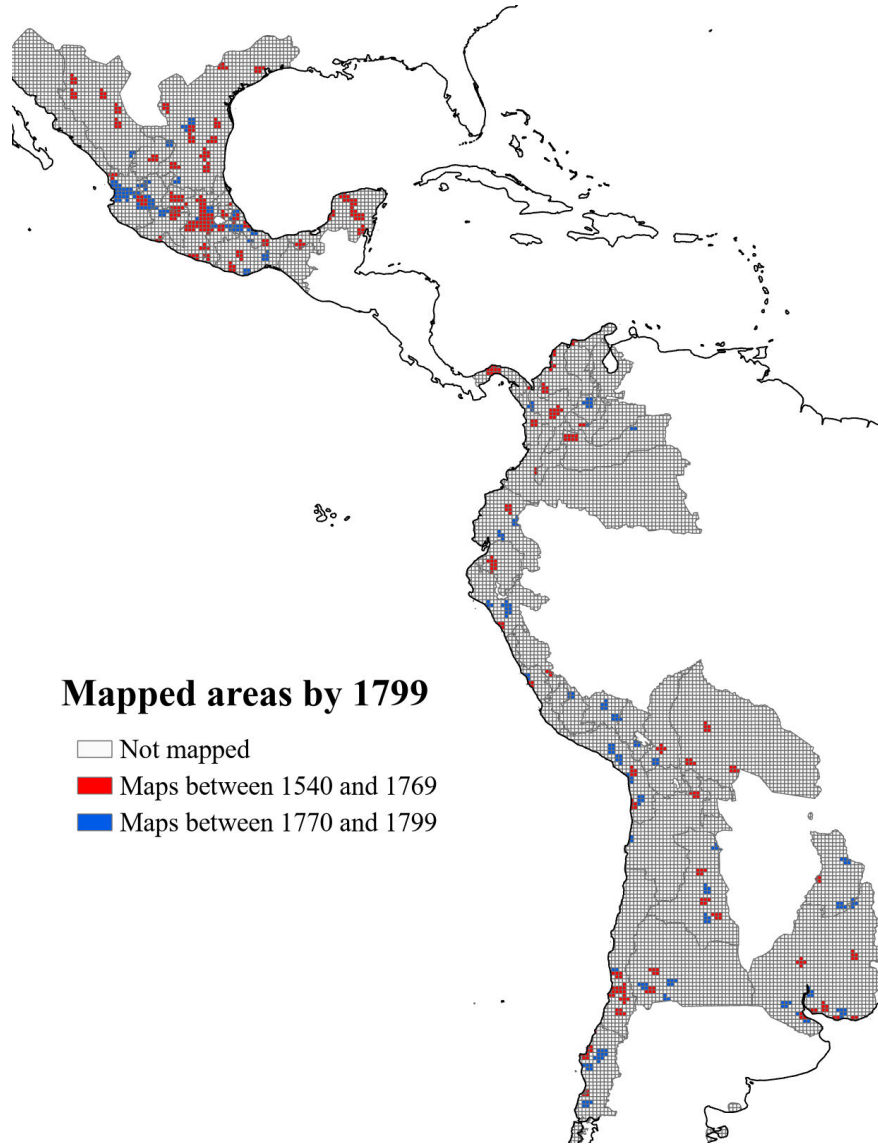


**Figure B3:** First page of Ordinance of Intendants for New Granada



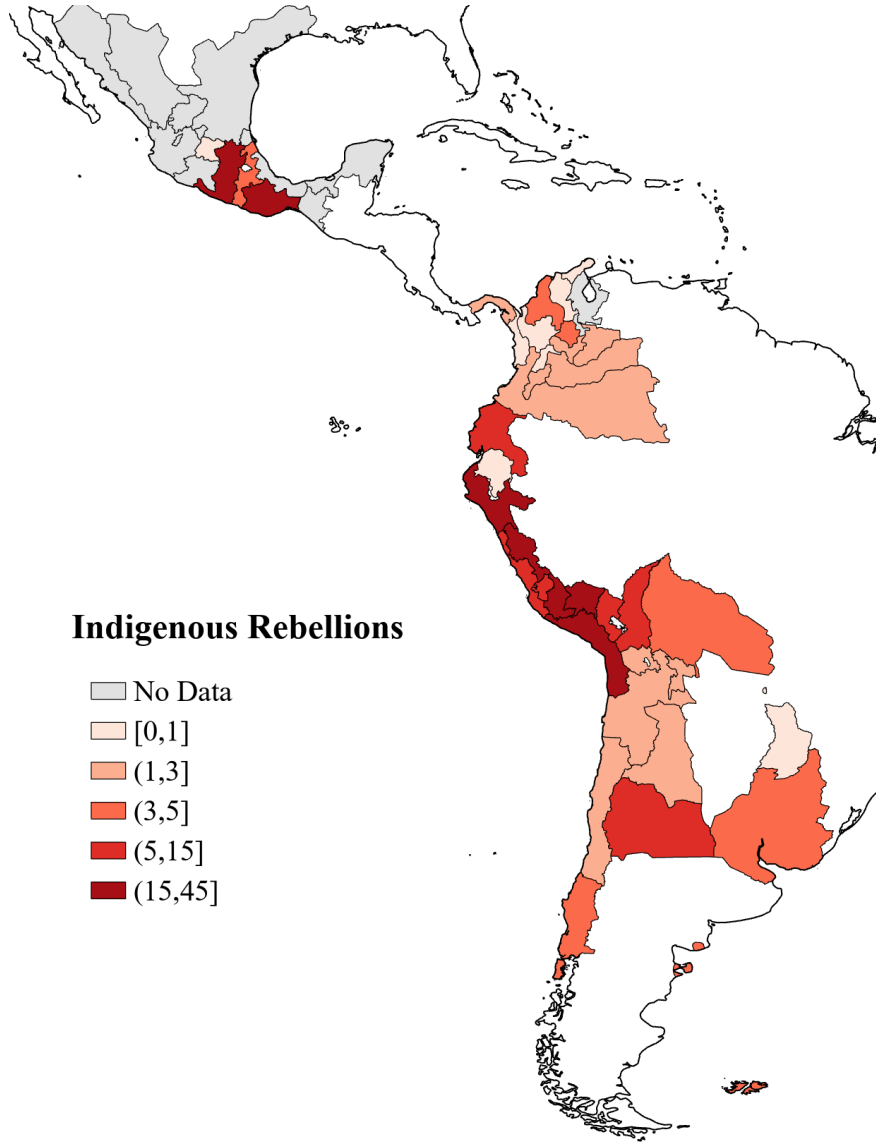
Notes: This figure shows the front page of a copy of the ordinance of intendants for New Granada. Source: Archivo Histórico Nacional de Colombia, Virreyes, vol 17, fols 1249-72.

**Figure B4: Cells with Cartographic Information**



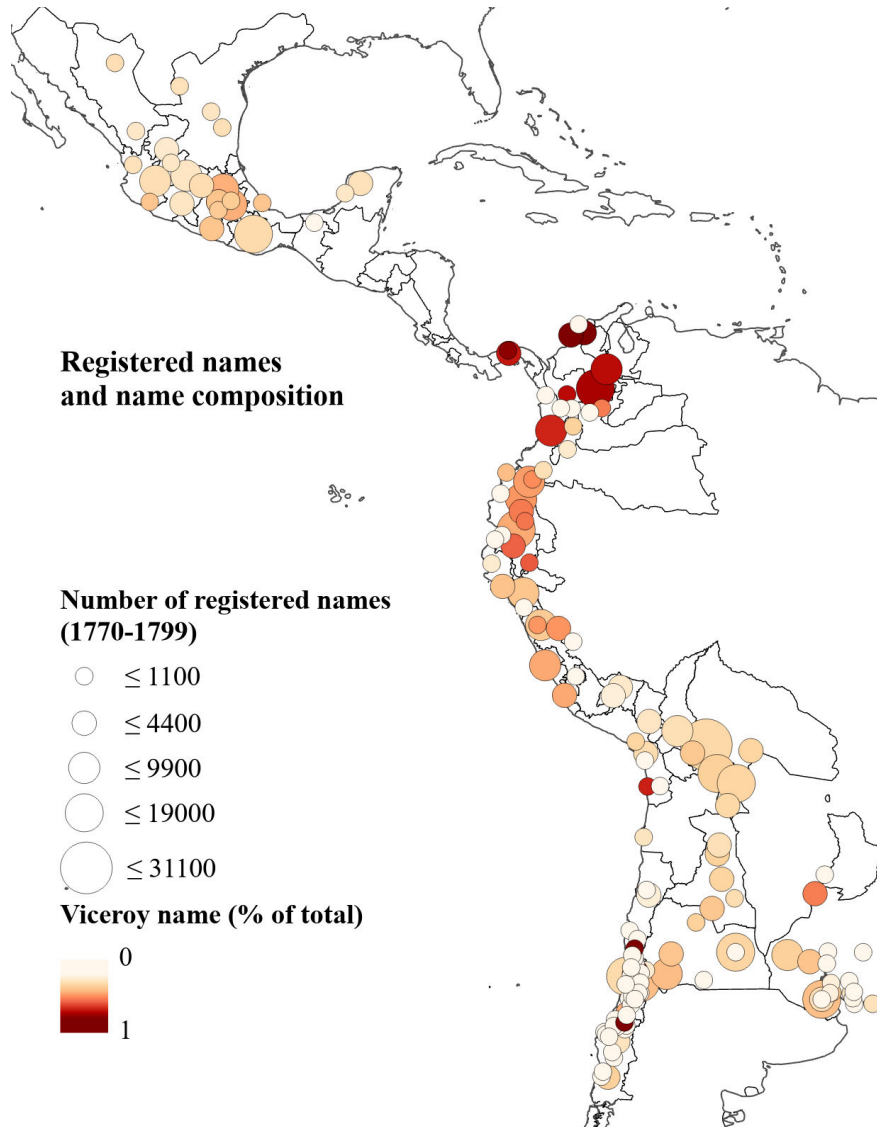
*Notes:* The map shows the 25km x 25km cells with available cartographic information in the Archive of the Indies. Mapped cells between 1540 to 1769 are colored in red, while those mapped between 1770 to 1799 are shown in blue.

**Figure B5: Location of Indigenous Rebellions**



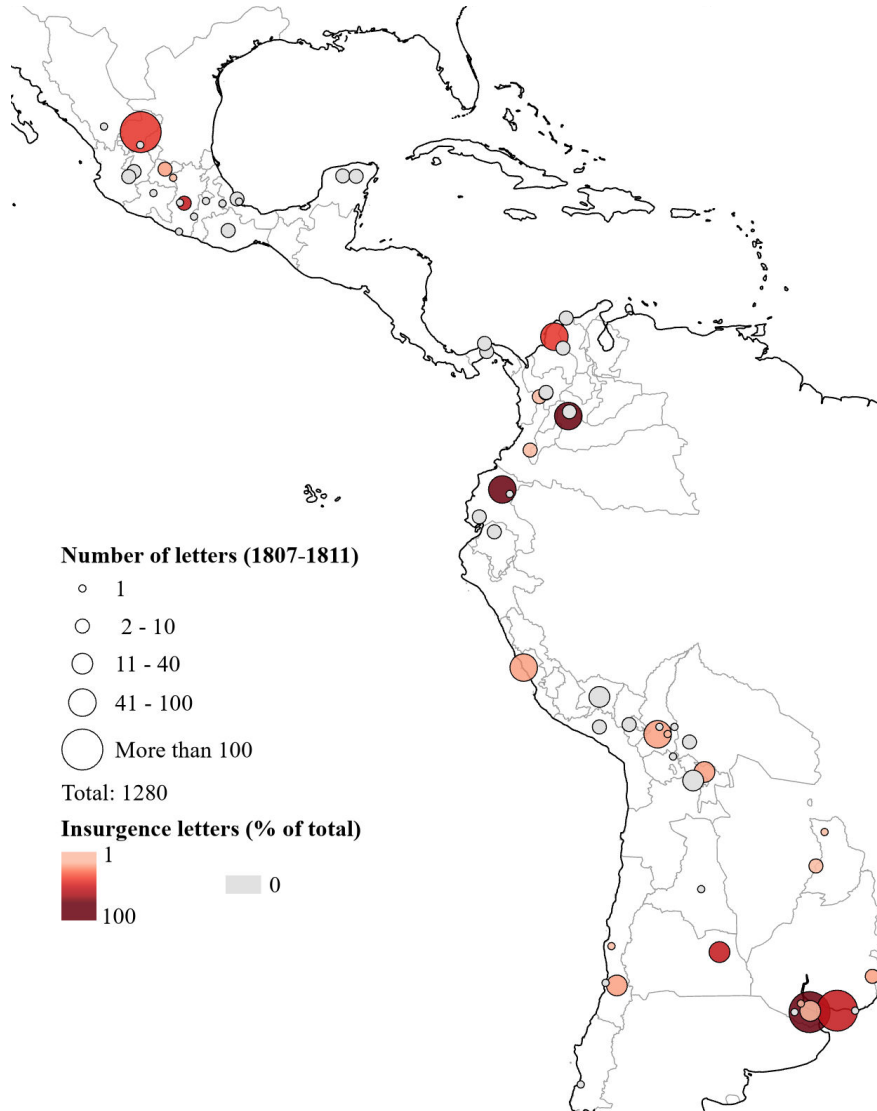
**Notes:** The map shows the number of indigenous rebellions per region (intendancy or province) between 1770 and 1800.

**Figure B6: Locations with Baptismal Records**



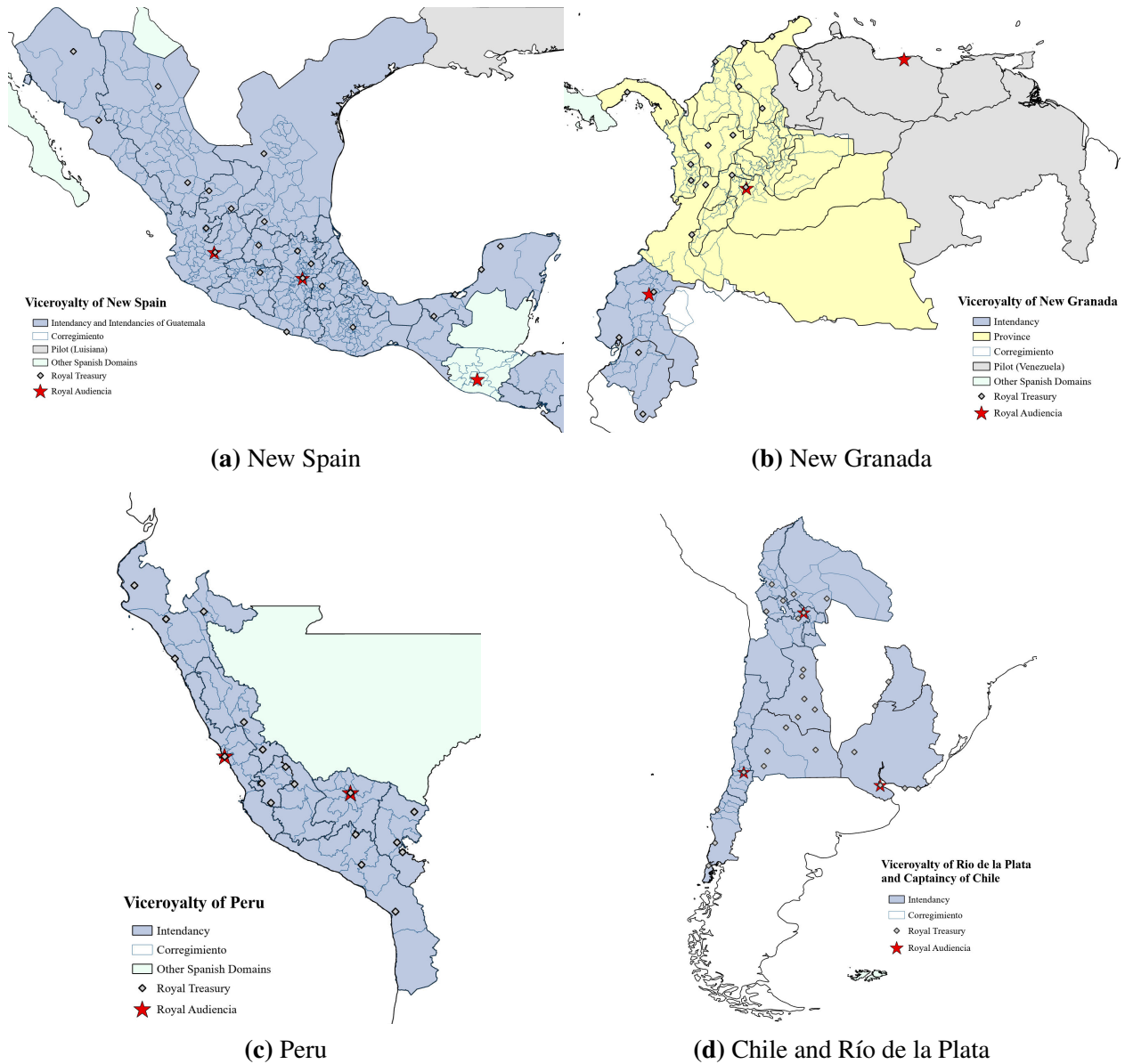
*Notes:* The map shows the locations with available baptismal records between 1770 and 1799. The size of the bubbles denotes the number of available records. Darker shades of red denote a larger share of records that share a name with the corresponding incumbent viceroy.

**Figure B7: Locations Referenced in Correspondence**



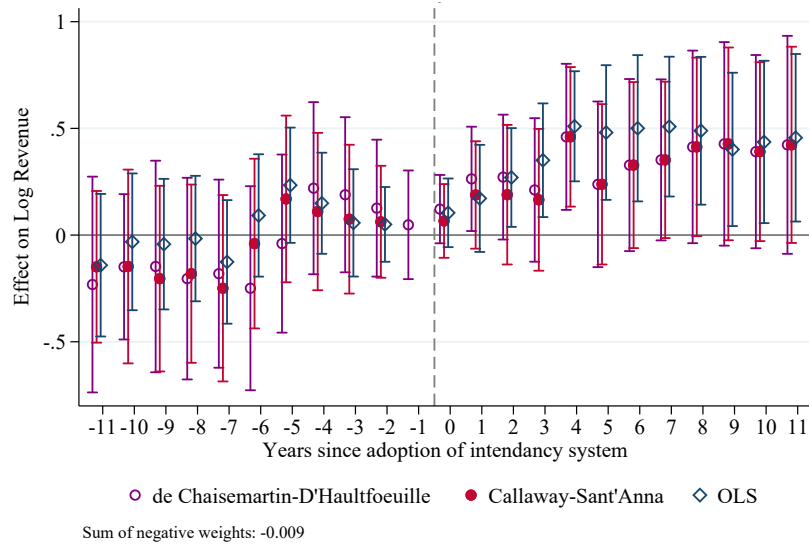
*Notes:* The map shows the locations referenced in the catalog of correspondence for the period 1807-1811 in the Archive of the Indies. The size of the bubbles denotes the number of letters. Darker shades of red denote a larger share of letters with content referencing insurrectionist activity against the Crown.

**Figure B8: Location of Intendancies and Corregimientos**



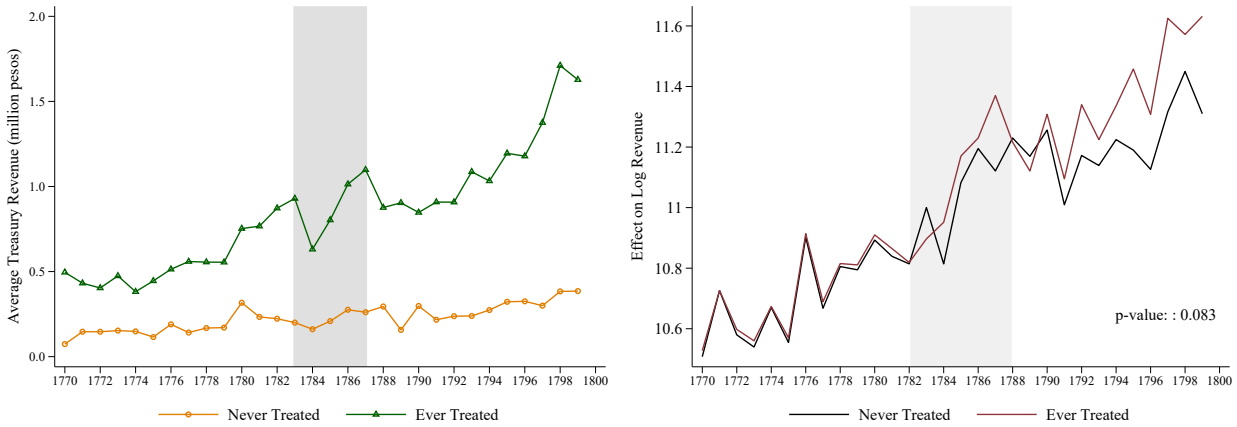
*Notes:* The figures depict the administrative organization of the four viceroyalties both prior to and following the implementation of the intendancy system, along with the location of Royal Treasuries and the capitals of Royal Audiencias. The part of New Granada corresponding to present-day Colombia did not implement the reform and is shown in yellow in panel (b). Venezuela and Louisiana, shown in gray in panels (a) and (b), did not undergo a formal establishment of intendancies but were subject to pilots of the reform.

**Figure B9: Fiscal Capacity: Alternative Estimators**



*Notes:* Figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). Unit of observation is treasury-year and the dependent variable is log total revenue. Sample period: 1770-1800. The different markers correspond to alternative estimators by de Chaisemartin and D’Haultfoeuille (2020), Callaway and Sant’Anna (2021), and our baseline OLS estimates. Standard errors clustered at treasury level.

**Figure B10: Fiscal Capacity: Synthetic Control Method**

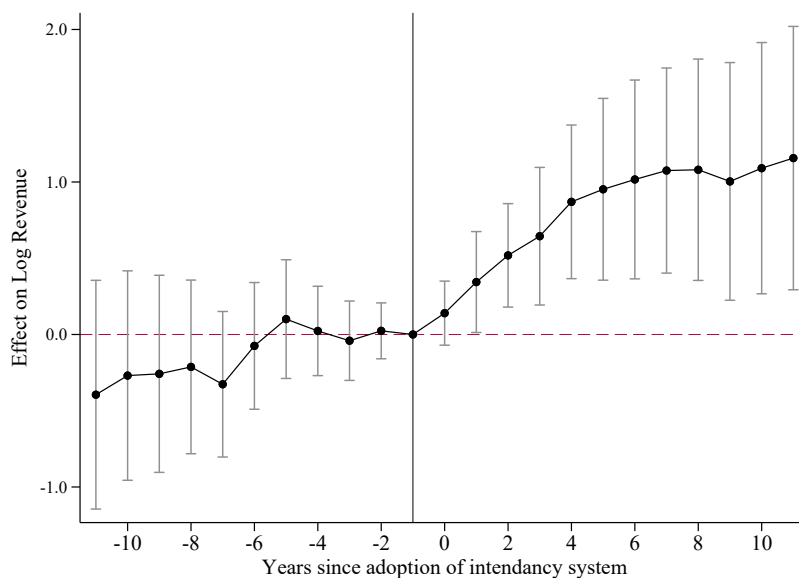


**(a) Average Treasury Revenue by Treatment Status**

**(b) Synthetic Control**

*Notes:* Panel (a) shows average yearly revenue in the treasuries located in the viceroyalty of New Granada corresponding to present-day Colombia, where the intendency system was not introduced, and in all other treasuries. Panel (b) shows results from a synthetic control analysis in which we use a weighted average of log total revenue of ever-treated treasuries to best match this outcome in never-treated ones until 1782 and to predict it for later years. The shaded area corresponds to the implementation period of the intendency system across the Spanish colonial empire.

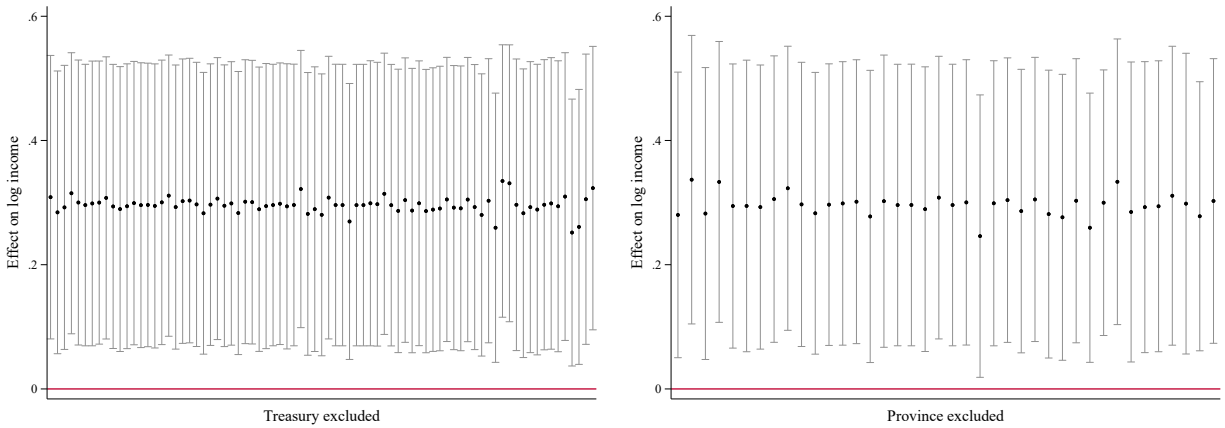
**Figure B11: The Intendancy System and Fiscal Capacity: Excluding Never-treated Treasuries**



*Notes:* The figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is treasury-year and the dependent variable is log total revenue. Sample period: 1770-1800. Treasuries located in the part of New Granada corresponding to present-day Colombia, where the intendancy system was never adopted, are excluded from the sample. Standard errors clustered at treasury level.

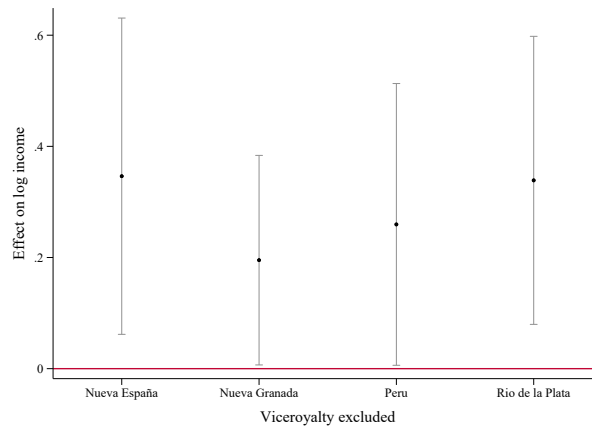


**Figure B12: Fiscal Capacity: Excluding Units**



**(a) Treasuries**

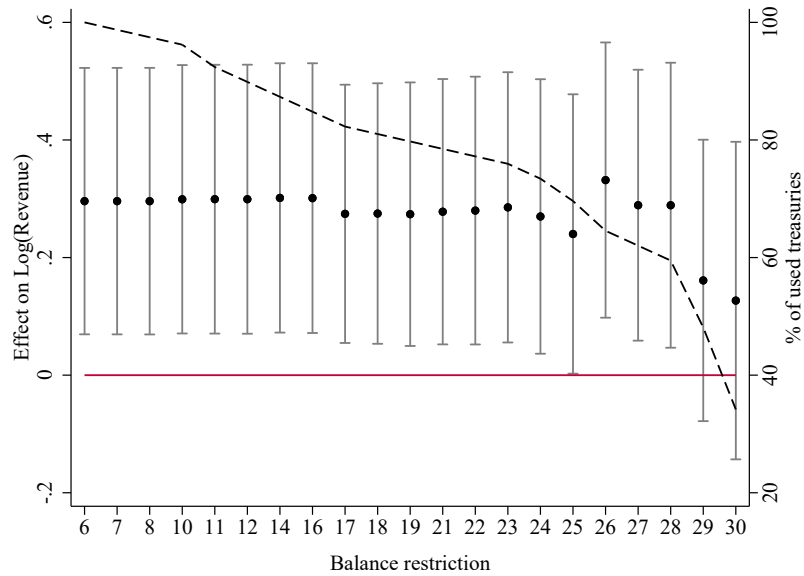
**(b) Intendancies/Provinces**



**(c) Viceroyalties**

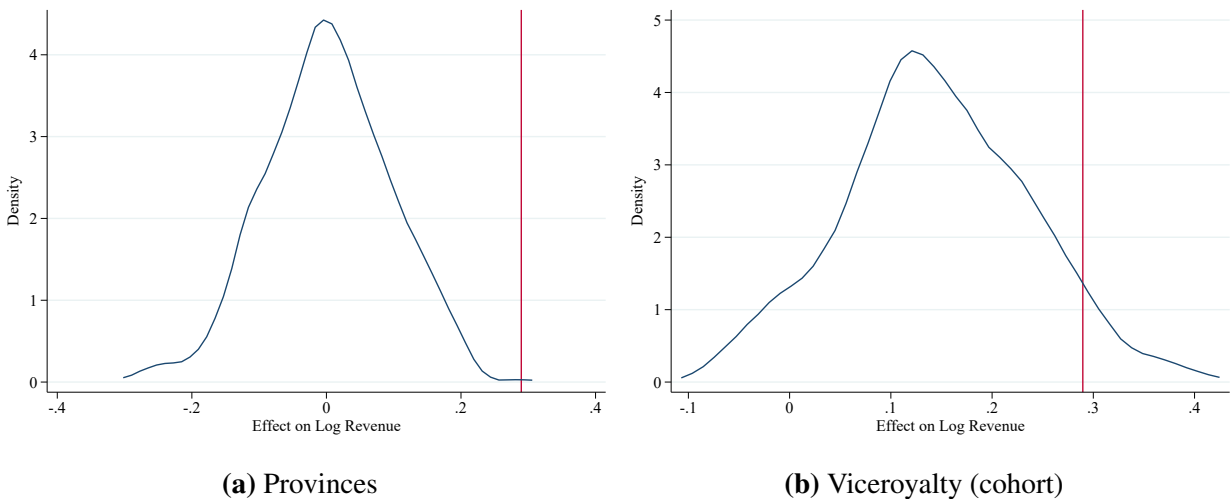
*Notes:* Each panel shows point estimates and 95% confidence intervals of  $\beta$  in equation (1). Each set of estimates in panel (a) replicates our main analysis for log total revenue dropping one royal treasury, likewise in panel (b) dropping regions (intendancy or province), and in panel (c) dropping entire viceroyalties. All regression include treasury and year fixed effects. Standard errors clustered at treasury level.

**Figure B13: Fiscal Capacity: Missing Data**



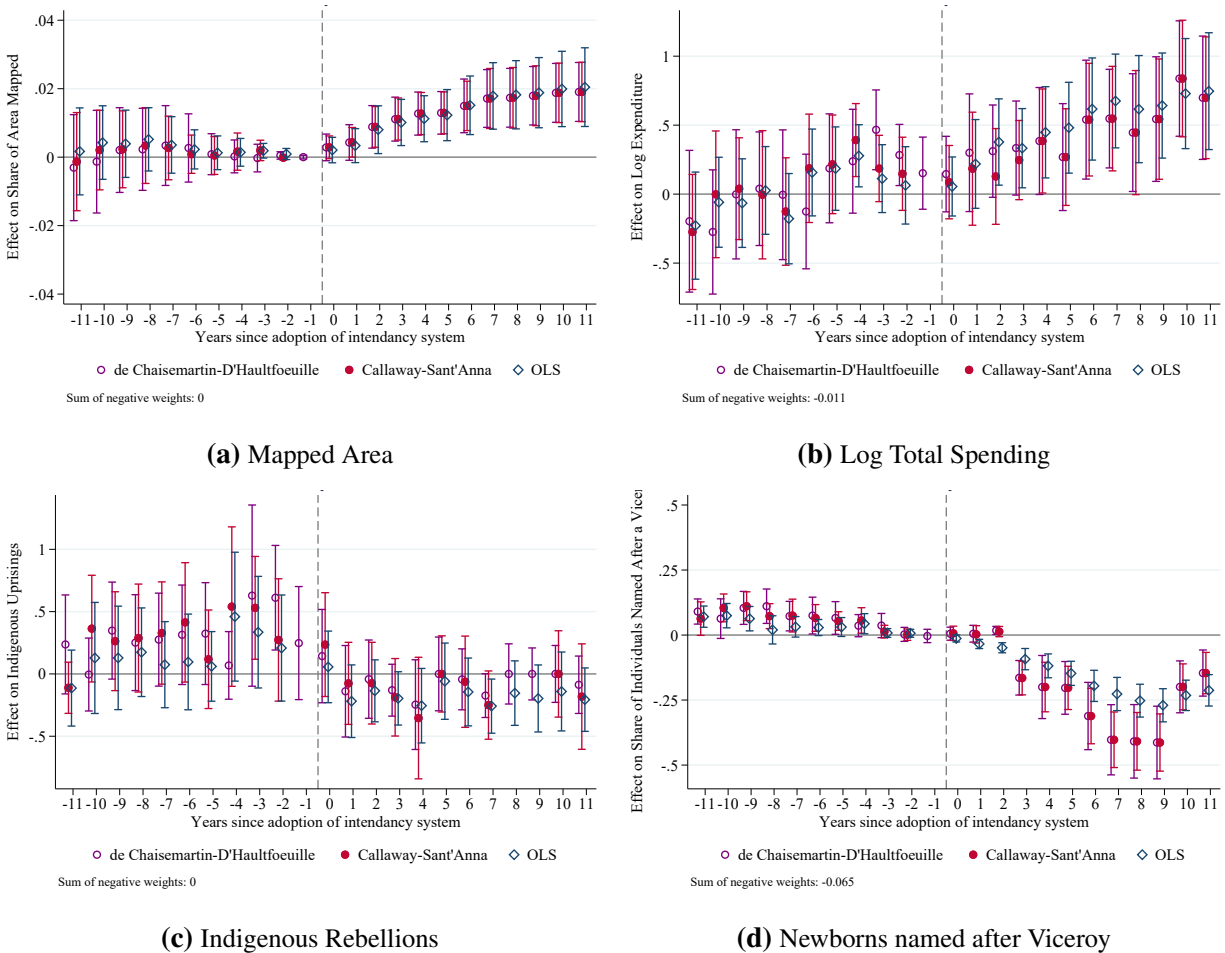
*Notes:* Figure shows point estimates and 95% confidence intervals for  $\beta$  in equation (1) in the left-hand y-axis, using log total revenue as dependent variable. Each set of estimates restricts the sample to treasuries that have at least the number of observations indicated in the x-axis. The dashed line shows the percentage of the total number of treasuries used in each estimation in the right-hand y-axis. All regression include treasury and year fixed effects. Standard errors clustered at treasury level.

**Figure B14: Fiscal Capacity: Randomization Inference**



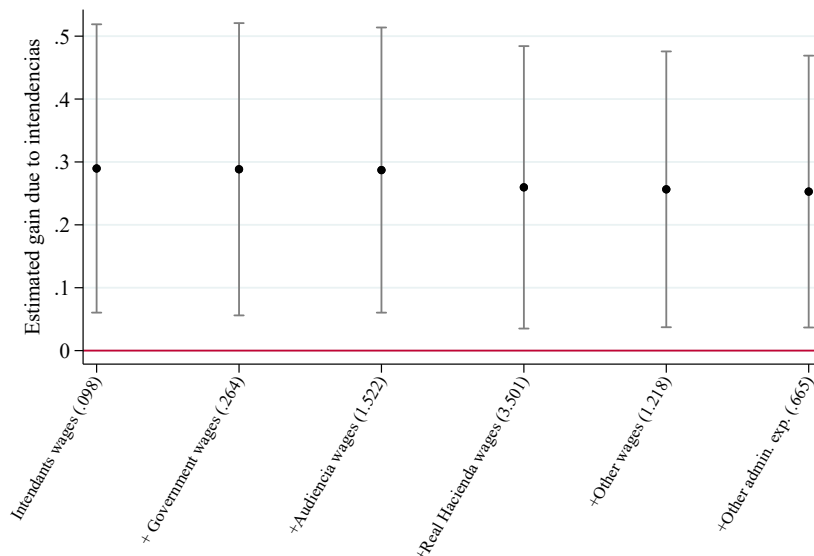
*Notes:* The figure presents the results of two randomization inference procedures to recover the p-value of the estimated effect of the intendants system on log total revenue. In each case, 500 permutations of the treatment were implemented. The left panel presents the results when treatment is randomized across provinces (i.e., unconditionally), including never-treated units. The right panel presents results when treatment is randomized within the same viceroyalty and treatment cohort, but never-treated units are kept untreated in every permutation.

**Figure B15: Alternative Estimators for Other Outcomes**



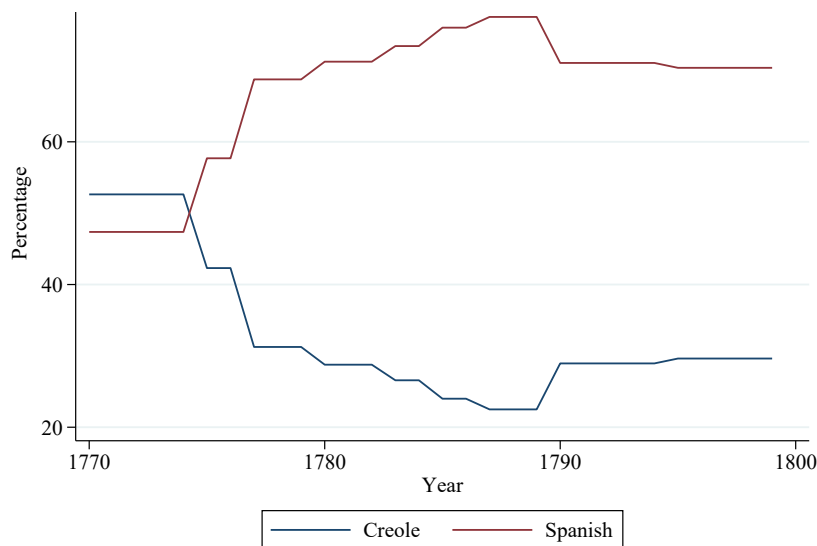
*Notes:* Each panel shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The dependent variable is the share of cells within a region with available maps in panel (a), log total spending in panel (b), the number of indigenous rebellions in panel (c), and the share of newborns named after the incumbent viceroy in panel (d). The unit of observation is treasury-year in panel (a) and region-year (using intendants or provinces) in all others. All regressions include unit (treasury or region) and year fixed effects. Sample period: 1770-1800. The different markers correspond to the estimators developed by de Chaisemartin and D'Haultfoeuille (2020), Callaway and Sant'Anna (2021), and our baseline OLS estimates. Standard errors clustered at unit (treasury or region) level. Each panel also reports the sum of negative weights based on the methodology by de Chaisemartin and D'Haultfoeuille (2020).

**Figure B16: Net Fiscal Gain from the Intendancy System**



*Notes:* The figure reports a back-of-the-envelope calculation of the fiscal impact of the reform after deducting different administrative costs scenarios. We consider the following cumulative set of wages and costs: i) intendants wages, ii) other government wages, iii) Audiencia wages, iv) *Real Hacienda* wages, v) other wages, vi) other administrative expenses. We regress  $\ln(1 + \text{wages})$  for each spending category against our reform dummy to estimate  $\hat{\delta}_i$ , controlling for year and *caja* fixed effects. We then compute the pre-reform mean of expenses in the regression sample and multiply it by the estimated effect. We perform the same procedure with revenue and estimate  $\hat{\gamma}$ . Finally, we use the formula: 
$$\text{Reform Gain} = \frac{\text{Avg Revenue Pre-reform} \times \hat{\gamma} - \text{Average Expense Pre-reform} \times \hat{\delta}}{\text{Avg Revenue Pre-reform}}$$
 where  $i$  is the corresponding expense aggregation. We obtain standard errors using a bootstrap procedure.

**Figure B17: Composition of Audiencias**



*Notes:* The figure shows the share of members of the royal audiencias corresponding to Creoles (born in the Americas) and Spaniards (born in Spain). Source: Burkholder and Chandler (1977).

**Table B1: Fiscal Capacity: Robustness Checks**

	Dependent Variable: Log Total Revenue									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Intendancy	0.269* (0.161)	0.249** (0.099)	0.386*** (0.117)	0.268** (0.114)	0.248** (0.122)	0.302** (0.127)	0.325** (0.125)	0.289** (0.120)	0.266** (0.102)	0.247* (0.134)
Mean Dep. Variable	714,088	44	840,405	718,607	504,449	1,299,862	718,607	718,607	718,607	756,257
R-Squared	0.943	0.917	0.929	0.939	0.914	0.891	0.939	0.938	0.938	0.940
Observations	1638	1549	1954	1959	1950	1083	1959	1959	1959	1756
Treasuries	79	64	79	79	79	40	79	79	79	72
Treasury FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓		✓
Excluding interim post-announcement	✓									
DV: Log Total Revenue per Capita		✓								
DV: <i>Real</i> Log Total Revenue			✓							
Extra control: Double-entry bookkeeping				✓						
DV: Excluding remittances					✓					
Unit of observation: Province-year						✓				
Extra control: Río de la Plata x Year FE							✓			
Extra control: Distance to nearest active port								✓		
Viceroy FE									✓	
Excluding areas w/ high indigenous rebellions										✓

*Notes:* The dependent variable is log total revenue in all columns, except Column 2 in which we divide by population, Column 3 in which we adjust for inflation, and Column 5 in which we subtract remittances from other treasuries. The unit of observation is treasury-year in all Columns except Column 6, where we aggregate to the province-year level using intendancies for treated areas and provinces for untreated ones. Intendancy is a dummy equal to one for years after the arrival of the first intendancy to the intendancy where the treasury is located. All columns include treasury and year fixed effects, except Column 9, where we replace the latter with location-specific and time-varying viceroy fixed effects. In Column 4, we include as additional control a time-varying indicator for treasuries that adopt double-entry bookkeeping based on the existence of the line item *Real Hacienda en Común*, which is indicative of the adoption of this accounting practice (Tepaske and Klein, 1982). In Column 7, we include an indicator for treasuries located in the viceroyalty of Río de la Plata interacted with year dummies as additional controls. In Column 8, we include a time-varying measure of the distance to the nearest active port as an additional control. In Column 1, we exclude from the sample observations corresponding to the interim period between the announcement of the introduction of the intendancy system and the arrival of the first intendancy to treated treasuries, while in Column 10 we exclude from the sample areas with high incidence of indigenous rebellions in the pre-reform period. Standard errors clustered at treasury level are reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table B2: Fiscal Capacity: Alternative Treatment Coding**

	Dependent Variable: Log Total Revenue					
	(1)	(2)	(3)	(4)	(5)	(6)
Intendancy	0.290** (0.115)	0.256** (0.117)	0.259** (0.115)	0.260** (0.112)	0.226** (0.112)	0.270** (0.114)
Mean Dep. Variable	718,607	720,463	720,463	718,607	718,607	718,607
R Squared	0.938	0.938	0.938	0.938	0.938	0.938
Observations	1959	1984	1984	1959	1959	1959
Treasuries	79	80	80	79	79	79
Treasury FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Include Venezuela as treated		✓				
Include Venezuela as control			✓			
Switch Quito as control				✓		
Switch Jaén de Bracamoros treated (1783)					✓	
Switch Montevideo as control						✓

*Notes:* The dependent variable is log total revenue in all columns. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years after the arrival of the first intendant to the intendancy where the treasury is located. All columns include treasury and year fixed effects. Column 1 presents our baseline estimates. In Column 2, we include fiscal data from the treasury of Caracas (Venezuela) and consider it as treated, while in Column 3 we consider it as never treated. In Column 4, we switch the Quito treasury to be never treated. In Column 5, we switch the treasury of Jaén de Bracamoros to be treated with the rest of the audiencia of Quito in 1783. In Column 6, we switch the treasury of Montevideo to be never treated. Standard errors clustered at treasury level are reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table B3: Fiscal Capacity: Territorial Heterogeneity**

Characteristic:	Dependent Variable: Log Total Revenue			
	High revenue pre-reform (=1)	Log revenue pre-reform	Far from intendancy capital (=1)	Log Distance to intendancy capital
	(1)	(2)	(3)	(4)
Intendancy	0.420** (0.159)	1.167*** (0.382)	0.411*** (0.124)	0.408*** (0.129)
Intendencia x Characteristic	-0.208 (0.158)	-0.076** (0.030)	-0.280* (0.145)	-0.043* (0.026)
Mean Dep. Variable	730,038	730,038	718,607	718,607
R-Squared	0.938	0.938	0.939	0.939
Observations	1889	1889	1959	1959
Treasuries	72	72	79	79
P-value $H_0 : [a] + [b] = 0$	0.086	0.003	0.376	0.003
Treasury FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓

*Notes:* The dependent variable is log total revenue in all columns. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years after the arrival of the first intendant to the intendancy where the treasury is located. Intendencia x Characteristic is the interaction of the indicator for reform with the time-invariant characteristic listed in the column header: a dummy for treasuries with above-median revenue in the pre-reform period (1770-1782) in Column 1, a continuous variable corresponding to the natural logarithm of average revenue pre-reform in Column 2, a dummy for treasuries with above-median distance from the intendancy capital in Column 3, and the natural logarithm of distance to the capital in Column 4. Standard errors clustered at treasury level are reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table B4: Heterogeneous effects by intendant characteristics**

	Dependent variable: Log total revenue							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intendancy	0.273** (0.122)	-0.217 (0.196)	0.208 (0.128)	0.264* (0.148)	0.251** (0.126)	0.391*** (0.126)	-0.146 (0.218)	0.107 (0.268)
Intendancy x Foreigner		0.518*** (0.179)					0.494** (0.190)	0.510*** (0.182)
Intendancy x New in America			0.209* (0.106)				0.163 (0.111)	0.158 (0.099)
Intendancy x Military career				0.012 (0.127)			-0.015 (0.130)	-0.101 (0.133)
Intendancy x Noble					0.059 (0.097)		0.023 (0.097)	-0.037 (0.080)
Intendancy x Older than 50						-0.221** (0.102)	-0.186* (0.101)	-0.157* (0.085)
Mean of characteristic	-	0.974	0.324	0.807	0.395	0.551	-	-
R-Squared								
Observations	1828	1828	1828	1828	1828	1828	1828	1828
Treasuries	79	79	79	79	79	79	79	79
Treasury FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Treasury characteristic Controls								✓

*Notes:* The dependent variable is log total revenue in all columns. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years after the arrival of the first intendant to the intendancy where the treasury is located. All columns include treasury and year fixed effects. In Columns 2-6 we further include the interaction between the indicator for reform adoption and an indicator for the intendant characteristic listed in each row. In Column 2, we classify intendants as foreigners if they were not born in the Americas. In Column 3, intendant is new in America if this is his first position in the colonial administration. In Columns 7-8, we include all interactions simultaneously. In Column 8, we also include the full battery of controls from Column 6 in Table 1: geographic, locational, pre-colonial, political. Standard errors clustered at treasury level are reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table B5: Intendancy System and Fiscal Capacity: Sources of Revenue (Logs)**

	Dependent Variable: Log(Revenue From)							
	Total	Indigenous	Monopolies	Trade	Mining	Donativos	Other	Remittances
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intendancy	0.290** (0.115)	1.187* (0.609)	0.242 (0.317)	0.119 (0.311)	1.113** (0.430)	1.203*** (0.416)	0.374* (0.218)	1.167 (0.757)
Mean Dep. Variable	718,607	39,558	86,824	84,422	124,210	37,397	132,038	216,476
R-Squared	0.938	0.709	0.659	0.534	0.860	0.548	0.781	0.596
Observations	1959	1950	1950	1950	1950	1950	1950	1959
Treasuries	79	79	79	79	79	79	79	79
Treasury FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓

*Notes:* The dependent variable is the natural logarithm of revenue from the source in the column header. Total revenue in Column 1. The indigenous poll tax (tribute) in Column 2. Crown monopolies (e.g., tobacco, mercury) in Column 3. Domestic and external trade taxes (alcabala and almojarifazgo) in Column 4. Mining taxes in Column 5. Exceptional war contributions called *donativos* in Column 6. Other sources of revenue in Column 7. Remittances from other treasuries in Column 8. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years after the arrival of the first intendant to the intendancy where the treasury is located. All columns include treasury and year fixed effects. Standard errors clustered at treasury level are reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.



**Table B6:** The Intendancy System and Crown Expenditure: Robustness

	Dependent Variable: Log Total Spending				
	(1)	(2)	(3)	(4)	(5)
Intendancy	0.367*** (0.127)	0.387** (0.151)	0.363*** (0.135)	0.350** (0.133)	0.361*** (0.135)
Mean Dep. Variable	721,979	721,979	721,979	721,979	721,979
R-Squared	0.913	0.921	0.926	0.927	0.929
Observations	1937	1937	1937	1937	1937
Treasuries	79	79	79	79	79
Treasury FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Geographic controls		✓	✓	✓	✓
Locational controls			✓	✓	✓
Pre-colonial controls				✓	✓
Political controls					✓

*Notes:* The dependent variable is log total spending in all columns. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years after the arrival of the first intendant to the intendancy where the treasury is located. All columns include treasury and year fixed effects. In Columns 2-5 we include predetermined covariates interacted with year fixed effects as additional controls. Geographic controls: elevation, land suitability, temperature, precipitation, malaria suitability, and ruggedness. Locational controls: log distance to rivers, and log distance to the coast. Pre-colonial controls: number of ethnicities and. Political controls: number of indigenous rebellions before 1783. Standard errors clustered at treasury level are reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table B7: Intendancy System and Fiscal Capacity: Disaggregate expenditure (Logs)**

	Dependent Variable: ln(expenditure + 1)						
	Total	Military	Administrative		Remittances	Other	Public goods
			Total	Tax collection			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intendancy	0.383*** (0.124)	1.096** (0.500)	0.478** (0.237)	0.407 (0.477)	-1.051 (0.647)	1.366*** (0.441)	0.730 (0.475)
Mean Dep. Variable	721.979	252.734	89.239	60.089	133.006	233.964	17.576
R-Squared	0.914	0.749	0.628	0.529	0.577	0.639	0.555
Observations	1937	1936	1936	1936	1937	1936	1937
Treasuries	79	79	79	79	79	79	79
Treasury FE	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓

*Notes:* The dependent variable is the natural logarithm of expenditure in the category in the column header. Total spending in Column 1. Military spending in Column 2, administrative spending (total and tax-collection) in Columns 3-4, remittances to other treasuries and Spain in Column 5, other expenditures in Column 6, public goods in Column 7. Columns 2-6 are based on the classification of expenditure line items by Klein (1998), while Column 7 is based on our own hand-coding. The unit of observation is treasury-year. Intendancy is a dummy equal to one for years after the arrival of the first intendant to the intendancy where the treasury is located. All columns include treasury and year fixed effects. Standard errors clustered at treasury level are reported in parentheses. The mean of the dependent variable is reported in levels. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table B8:** The Intendancy System and Naming Patterns: Robustness

	Dependent Variable: Share of male newborns named after the viceroy						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intendancy	-0.108*** (0.033)	-0.070*** (0.025)	-0.069*** (0.025)	-0.070*** (0.026)	-0.070** (0.027)	-0.066** (0.026)	-0.066** (0.026)
Mean Dep. Variable	0.066	0.066	0.066	0.066	0.066	0.066	0.066
R-Squared	0.345	0.579	0.603	0.608	0.621	0.623	0.629
Observations	1740	1740	1740	1740	1740	1740	1740
Regions	58	58	58	58	58	58	58
Region FE	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓
Geographic controls		✓	✓	✓	✓	✓	✓
Locational controls			✓	✓	✓	✓	✓
Pre-colonial controls				✓	✓	✓	✓
Political controls					✓	✓	✓
Baptisms controls						✓	✓
Name controls							✓

*Notes:* The dependent variable is the share of male newborns named after the incumbent Spanish viceroy. The unit of observation is region-year, based on the geographical classification in the baptismal records. Intendancy is a dummy equal to one for years after the arrival of the first intendant. All columns include region and year fixed effects. In Columns 2-5 we include predetermined covariates interacted with year fixed effects as additional controls. Geographic controls: elevation, land suitability, temperature, precipitation, malaria suitability, and ruggedness. Locational controls: log distance to rivers and log distance to the coast. Pre-colonial controls: number of ethnicities. Political controls: number of indigenous rebellions before 1783. Name controls: register category, register availability and number of words in name. Standard errors clustered by region reported in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

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