

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

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## Abstract

We study state modernization and its fiscal and political consequences in the Spanish empire in the Americas in the 18th century. We focus on the intendency system, which introduced a new corps of provincial governors to address misgovernance by local colonial officers. Our empirical strategy leverages the staggered implementation of this reform across the empire, extending from present-day USA to Argentina. Using administrative data from the royal treasuries, we show that the intendency system led to a sizable increase in Crown revenue, driven by a strengthening of state presence far from the traditional centers of power and the disruption of local elite capture. The reform also caused a reduction in the incidence of rebellions by indigenous peoples, who were harshly exploited under the status quo. However, the intendency system also heightened tensions with the local creole elites, as reflected by naming patterns, and plausibly contributed to the nascent independence movement.

**Keywords:** State Capacity, Taxation, Conflict, Elite Capture, Independence, Colonialism

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

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# 1 Introduction

The state's ability to perform basic 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 documented the historical relationship between the threat of war, the strengthening of state capabilities, and the development of inclusive political institutions in Western Europe. Much less is known about the historical experiences of state-building in other parts of the world, particularly those under colonial rule for extended periods. Colonial possessions were distant, extensive, and diverse, and posed unique challenges for the development of a well-functioning state. Policy reforms were also inherently imposed from the outside and hardly incorporated the voices of colonial subjects (Acemoglu, 2005; Acemoglu and Robinson, 2012, 2020; Besley, 2020). As a result of these factors, policies aimed at improving bureaucratic effectiveness could easily prove disruptive to the political equilibrium between the colonial power and local elites, whose interests were likely to be unaligned (Acemoglu and Robinson, 2013; Garfias and Sellars, 2022b).

In this paper, we study the fiscal and political impact of the intendency system, an ambitious administrative reform introduced by the Spanish crown in its American colonies in the late 18th century. At the time, the Spanish empire stretched from present-day United States to Argentina. Indigenous peoples, who lived in segregated towns and paid a poll tax, were the largest social group. The socioeconomic elite was comprised of the American-born *creole* descendants of the early colonizers and a small body of Spanish-born administrators holding high-ranking government positions. Before the reform, the presence of the colonial state centered around four viceroys and twelve high courts, and was concentrated in the larger cities that roughly correspond to the capitals of present-day countries. Outside of 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 position and earned very low salaries, which they made up for by embezzling tax revenue and harshly exploiting the indigenous peoples. While the creoles resented their limited access to the high ranks of power, they benefited economically from the status quo, financing the *corregidores* and employing the indigenous workforce. Starting in 1782, the crown introduced a new corps of intermediate provincial governors called *intendants*. These were carefully selected, well remunerated, appointed for an indefinite term, and had authority over all areas of government.

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 intendency 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 in a short span of five years thanks to the endeavor of its primary advocate, *secretary of the Indies* José de Gálvez, and stalled after his sudden death. As a result, the reform did not reach parts of the viceroyalty of New Granada in modern-day Colombia. Finally, we leverage administrative data on colonial public finance and construct several new datasets, including detailed biographies for each intendant, a transcontinental dataset on indigenous rebellions, and a grid-cell-level panel on areas with cartographic information.

Our empirical strategy exploits the staggered introduction of the intendancy system across and within the different viceroyalties 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 legislation regulating the powers of the intendants, determining the location and size of the associated administrative units (*intendancies*), and logistical difficulties affecting the arrival of the new appointees to their posts. To quantitatively support the idiosyncratic timing of the reform, we show that it is uncorrelated with predetermined geographic and socioeconomic characteristics, and we verify that our results are robust to the inclusion of additional controls or to changes in the composition of the sample. Moreover, we use event-study plots to document the absence of pre-trends in our main outcomes of interest. We also verify that our findings are robust to using several alternative DiD estimators developed by the recent literature to address problems with differential timing and heterogeneous effects (e.g., de Chaisemartin and D'Haultfoeuille, 2020).

Our empirical analysis consists of two parts. We first focus on the fiscal impact of the intendancy system, relying on administrative data from 85 royal treasuries located throughout the empire. Building on previous digitizing efforts by Tepaske and Klein (1982, 1986) and Pinto (2016), we cleaned and harmonized records for thousands of revenue and spending line-items 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 intendancy system led to a strengthening of *fiscal capacity*, which is a basic building block of a well-functioning state (Besley and Persson, 2011; Berwick and Christia, 2018).

Despite the bundled nature of the reform, we provide evidence in support of two main mechanisms driving this improvement in fiscal capacity. First, the intendancy system strengthened the presence of the state far from the traditional centers of power, as evidenced by a 66% reduction in the average distance per treasury to the nearest administrative center. The reform also led to an increase in the cartographic information available to the crown, which we document using a new dataset based on the catalog of maps in the Archive of the Indies. This suggests that the intendancy

system also improved *state legibility*, which is another prominent aspect of state capacity (Scott, 1998). We further show that the increase in crown revenue was not driven by the traditional centers of economic activity (i.e., ports, mines) and was larger near the intendancy capitals and in areas with lower initial revenue.

Our second mechanism focuses on the amelioration of selection and agency problems in the colonial bureaucracy and the disruption of local elite capture. While the intendants' careful selection and strong incentives made it generally costlier for local elites to capture these officers, we use a new biographical dataset to identify key characteristics that explain observed differences in their fiscal performance. We show that those born in Spain or lacking previous experience in the colonial state apparatus were more effective, which suggests increased alignment with the crown and higher immunity to local capture. Younger intendants were also more effective, which plausibly reflects stronger career concerns. The fiscal impact of the intendants is also positively correlated with their job tenure, suggesting positive returns to experience. Looking at disaggregate shares of revenue, we document increases in the indigenous poll tax, previously overseen and embezzled by the corregidores, and in exceptional war contributions, which were mostly paid by the creole elites.

Overall, our findings show that the intendancy system strengthened the fiscal capacity of the Spanish crown by expanding the territorial reach of the colonial state and disrupting its capture by local elites. We conclude our fiscal analysis by showing that the reform led to an increase in crown expenditure, but had a negligible impact on the provision of public goods in the colonies. Hence, it remains unclear whether the reform benefited the local population. To answer this question, in the second part of the analysis we turn our attention to the effects of the intendancy system on the political attitudes and behavior of the crown's colonial subjects, focusing in particular on the indigenous peoples and the creole elites.

We consolidate a transcontinental dataset of indigenous rebellions and use it to show that the intendancy system led to a decrease in their occurrence. This reduction in internal conflict constitutes evidence of an improvement in another key aspect of state capacity, namely *law and order* (Hobbes, 1651; Weber, 1919). While this result suggests that the indigenous peoples enjoyed improved governance under the intendants, in line with the historical record (e.g., Golte, 2016), it could also reflect more effective control and repression. We also use historical records from over 700,000 baptisms to show that the intendancy system led to a decrease in the share of male newborns named after the most salient figures in the colonial state, such as the viceroys or the king himself. This result is consistent with growing antipathy towards the crown by the creoles, who lost economic privileges, paid more taxes, and did not enjoy better access to public goods as a result of the reform. Motivated by this finding, we also explore the long-term link between the intendancy system and the independence movement that would gain traction in the early 19th century. Using another new dataset based on a catalog of letters in the Archive of the Indies, we show

that provinces that experienced larger increases in crown revenue under the intendants exhibit more revolutionary correspondence during the early independence period (1807-1811).

This paper contributes to the literature on state capacity (Bardhan, 2016; Johnson and Koyama, 2017; Berwick and Christia, 2018; Dincecco and Wang, 2022). Seminal work by Besley and Persson (2011) highlights the ability to raise revenue and enforce the law as defining features of a well-functioning state. A large literature has explored the link between external conflict, the rise of fiscal capacity, and the development of inclusive political institutions in Western Europe (North and Weingast, 1989; Tilly, 1992; 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 much more limited and little is known about the process of state-building in regions exposed to colonial rule in the global south.<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 capacity, rule of law, and state legibility. In line with previous evidence by Chambru et al. (2022) for revolutionary France, we uncover sizable benefits from extending and homogenizing the territorial reach of the state, but we do so in a colonial empire facing the logistical and regulatory challenges imposed by a distant, extensive, and diverse territory. However, these features also drive a geographical wedge between the areas where revenue is sourced and where it is spent. Combined with the absence of inclusive political institutions, this prevents external wars fought to defend the interests of the colonial power from creating a common cause, in contrast to the traditional Western European narrative. Our results highlight the importance of citizens' consent for effective state-building and point to reciprocity and consensus as foundational features of the social contract. 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). The latter applies them specifically to the consolidation of fiscal capacity. Our findings also uncover deep social cleavages in colonial society and set the stage for the weak states and uncohesive polities that would soon emerge from the independence process (Centeno, 2002; Mazzuca, 2021).

We also contribute to the growing literature on bureaucracy and the organizational economics of the state (Finan et al., 2017; Besley et al., 2022; Vogler, 2022). Previous work has studied the recruitment of public servants, the incentives that they face, and the allocation of tasks between

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<sup>1</sup>One exception is the study of bureaucratic recruitment, subnational governance, and fiscal development in China (Chu, 1962; Zelin, 1984; Bai and Jia, 2016; Ma and Rubin, 2019; Chen et al., 2020). A related literature studies the long-run effects of pre-colonial and colonial institutions (Acemoglu et al., 2001, 2015; Dell, 2010; Iyer, 2010; Michalopoulos and Papaioannou, 2013, 2016; Dell et al., 2018; Heldring, 2020). Also related is Sánchez De La Sierra (2020) on rebel governance and fiscal capacity in present-day Africa.

them (e.g., Dal Bó et al., 2013; Khan et al., 2016; Colonnelli et al., 2020; Bandiera et al., 2021; Moreira and Pérez, 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 closely related work, Snowberg and Ting (2019) develop a formal model to study the deployment of increasingly specialized layers of bureaucracy to solve problems of varying complexity. In line with this work, we show that the introduction of a new intermediate layer of supervisors helps to improve governance along several dimensions. In contrast to previous work by Balán et al. (2022) on the informational gains from using local elites as tax collectors in DRC, the disruption of elite capture plays a prominent role in our setting and speaks to the importance of bureaucratic mission alignment (Spenkuch et al., 2021). However, 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 even compromise regime survival if the interests of elites are affected (Acemoglu and Robinson, 2013; Garfias and Sellars, 2022b).

Our paper builds on a large historical literature on the Spanish empire, the Bourbon reforms, and the intendancy system.<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 rich 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 indicate that the reform achieved its goals of improving governance and raising revenue for the crown, but they also lend quantitative support to the claim that “imperial reform planted the seeds of its own destruction” (Lynch, 1973, p.2). Our paper also speaks to an exciting new literature on the Bourbon reforms in historical political economy, which has previously studied in more local settings aspects other than the intendancy system, including military modernization, office-selling, trade liberalization, and tax centralization (Arias, 2013; Guardado, 2018, 2022; Salgado, 2021; Garfias and Sellars, 2022c; Ellingsen, 2022).

The rest of the paper is organized as follows. Section 2 provides the institutional background and outlines the core features of the intendancy reform. In section 3, we introduce our data sources and present our empirical strategy. We show our main results on fiscal capacity in section 4. Section 5 presents our findings on the political reaction by indigenous groups and the creole elites, and on the longer term impact of the reform. Section 6 concludes.

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

## 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 United States in the north to Argentina in the south. The empire was administratively divided into four viceroyalties: New Spain, New Granada, Peru, and Río de la Plata.<sup>3</sup> Each of these viceroyalties had as its highest authority a viceroy based in the cities of Mexico, Bogotá, Lima, and Buenos Aires, respectively. The highest legal authority 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). A handful of military *Captaincies* with varying degrees of autonomy were also scattered throughout the continent.

Since the early 16th century, the Crown developed a system of royal treasuries (*cajas reales*) that collected revenue, paid for the operation of the colonial government, and shipped the surplus to the central administration in 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, playing cards, mercury), and taxes on domestic and external trade. Accordingly, the royal treasuries were mostly located near mines, ports, and in areas with a large indigenous population. Crown officials largely handled 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 administrator called *corregidor*.<sup>4</sup> The crown introduced the *corregidores* in the 16th century but hardly updated their wages over almost two centuries, as Figure A1 shows. This forced the *corregidores* to look for alternative sources of income, most prominently the forced sale of goods, such as cattle and textiles, at exorbitant prices to the indigenous peoples through an institution called *repartimiento*.<sup>5</sup> The *corregidores* also embezzled tax revenue, mainly the indigenous poll tax, charging exempt individuals (e.g., women and the elderly) and underreporting tax payments when depositing the collected revenue at the royal treasury (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

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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.

<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 a series of irregular *Kingdoms* and *Provinces*, each led by an official also called *gobernador* (Pietschmann, 1996).

<sup>5</sup>For instance, a mule costing 11 pesos was forcibly sold for 35 pesos in Peru in 1778 (Golte, 2016, p.133).

appointment and spent their term trying to recoup their investment by whatever means necessary (Guardado, 2018).<sup>6</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

*“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.”*

Nonetheless, the corregidores were merely intermediaries in the balance of power between the crown and the *creole* elites (Grafe and Irigoin, 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, and also had limited representation except for city councils handling very 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 they supplied the goods for the repartimiento. Since these goods had to be paid with money, indigenous peoples sold their labor to the mines, textile mills, and agricultural farms that were also mostly owned by the creoles. 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 misgovernance in the empire throughout the colonial period, 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 the judges of first instance in their jurisdictions, the indigenous peoples lacked formal channels through which to air their grievances against them and resorted instead to sporadic acts of violence and rebellions (Taylor, 1979; O’Phelan Godoy, 1985; Golte, 2016).

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<sup>6</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.

## 2.2 The Intendancy Reform

The (French) Bourbon dynasty replaced the (Austrian) Habsburgs 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 key port of Havana in 1762 prompted Charles III to embark on an ambitious program of colonial reform.<sup>7</sup> A crucial figure in this process was José de Gálvez, 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 in an effort to centralize power and raise more revenue (Sasaki, 2021). As early as 1743, high-ranking Spanish officials advocated for the adoption of the intendancy system in the overseas empire, but the crown first introduced the system 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 meagre 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 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 as 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 start planning for the intendancies that were to be deployed in these regions (Navarro García, 1959). Over the following years, Gálvez developed a detailed corpus of legislation governing the intendancy system that would soon arrive to America.

In January 1782, the first ordinance of Intendants was issued for the viceroyalty of Río de la Plata.<sup>8</sup> The ordinance, reproduced in Fisher (1929), included 276 articles and created eight *intendancies* as a new intermediate unit of territorial administration. Each intendancy was governed by

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<sup>7</sup>Other aspects of the Bourbon reforms affecting the overseas colonies include the creation of the viceroyalties of New Granada (1739) and Río de la Plata (1776), the ban on the sale of colonial offices in 1750 (Guardado, 2018, 2022), and the liberalization of maritime trade in 1765 (Ellingsen, 2022). As part of our empirical analysis below, we verify that our results are not driven by these other margins of reform.

<sup>8</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.

an intendant, who remained subordinated to the viceroy but was endowed with ample executive power over matters of justice, public administration, public finance, and war. The intendants were appointed by the crown and preference was given to candidates born in Spain. They had indefinite terms and were paid 6,000 pesos per year, a large increase relative to the average of 1,380 pesos earned by the corregidores in 1780 (Moreno-Cebrián, 1977). The ordinance also replaced the corregidores with a new body of local deputies called *subdelegates* and banned the repartimiento. The subdelegates were appointed by the viceroy based on a shortlist provided by the intendant and were overseen by the latter. They were paid a fixed percentage (3-5%) of the tax revenue they collected. Figure A2 illustrates the changes to the administrative hierarchy introduced by the reform.

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 this from happening, although the ordinance of intendants for New Granada had already been drafted (Figure A3 reproduces the front page) and allegedly laid on Gálvez's desk at the time of his death (Kuethe and Andrien, 2014). In the rest of the continent, the intendancies created by Gálvez would remain in place until the demise of the empire and the rise of new independent nations in the early 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.” More evocatively, Deustua-Pimentel (1965, p.xxvi) describes the intendancy system as “the masterpiece of a vast plan of political, economic, and social reorganization.”

## 3 Empirical Strategy

### 3.1 Data

Our empirical study of the intendancy system relies on data from multiple sources. For our main fiscal analysis, we use administrative data on colonial public finance to construct a harmonized panel dataset at the treasury-year level. We complement this data with several new transcontinental datasets, including a grid-cell level panel on cartographic information available to the crown, a consolidated regional panel on the incidence of indigenous rebellions, an individual-level dataset on baptismal records, and detailed biographies for the universe of intendants. 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 digitizing 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 the construction of 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 subject to several auditing steps along this process, most notably at the accounting oversight agencies (*tribunales de cuentas*) set up for this purpose 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 *pesos de ocho* and the periodicity to the yearly level.

We carefully assemble disaggregate totals for the main categories of revenue and spending following Klein (1998). We break down total revenue into separate categories for each of the four main sources (indigenous poll tax, state monopolies, mining taxes, and trade taxes), the extraordinary war contributions (*donativos*) that rise in importance during our sample period, other revenue, and remittances from other treasuries. As part of our robustness checks, we verify that our results are unaffected whether we include or exclude the latter. On the expenditure side, we create disaggregate categories for military spending, administrative spending (total, tax collection), other spending, and remittances. We also provide an alternative hand-coded aggregation of expenditure items associated with public good provision (e.g., roads, sanitation, health).

**Geographical features.** We geocode the treasuries and match them to the 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 also from Stangl (2020). 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 audiencias and intendancies. We construct a battery of predetermined geographic and socio-economic covariates in order to examine potential correlates of the implementation of the reform. Stangl (2020) also provides data on the location of postal offices after 1765.

**Intendant biographies.** We construct a detailed biographical dataset for 136 intendants appointed between 1770 (pilot in Sonora, Mexico) and 1823. Our data includes both permanent and temporary appointees. We mostly rely on Lynch (1958), Fisher (1970), Navarro García (2009), and Lacoste (2021). These sources provide information for the intendants of specific viceroalties, which we complement with the biographical dictionary of Spain's Real Academia de Historia and smaller online sources. For each intendant, we record birth and death years and locations, and also collect information on background characteristics including education, nobility, marital status, and

military experience. Our data also includes work histories detailing previous experience in the colonial administration, start and end year for each intendant appointment (including rotations to other intendancies), and end-of-appointment outcomes (e.g., promoted to higher office, assassinated). 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 holdings of maps, architectural plans, and similar images found in the Archive of the Indies in Seville, which is the main repository of crown documents pertaining to the colonies. Each entry includes a brief description of the content of the document, its author, and the date when it was produced. We have digitized this information and we assigned a latitude and longitude to each document based on the geographical landmarks mentioned in the description. We also construct an additional ordinal variable denoting 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 A4 shows the aggregate geographic coverage of the maps in our dataset. We then merge this information with a yearly panel of 20 x 20 km grid cells spanning the entire empire. To minimize the impact of measurement error, we assign each map to the grid cell corresponding to its coordinates and to its four neighbors (i.e., sharing an edge). We also verify that our results are robust to using cells of alternative sizes. The resulting dataset captures the flow of new cartographic information made available to the crown for each cell in each year.

**Indigenous rebellions.** We pool a wide range of mostly regional sources to construct a trans-continental dataset on 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 (i.e., town or 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. We also create additional labels to group small individual episodes into larger related sets of events, such as the Tupac Amaru rebellion in Peru from 1780. Our consolidated dataset includes 352 events taking place in 281 different location between 1770 and 1799. We then collapse the data into a region-year panel of incidence and intensity of rebellions, using as unit of observation the intendancies for the treated areas and provinces for untreated areas in New Granada. In doing so, we have carefully verified the geographical coverage of our sources to distinguish areas lacking rebellious activity from those lacking information. Figure A5 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 for 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 individual, we identify the viceroy in office on the year of the baptism in the relevant viceroyalty. Since all the viceroys were men, we exclude women from the sample, which leaves us with 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. 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. We also verify that our results are robust to considering the name of the King (Charles III and IV) or the corresponding intendant as well. For the empirical analysis, we collapse the data to the region-year level (i.e., share of male newborns named after the viceroy) and we drop a handful of regions with erratic patterns of data availability.

**Insurrectionist correspondence.** Torres Lanzas (1912) provides a catalog of letters held in the Archive of the Indies. These letters were deemed by the author, who worked in the archive for 40 years and rose to become its director, as relevant for the understanding of the independence process in Latin America that took place 100 years earlier. Each entry corresponds to one letter and indicates the writing date and location. A short descriptive text provides additional information on the sender, the recipient and the subject of the letter. We digitized all the information for each entry in these volumes until 1811. There are very few letters before the 19th century and the volume of correspondence picks up after 1807, which corresponds to Napoleon's invasion of Spain and the abdication of King Charles IV. We hand-coded a series of variables based on the subject of the letter, including the location of any events described, which may differ from where the letter was written. We use this information to geo-code each letter and assign it to a region (intendancy or province). We also hand-coded a new variable to indicate whether the letter referred specifically to events denoting insurrectionist or revolutionary activity against the crown. Focusing on the period 1807-1811, 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 A6 shows the individual locations included in the data and the intensity of insurrectionist correspondence.

## 3.2 Research Design

We study the impact of the intendancy 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. Intuitively, we define an intendency as starting to operate only when an intendant effectively arrives to govern it and we use our detailed intendant biographical data to define this year precisely for each location.

The historical record suggests a high degree of randomness in the timing along both dimensions. At the macro level, José de Gálvez had expressed vocal support for the intendency system since 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. In particular, the production of the detailed ordinance of intendants with its hundreds of articles required lengthy deliberation and fine-tuning by Gálvez and the central administration in Madrid. The roll-out of the system further required extensive consultation with high-ranking colonial officers overseas (i.e., viceroys and visitadores) in order to determine the number of intendancies to be introduced in each region, their extension, and their capital. This took place amid substantial technological constraints. Gálvez's correspondence shows that he worked simultaneously on multiple fronts with the goal of introducing the system everywhere in the colonies (Navarro García, 1959; Kuethe and Andrien, 2014). Ultimately, the roll-out of the system across most of the empire in the span of five years is very close to simultaneous and suggests limited geographic targeting. Reassuringly, our results are robust to excluding any treasury, region, or viceroyalty.

At the micro level, the time gap between the creation of an intendency 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 a new intendant who was captured by a foreign power while crossing the Atlantic and detained for several months. In another instance, several new appointees experienced long delays awaiting for printed copies of the ordinance of intendants to carry with them (Lynch, 1958).

The map in Figure 1 shows the effective start dates for the different intendancies.<sup>9</sup> As mentioned in section 2, the intendency 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. Unfortunately, fiscal data is unavailable for Guatemala and we thus exclude it from the analysis. Finally, the intendency system was introduced in the audiencia of Chile and the viceroyalty of New Spain (Mexico) in 1787. The part of the viceroyalty of New Granada cor-

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<sup>9</sup>Figure A7 shows more detailed maps for each viceroyalty including the former corregimientos.

responding to present-day Colombia never adopted the intendency system and serves as a pure control. In this case, the displayed polygons correspond to provinces.<sup>10</sup>

Our DiD strategy compares changes in our outcomes of interest before and after the reform, between places that adopted and did not 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 level of aggregation when studying other outcomes, including the availability of cartographic information and the incidence of indigenous rebellions. Following standard practice, 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., war with Britain, 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 that takes the value of one after an intendency is established (i.e., effective arrival date of first intendant). Our coefficient of interest is  $\beta$ , which captures the average difference in the outcome after the reform between units under the jurisdiction 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, region).

The vector  $Z'_{it}$  corresponds to a series of predetermined cross-sectional characteristics interacted with year fixed effects that account for potential time-varying effects of imbalanced covariates that could bias our estimates. These covariates correspond to available geographic, demographic, political, and economic characteristics, all measured before 1783. Panel (a) in Figure 2 shows estimates from bivariate regressions of the year of reform on each of 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>11</sup>

Our identifying assumption for  $\beta$  is that the difference in outcomes between locations where

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<sup>10</sup>Gálvez appointed an intendant in Venezuela as an early pilot in 1776. However, 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 intendency system in Quito (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), which served as a military buffer zone between Spain and Portugal. In our baseline analysis we consider Quito and Montevideo as treated and Jaén as untreated, but we consider alternative coding choices for robustness.

<sup>11</sup>Figure A8 provides similar evidence of balance in predetermined covariates if we focus on the gap between the formal announcement of the introduction of the intendency system and the effective arrival of the first intendant.

the intendency system was adopted and those where it was not would have remained constant in the absence of the reform, conditional on the fixed effects and predetermined controls. This *parallel trends* assumption is essentially untestable, but we provide indirect supporting evidence 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 consider several alternative estimators that the recent literature has suggested to address potential issues in settings with staggered treatment and heterogeneous effects (Borusyak et al., 2021; de Chaisemartin and D'Haultfoeuille, 2020; Callaway and Sant'Anna, 2021; Sun and Abraham, 2021). We also consider an alternative research design based on the synthetic-control method and focusing on the untreated area in New Granada (Abadie, 2021).

## 4 Results: Fiscal Capacity

This section presents our main 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, a large battery of robustness checks, and we delve into the underlying mechanisms. At the end, we study the impact of the reform on expenditure and public good provision.

### 4.1 Baseline Results

The intendency system had as one of its main goals to increase colonial revenue and awarded the intendants with 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 success of the reform is the total yearly revenue entering each royal treasury.

Figure 3 plots point estimates and 95% confidence intervals for the event-study 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 generally close to zero and not statistically significant, lending support to the parallel trends assumption. In contrast, the estimated

coefficients steadily increase after the reform and become statistically significant after two periods. 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 corresponds to the most parsimonious specification with treasury and year fixed effects. The results show that the adoption of the intendants system led to an average increase in revenue of 30 log points (approximately 34%). This effect is precisely estimated and suggests a sizable increase in the Spanish empire's fiscal capacity. To put this magnitude in perspective, the fiscal impact of the intendants system is much larger than that of eliminating patronage in the appointment of British colonial governors (4-6 log points in Xu, 2018), as well as that of providing monetary incentives for tax collectors in present-day Pakistan (9-13 log points in Khan et al., 2016). However, it is quite similar to the 44% increase in revenue caused by involving local chiefs in tax collection in the Democratic Republic of Congo (Balán et al., 2022).

Even though Figure 2 provides strong 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 predetermined 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 country border, rivers and coast), pre-colonial (number of ethnicities and the log of population density in 1492), and political (number of indigenous rebellions from 1700 to 1783). The results in columns 2-5 of Table 1 remain unchanged as we introduce these different sets of controls. If anything, the effect of the reform becomes larger and more precise.

In Column 6, we also include an indicator equal to one for years following the *de jure* announcement of the adoption of the intendants system in the macro-region (vicerealty or audiencia) where the treasury is located. This additional regressor allows us to exploit the differential timing between the crown's decision to introduce the intendants system in a given region (which could be correlated with unobservable regional shocks) and the idiosyncratic arrival of the first intendant. The results confirm that the driver behind the increase in fiscal capacity is the effective arrival of the intendant and not merely the announcement of the adoption of the system. The results suggest a slight 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, leading to a net impact of 29 log points, in line with our baseline estimates.<sup>12</sup>

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<sup>12</sup>The decrease in total revenue following the announcement is consistent with a deterioration of local governance in anticipation of the arrival of the intendant. Column 1 in Table A1 shows that our results look similar if we exclude from the sample the interim period between the announcement and the arrival of the first intendant in treated treasuries.

## 4.2 Robustness Checks

We consider additional robustness tests, including changes in estimation methods, research design, or statistical inference. We also address potential threats to identification and verify the robustness of our findings to alternative ways of measuring crown revenue or exposure to the reform. In this section, we briefly discuss these tests, but we reserve all figures and tables for the appendix.

A growing recent literature has explored the possibility that two-way fixed effects (TWFE) regressions like the one we use may provide misleading results in settings with staggered treatment timing and heterogeneous effects (de Chaisemartin and D’Haultfoeuille, 2022). To address these concerns, we verify that our results are robust to using the alternative estimators developed by de Chaisemartin and D’Haultfoeuille (2020), Borusyak et al. (2021), Callaway and Sant’Anna (2021), and Sun and Abraham (2021). Figure A9 provides estimates of  $\gamma_\tau$  in equation (2) based on these alternative estimators. The results remain qualitatively similar and suggest that the parallel trends assumption holds and that the intendency system had a positive fiscal impact.

We also consider an alternative research design based on the synthetic control method (SCM) that does not require the parallel trends assumption (Abadie, 2021). We exploit the fact that we have a pure control in those areas of New Granada corresponding to present-day Colombia, where the intendency system was not implemented. Panel (a) in Figure A10 plots average yearly revenue in treated and untreated treasuries and suggests a sharp divergence in the years after the reform. 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 intendency 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 in the pre-reform years and suggests a sizable difference in revenue collection after the reform.

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 1,000 placebo estimates in which we randomize the years and locations of adoption of the intendency system. For these placebos, we allow the dates of adoption to be independent or to vary by macro-region (viceroyalty or audiencia). Figure A11 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 ( $p < 0.05$ ).

We also verify that our findings on fiscal capacity are robust to alternative ways of measuring crown revenue or exposure to the reform. Table A1 provides similar results in columns 2 and 3 if we use as dependent variable log total revenue per capita, based on population data from colonial censuses in the late 18th century (Stangl, 2020), or if we adjust for inflation.<sup>13</sup> We further show in

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<sup>13</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).

column 4 that our results do not change if we subtract from total revenue the remittances received from other treasuries. Relatedly, we obtain similar results in column 5 if we aggregate the unit of observation to the region-year level (i.e., intendancies or provinces). This addresses concerns about the potentially endogenous creation of new treasuries or closure of existing ones. Figure A12 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 Table A2, we consider alternative treatment assignments for areas where the implementation of the intendancy system remains unclear and show that the results do not vary (e.g., Venezuela's pilot from 1776).

As mentioned in section 2, the intendancy system was the pinnacle of an ambitious program of modernization of Spain's overseas empire. The Bourbon reforms included the creation of 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 6 of Table A1, we show that our results are robust to including an indicator for treasuries in Río de la Plata interacted with year fixed effects as additional controls, which fully absorb the contribution of this viceroyalty to our estimates. In column 7 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.

While the evidence above lends support to the parallel trends assumption and suggests that there are no systematic differences in observables that explain the roll-out of the reform, we also account for other potential confounders. First, we consider the possibility that some of the variation in the roll-out could be associated with stalling by those viceroys who were less supportive. Reassuringly, we show in column 8 that our results are robust to using viceroy instead of year fixed effects (i.e., comparing the same treasury before and after the reform, under the same viceroy). Second, we consider the possibility that the implementation of the reform may have also been affected by conflict events such as Peru's Tupac Amarú rebellion of 1780. In column 9, we verify that our findings are unchanged if we drop from the sample those treasuries located in high-conflict areas before 1783. More generally, we address concerns about potential targeting of the reform by showing in Figure A13 that our results are not sensitive to the exclusion of any treasury, intendancy/province, or even entire viceroyalties.

### **4.3 Mechanisms**

The previous results reveal a sizable boost in the collection of crown revenue after the introduction of the intendancy system. In this section, we unpack several of the mechanisms driving this effect, grouping them into two broad margins of administrative reorganization. On the one hand, the reform furthered the territorial reach of the colonial state far from the traditional centers of economic

and political power. On the other hand, 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 viceroyalties and the dozen or so audiencias spread out throughout the continent. Vast territories were governed from these headquarters and state presence inevitably 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 intendency reform implied the designation of a new set of intermediate administrative centers in the form of the intendency capitals and plausibly increased the state’s ability to enforce policy throughout the territory. Mann (1986) coined the term *infrastructural power* for this dimension of state capacity. Panel (a) in Figure 4 shows the distribution of distances to the viceregal, audiencia, and intendency 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 intendency capital. Panel (b) plots estimates of  $\gamma_\tau$  in equation (2), using the distance to the nearest administrative center as dependent variable. The results show that the adoption of the intendency system led to a reduction of approximately 300 km, equivalent to 66% of the pre-reform sample mean.<sup>14</sup>

Another important dimension of state capacity involves knowledge of the territory and the people being governed (Scott, 1998). The weak territorial presence of the colonial state before the intendency system 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 deposited in the Archive of the Indies to study the success of the reform along this margin.<sup>15</sup> Figure 5 shows estimates of  $\gamma_\tau$  in equation (2), using as dependent variable the coverage of each region (intendency/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 intendency system. Column 1 in Table 2 shows that the mapped area increased by 1.3 percentage points on average after the reform. This is a sizable improvement in *state legibility*, equivalent to 32% of the sample mean, and suggests that the reform allowed the crown to access more recent and detailed information about the colonies. The remaining columns show that this result is robust to including larger maps, extending the

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<sup>14</sup>The fluctuation in the pre-reform coefficients is driven by the creation of the viceroyalty of Río de la Plata in 1776, as well as the new audiencias of Caracas (1786), Cuzco (1787), and Buenos Aires (1783).

<sup>15</sup>The metadata from these maps reveal that many of these documents were submitted by the intendants in fulfillment of their duties. For example, entry 101 in Torres Lanzas (1906b) corresponds to a map of the town of Chihvata submitted by the intendant of Arequipa, Antonio Alvarez, as a supporting document for his yearly visit in 1786.

sample period, or changing the granularity of the cells used to construct 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 also 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 prominent administrative centers, column 1 shows that the intendancy system led to a 41 log-point increase in revenue in treasuries that coincided with an intendancy capital, but only to a 19 log-point increase in those that did not. Column 2 corroborates this finding using an alternative measurement based on diocese capitals to capture intermediate cities. 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 viceroyalty, the archdiocese, or the audiencia. Columns 6-7 similarly show that the reform was also largely ineffective in the traditional centers of economic activity, including ports and mines. These results suggest that the intendancy system was most effective in intermediate cities with weak state presence previously.

We further explore the territorial heterogeneity in the fiscal impact of the reform in Figure 6. Panel (a) shows results from a modified version of equation (1) in which we interact the indicator for adoption of the intendancy system with a full set of dummies for quartiles of average revenue in the pre-reform period (1770-1782). The results for the first three quartiles are very 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 close to zero and not statistically significant. This result aligns with our finding of a small or null fiscal impact in the traditional centers of economic and political power, and suggests that the effectiveness of the intendancy system mostly stemmed from a strengthening of state presence in peripheral areas that had been previously neglected by the crown.

In panel (b), we instead interact the reform indicator with dummies for quartiles of the distance to the intendancy capital. The results show that the reform led 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. In contrast, the fiscal impact drops substantially and becomes statistically insignificant in the third and fourth quartiles, which correspond to larger distances. These results suggest that the intendants improved fiscal capacity near to their headquarters but struggled to improve governance and raise revenue in areas farther away. 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). Misbehavior by the subdelegates who replaced the corregidores was also a perennial problem and has been characterized as the "Achilles heel" of the intendancy system (Navarro García, 1959, p. 109). In this regard, the intendants' ability to monitor their deputies arguably worsened as the distance from the capital increased.<sup>16</sup>

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<sup>16</sup>Table A3 provides the corresponding numerical estimates aggregating the bottom and top two quartiles (i.e.,

### 4.3.2 Mission Alignment and Elite Capture

Before the reform, the crown put little effort into the selection of the corregidores and the position mostly attracted short-term profit-seekers with limited moral scruples. Crown envoys reported shortly before the intendancy reform 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 align the interests of the crown with the actions of its agents.

We shed light on the role of changes in the selection of royal officers by examining whether the observable characteristics of the intendants help to explain their fiscal performance, drawing on our hand-coded biographical dataset.<sup>17</sup> Panel (a) in Figure 7 shows results from a modified version of equation (1) that disaggregates the reform indicator into separate interactions with time-varying indicators for an intendant characteristic being present or not. 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 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 A4 provides the corresponding numerical estimates and verifies that the results are similar if we consider all characteristics simultaneously.

The significant difference in fiscal performance observed for intendants born outside the Americas or lacking previous colonial experience suggests that the success of the intendancy system stemmed in part from the appointment of *outsiders* that were immune to capture by local interest groups. This finding aligns with recent work documenting worse performance among modern bureaucrats serving in their home district 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 on the important role of elite capture comes from the fact that the American intendants that we find to be less effective were usually leading 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 those intendants appointed at a younger age plausibly re-

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above vs below median). We also verify that these gradients are robust to the use of continuous measures instead.

<sup>17</sup>Our data-collection effort revealed the existence of very limited biographical information on the corregidores, which prevents us from comparing them to the intendants. However, this difference in the availability of information between the two positions is indicative of the prominent role of the intendants in the colonial administration.

flects their stronger career concerns (Bertrand et al., 2019). The historical record lends support to this interpretation insofar as the position of intendant was often a stepping-stone to higher ranking posts, including positions in the audiencias and even the office of viceroy.

Another important innovation of the intendancy system was the indefinite term of the intendants. This stood in contrast to the fixed term (usually of five years) awarded to the corregidores, who were akin to *roving bandits* with short time horizons and strong predatory incentives (Olson, 1993; Besley and Persson, 2011). 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 indicators 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 given a causal interpretation, as it could simply reflect that better intendants remain in office for longer, but it is consistent with the existence of 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 the indefinite appointments and longer time horizon.

The improvements in governance and the amelioration of local elite capture are also reflected in the composition of royal revenue. 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, which include 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 direct taxation in the form of the indigenous poll tax or *donativos* (columns 1 and 5), in detriment of indirect taxation on economic (trade and monopolies) or extractive (mining) activity (columns 2-4).<sup>18</sup>

Given the abundant evidence of fraud in tax collection by the corregidores (e.g., Moreno-Cebrián, 1977), the increase in revenue from the indigenous poll tax is plausibly driven by a reduction in corruption. A common practice involved underreporting of the number of contributors and audits in Peru in 1780 revealed that revenue from the poll tax was understated 28% as a result of this practice (Fisher, 1970, p.20). In the case of *donativos*, these roughly correspond to a wealth tax and were increasingly charged on the creole elites.<sup>19</sup> Their growing importance further suggests that the intendancy system encroached on the economic privileges of the local elites.

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<sup>18</sup>Table A5 replicates these results using a logarithmic transformation of revenue from each source as dependent variable. We find evidence of positive growth in revenue from all sources except monopolies and trade.

<sup>19</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.

## 4.4 Expenditure and Public Good Provision

Our fiscal data also allows us to study the effect of the intendency system on expenditure. 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, we observe no significant pre-trends and an increase in spending that materializes soon after the reform. The corresponding estimate of  $\beta$  in column 1 of Table 5 indicates that the intendency system led to an average increase in spending of 39 log points.<sup>20</sup> The dependent variable in Column 2 is a dummy equal to one if the treasury is in deficit (i.e., spending exceeds revenue). We find a small but statistically insignificant increase of 4.4 percentage points (pp) in the probability of a deficit after the adoption of the intendency system. This suggests that the additional spending was in line with the extra revenue generated by the reform.

In columns 3-7 we leverage the granular fiscal data at the line-item level 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 3) or to remittances to other treasuries or to Spain (column 6). While there is also no significant change in the overall share devoted to administrative expenses (column 4), we do observe a larger and more precise reduction in the share corresponding to tax collection (column 5). The estimated 5 pp decrease in 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.

We also find a large 11 pp increase in the share of expenditure corresponding to various other expenses (column 7), which suggests growing diversification in the allocation of royal funds. To establish whether this result reflects an increase in spending on public goods other than defense, we carefully 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% and indicates that the provision of public goods in the colonies was a negligible concern for the crown. Alternatively, in column 9 we study a tangible measure of public good provision, namely the number of colonial postal offices per region. Once again we find a null effect.

The previous findings suggest that the intendency system led to a large expansion in royal spending, but did not significantly affect its composition, which remained largely concentrated on defence, administrative expenses, and remittances. Given that the unit of observation is the royal treasury, one limitation of these results is that we do not observe the ultimate allocation of funds transferred to treasuries not in our sample (e.g., Havana) or back to Spain. In panel (b) of Figure 8,

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<sup>20</sup>Table A6 verifies that this result is robust to the inclusion of the additional sets of controls from Table 1.

we draw on data by Marichal (2007) to provide further descriptive evidence on the fiscal dividend from the intendency system. The graph shows the yearly amount of colonial transfers reaching the central administration in Madrid and provides evidence of a sharp increase in colonial remittances that coincides with the introduction of the reform and persists until the end of the 18th century.

## 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 has been aptly described by Lynch (1973, p.7) as a “second conquest of America... a bureaucratic conquest.” As such, the modernizing efforts of the Bourbons impacted colonial subjects and their relation to the state, and plausibly had heterogeneous effects on different social groups in the highly stratified colonial society. In this section, we explore the political consequences of the intendency system, focusing in particular 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 in the early 19th century.

### 5.1 Indigenous Peoples

One of the motivations for the introduction of the intendency system was to remedy the abuses suffered by the indigenous peoples under the *status quo*. As mentioned above, the corregidores compensated for their paltry wages by imposing highly overpriced goods, such as mules or textiles, 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 “so cruelly wicked that it appears as if it were imposed on those people as a punishment” and go on to ask: “who can deny that the Indians are in worse condition than slaves?” 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). The historical record suggests that even though the intendants struggled to fully root out the repartimiento and other forms of misbehavior by the subdelegates, 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 epocha for Indian prosperity. The minute vexations to which the cultivator was incessantly exposed... have singularly diminished under the active superintendence of the intendants.”

Before the reform, the indigenous peoples had very limited institutional channels through

which to air their grievances since the corregidores were the judges of first instance 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 dozens of indigenous rebellions in Peru in the 18th century by Golte (2016) concludes that every single one with available information was motivated by this institution. Túpac Amaru, who led the largest indigenous insurrection in Peru in 1780, stated his goals as: “my desire is that this class of officials [the corregidores] should be completely removed, that their repartimientos should end” (quoted in Fisher, 1970, p.22).

Motivated by these facts, we use a novel transcontinental dataset to provide quantitative evidence on the impact of the intendancy system on indigenous rebellions. This panel pools information from multiple regional sources and we have endeavored to harmonize it and 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 (intendancy/province) as dependent variable. 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 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 intendancy system led to 0.27 fewer episodes of rebellion per year. This is a large effect, equivalent to 115% of the sample mean. This estimate remains largely unchanged but loses precision when we introduce our battery 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 led to a reduction in 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 the *willingness* to rebel of indigenous peoples, who no longer endured abuses at the hands of 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). If so, the increase in revenue from the indigenous poll tax documented in Table 4 could also reflect a higher willingness to pay taxes (i.e., tax morale) among the indigenous peoples as a result of an improved relationship with the state.<sup>21</sup>

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<sup>21</sup>Corregidores usually collected the repartimiento simultaneously with the poll tax. Indigenous peoples often hid

## 5.2 Creoles

The situation for the creoles was the reverse image of that faced by indigenous communities. 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, 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 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). With regards to policy, the creoles leveraged their economic clout and the weakness of the colonial state to bend it in their favor (Grafe and Irigoín, 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 in detriment of the creole elites. Even before the adoption of the intendency 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>22</sup> The intendency reform further hurt the interests of the creole elites along several dimensions. First, the reform took power away from the corregidores, who were often 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 an increase in tax revenue, which was partly driven by the donativos that were more heavily charged on 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 intendency system that plausibly contributed to the creoles’ growing grievances was their lack of involvement in the design and implementation of the reform. This policy was entirely imposed by Spain on its colonies and constitutes 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) and that “reform should be dispensed by the monarch to the people” (Fisher, 1970, p.156). Furthermore, the fiscal nature of the empire meant that “wealthy creoles were continually

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from the corregidores to avoid paying the former, which dampened tax revenue (Moreno-Cebrián, 1977).

<sup>22</sup>Figure A14 shows that the share of creoles in the audiencias dropped from 53% in 1770 to 30% in 1780.

being pressured... for donations... to pay for remote dynastic wars in Europe” (Williamson, 2010, p.200). Our previous results on spending show that little of the extra revenue raised as a result of the intendency system benefitted the local communities where this revenue was generated. This geographical disconnect between the sources of revenue and the focus of royal spending further fueled political animosity towards the crown among the creoles.

We provide quantitative evidence on the impact of the intendency system on the political attitudes of the creoles by studying naming patterns.<sup>23</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 registering of births. Moreover, the baptismal records predominantly originate in urban centers where the creole population was concentrated.

Figure 10 shows the estimates of  $\gamma_\tau$  in equation (2). The share of newborns named after the viceroy remains relatively stable and shows little evidence of pretrends before the reform, but drops sharply after the adoption of the intendency system. 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. This result is based on any match between the first name of the viceroy and any of the words in the names in the baptismal records. However, columns 2 and 3 show that the results 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, but have the additional advantage of providing a non-negligible pool of names both before and after the intendency reform. However, columns 4 and 5 show that our results are robust to also considering the name of the King (Charles III and IV) or the corresponding intendant. Table A7 further verifies that these results are robust to the inclusion of our battery of controls for the time-varying effect of predetermined covariates as well as additional characteristics of the baptismal records.

These findings suggest that the intendency system led to a meaningful shift in attitudes by the creole elites towards Spain and its representatives. The reform largely eliminated the economic privileges and *de facto* independence that the creoles had enjoyed in the previous centuries of colonial rule and they 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’ ”* (quoted in McFarlane, 1998, p.320)

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<sup>23</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).

### 5.3 Aftermath

Our main study of the intendency system, its impact on state capacity, and its political consequences ends in 1800. For the most part, paucity of data prevents us from carrying the analysis into the 19th century. In this section, we draw on the available information to shed light on the longer term consequences of the intendency reform. In line with our previous findings, we focus on the fiscal impact of the reform and its potential connection to the independence movement.

The early 19th century coincided with the demise of the Spanish Empire. 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 exceeded by the French invasion of Spain in 1807 and the subsequent abdication of King Charles IV in 1808, which led to a vacuum of power and to the first declarations of independence after 1809.

During this period, the collapse of the fiscal system and the seeds of the independence movement were interwoven. Panel (a) in Figure 11 shows the share of treasuries with available information in our fiscal dataset, relative to the universe operating in 1800. Not only does the share of active treasuries fall below 50% by 1810, but 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 long-term impact of the intendency 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 intendency system. We find that the positive fiscal impact of the reform persists for over two decades.

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

The results in Table 8 show a positive correlation between the fiscal impact of the intendency system and the insurrectionist content of the correspondence originating from that intendency. Our baseline estimates in column 1 indicate that regions with above-median growth in crown revenue have 18 pp higher insurrectionists content in their correspondence. This is a sizable increase, 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. 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 that lack any correspondence during this period.

Even though this link is only suggestive, the evidence indicates that areas where the intendency system was more successful in generating additional revenue are also the ones with stronger pro-independence activity early on. Hence, our results lend support to the notion that the Bourbon's "imperial reform planted the seeds of its own destruction" (Lynch, 1973). Importantly, the independence process was largely orchestrated by the creole elites and had little involvement by 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 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 intendency system and the independence movement aligns with our previous findings on the heterogeneous impact that the reform had on these social groups.

## 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 intendency system. We find that this reform led to a sizable increase in fiscal capacity and state legibility, as well as to a decrease in indigenous rebellions (law and order). These findings are driven by stronger state presence in areas far from the traditional economic and political centers of power and by changes in the selection and incentives for royal officers, which disrupted local elite capture. At the same time, we document an increase in creole antipathy towards the crown and provide suggestive evidence of a connection to the incipient movement for independence. Our findings suggest that the Bourbon reforms led to a more capable, yet unsustainable, state, and lend support to views emphasizing the importance of consensual state-building for long-run development. It is likely that these patterns of state building were inherited by the newly created republics after independence and persisted in the long-run. This is a promising avenue for future work.

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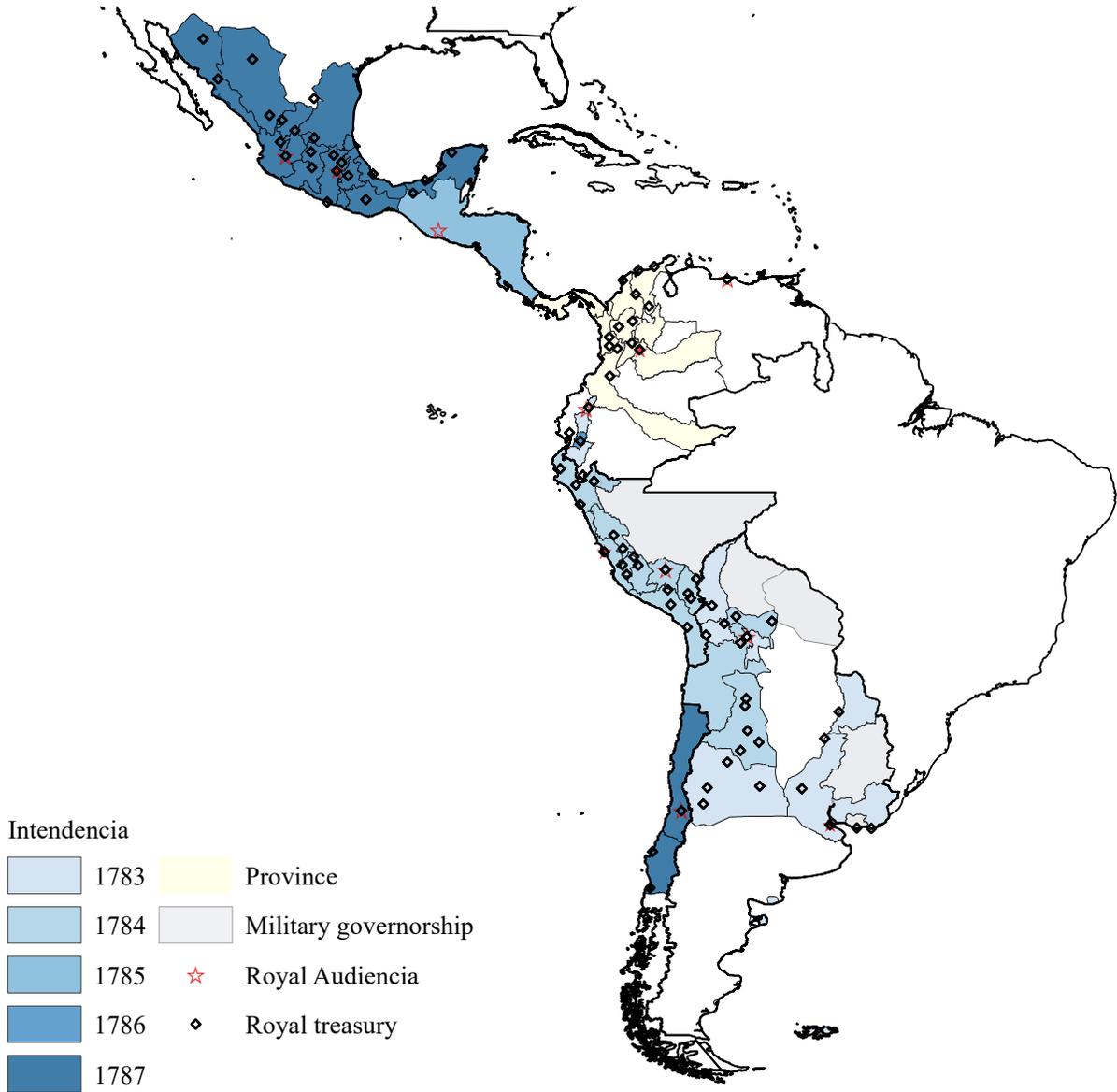
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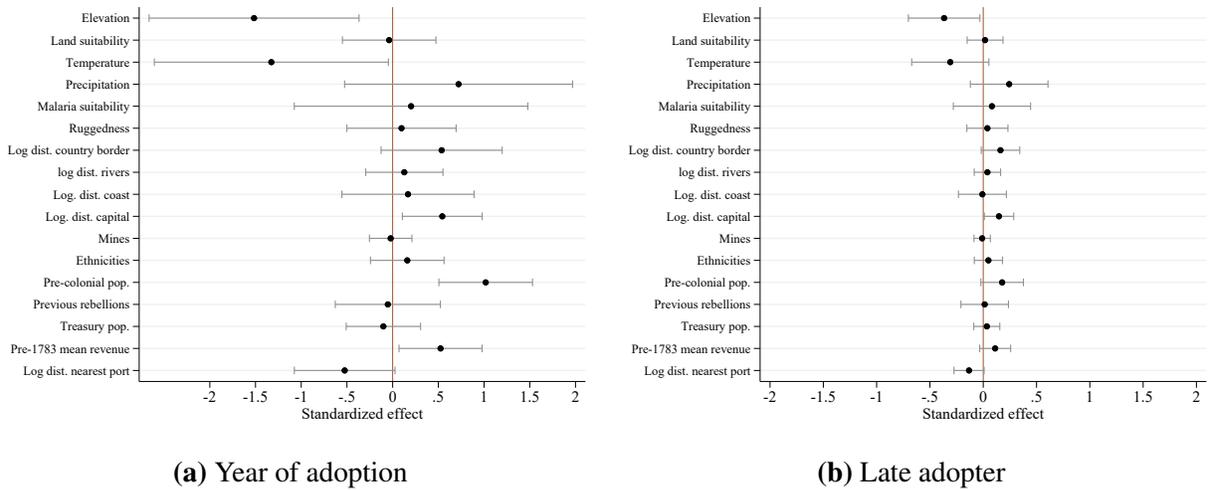
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**Figure 1: Royal Treasuries and the Roll-out of the Intendancy System**



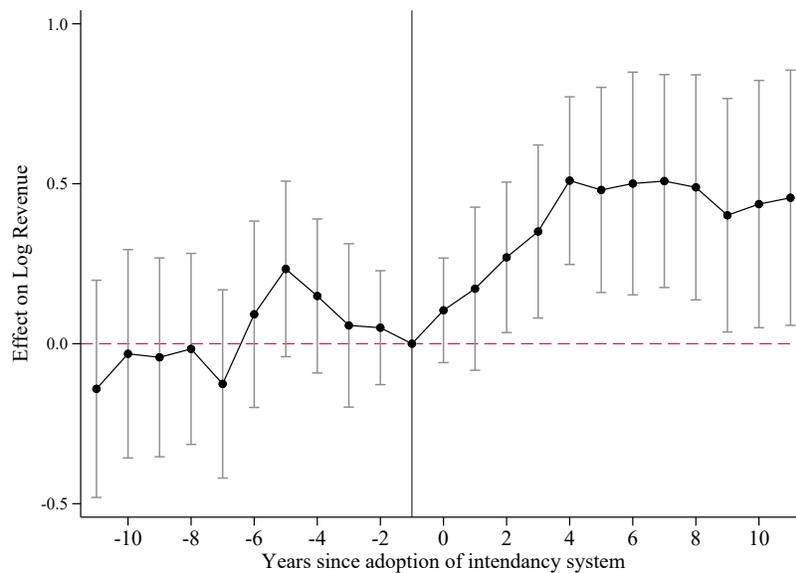
Notes: The map shows the geographical extension of each intendancy, using different shades of blue to denote the timing of reform. This timing corresponds to the year of arrival of the first intendant to each post. For the part of the viceroyalty of New Granada corresponding to present-day Colombia, where the reform was not implemented, we display provinces in yellow instead. Diamond markers show the location of royal treasuries, while red stars show the location of Audiencias.

**Figure 2: Locational Fundamentals and the Roll-out of the Intendancy System**



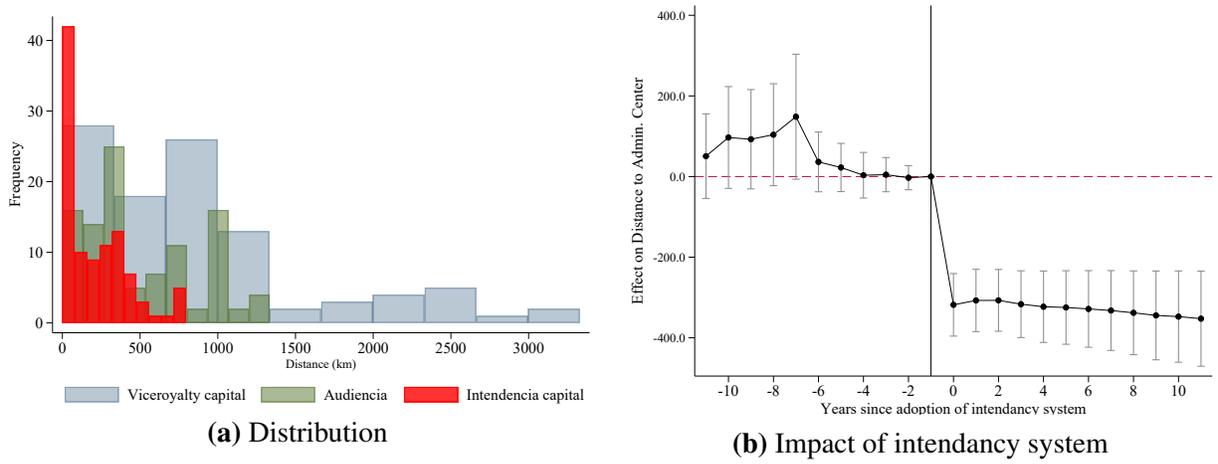
Notes: The figures present OLS estimates of the timing of Intendencia establishment on locational fundamentals at the royal treasury level. Year of adoption corresponds to the year the Intendencia to which a given treasury belongs was established. Late adopters is an indicator that takes the value of one for royal treasuries whose Intendencias were established in 1786 or 1787.

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



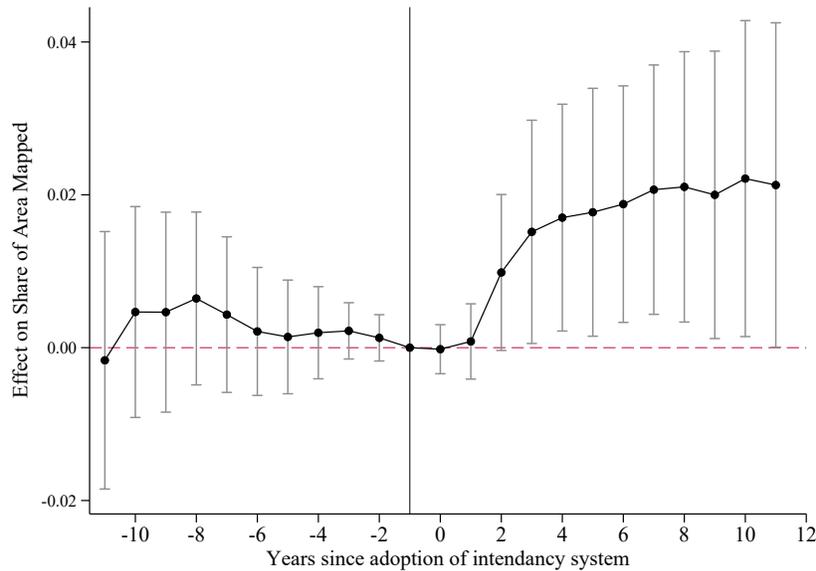
Notes: The figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is treasury-year and the dependent variable is log total revenue. Sample period: 1770-1800. Standard errors clustered by treasury.

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



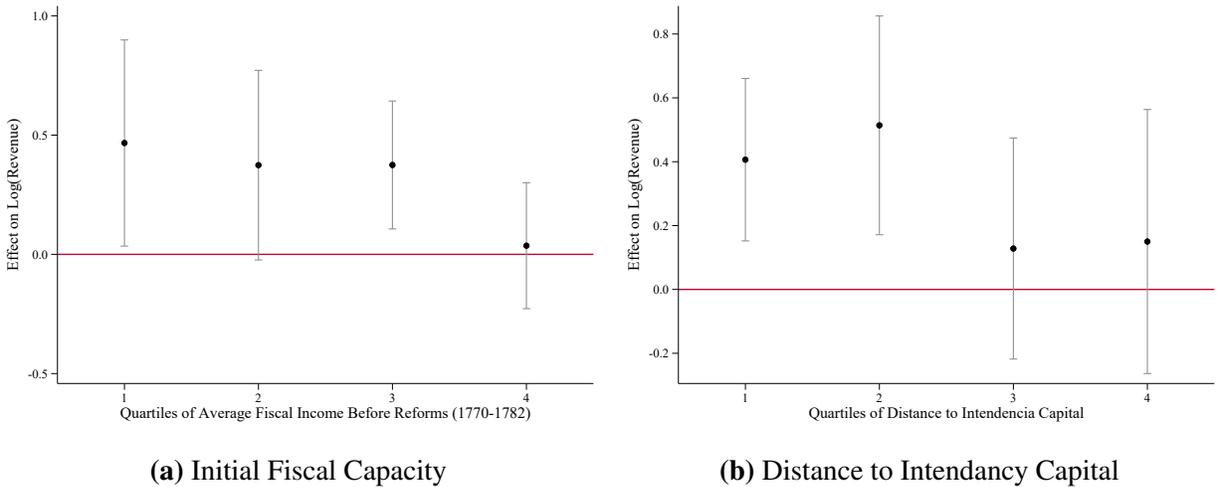
Notes: The histograms in panel (a) show the distance to the viceregal capital, audiencia capital, and intendancy capital for each royal treasury. Panel (b) shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is treasury-year and the dependent 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**



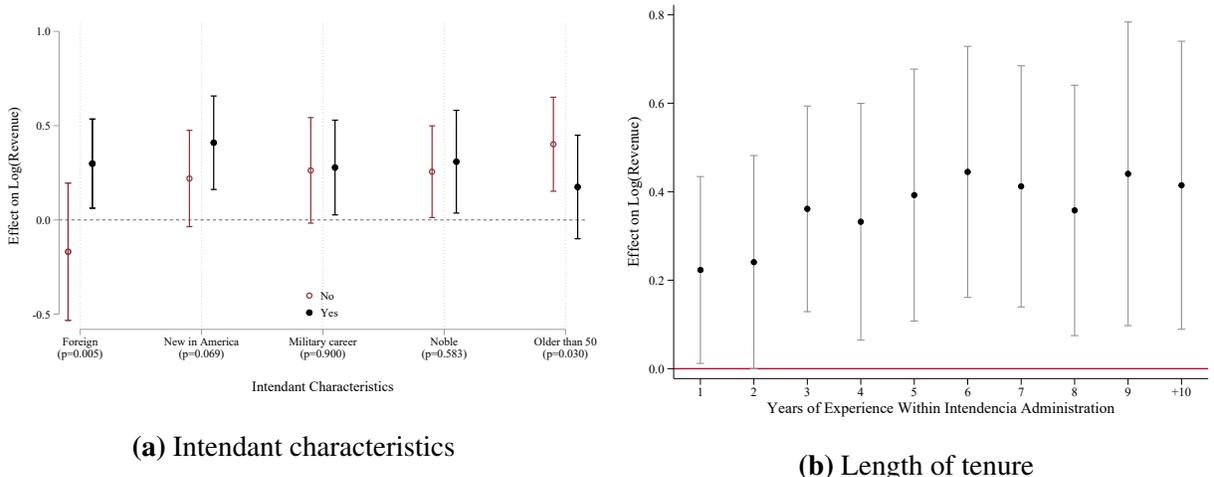
Notes: The figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is region-year, using intendancies for treated areas and provinces for never-treated ones. The dependent variable is the share of 50 x 50 km grid cells within a region that are covered by a map since 1770 (i.e., the stock of new maps since this year). Sample period: 1770-1800. Standard errors clustered by region.

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



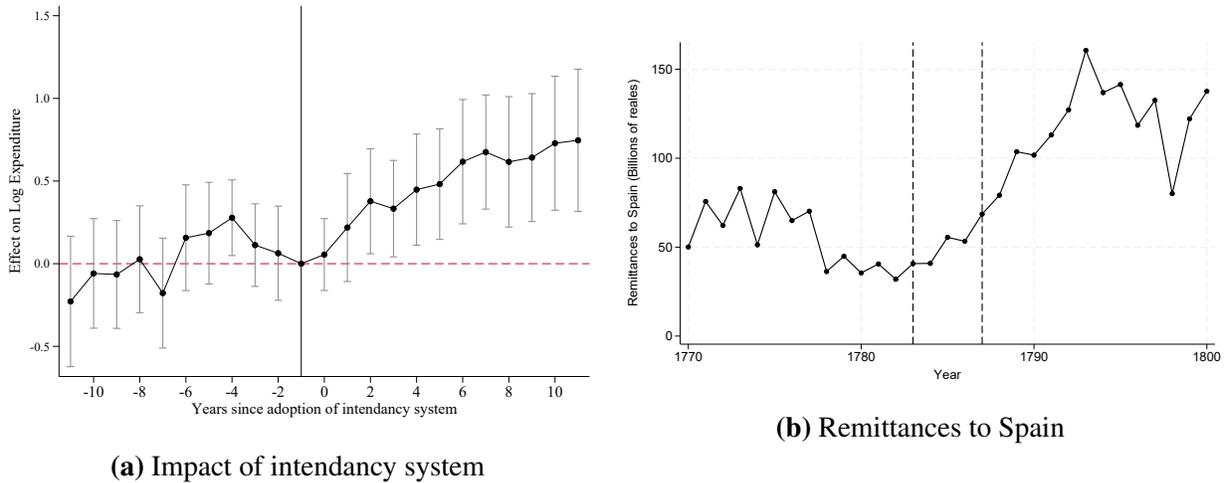
Notes: Each panel shows point estimates and 95% confidence intervals from a modified version of equation (1). In both panels, the dependent variable is log total revenue, the unit of observation is treasury-year, and the sample period is 1770-1800. In panel (a), we interact the indicator for the adoption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

**Figure 7: The Intendancy System and Fiscal Capacity: Role of Intendants**



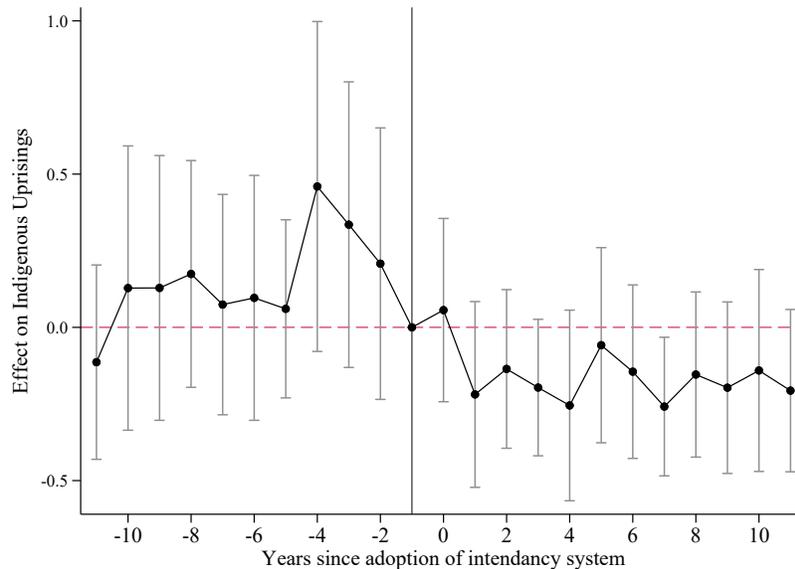
Notes: Both panels show point estimates and 95% confidence intervals from extended versions of equation (1). The dependent variable is log total revenue, the unit of observation is treasury-year, and the sample period is 1770-1800. In panel (a) we interact the indicator for adoption of the intendancy 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 characteristic listed in the x-axis. In panel (b) we interact the indicator for adoption of the intendancy system with separate complementary indicators for the length of tenure of the 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 and Crown Expenditure**



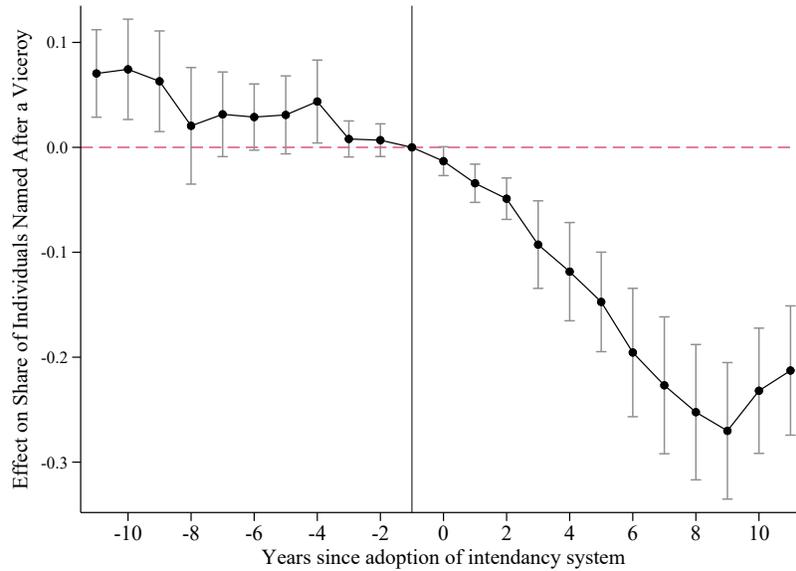
Notes: Panel (a) shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is treasury-year and the dependent variable is log total spending. Sample period: 1770-1800. Standard errors clustered by treasury. Panel (b) shows the 6-year moving average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

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



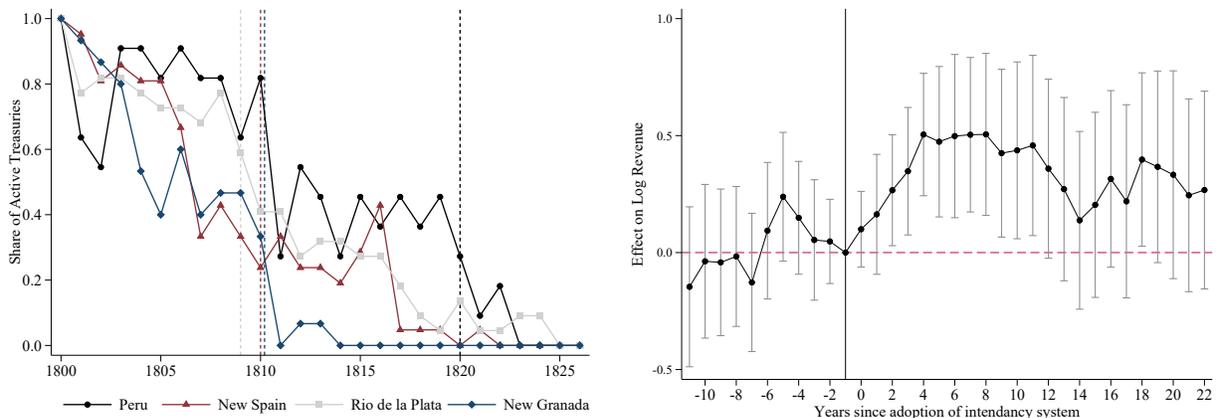
Notes: The figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). The unit of observation is region-year, using intendancies for treated areas and provinces for never-treated ones. The dependent variable is the number of indigenous rebellions. Sample period: 1770-1800.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



**(a) Treasury attrition**

**(b) Long-run impact of Intendancy System**

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  $\gamma_\tau$  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.

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

	Dependent Variable: Log Total Revenue					
	(1)	(2)	(3)	(4)	(5)	(6)
Intendancy	0.296** (0.114)	0.371*** (0.134)	0.351** (0.152)	0.309** (0.150)	0.317** (0.152)	0.430*** (0.144)
Announcement						-0.141 (0.177)
Mean DV (level)	718,607	718,607	718,607	718,607	718,607	718,607
R-Squared	0.938	0.944	0.948	0.951	0.952	0.952
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 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 (viceroalty, 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 country border, log distance to rivers, and log distance to the coast. Pre-colonial controls: number of ethnicities and the log of population density in 1492. 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**

	Dependent Variable: Share of region with maps since 1770				
	50km × 50km cells			20km × 20km cells	
	Baseline	w/ large maps	End in 1811	Baseline	5NN
	(1)	(2)	(3)	(4)	(5)
Intendancy	0.013* (0.007)	0.016* (0.008)	0.017* (0.009)	0.004*** (0.001)	0.016*** (0.004)
Mean DV	0.041	0.046	0.050	0.006	0.028
R-Squared	0.857	0.862	0.864	0.866	0.876
Observations	1200	1200	1680	1200	1200
Regions	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 is the share of grid cells within a region that are covered by a map since 1770 (i.e., the stock of new maps since this year). 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 region and year fixed effects. Columns 1-3 are based on 50km x 50km cells, while columns 4-5 are based on 20km x 20km cells. Column 1 shows our baseline estimates for the sample period 1770-1800. Column 2 includes additional larger maps with less precise geocoding. Column 3 extends the sample period until 1811. In columns 1-4 a cell is considered mapped if there is at least one map with coordinate falling within its boundaries. In column 5, a cell is also considered mapped if it shares an edge (i.e., neighbor) of one with a map falling within its coordinates. Standard errors clustered by region. \* 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						
	Capital of:					Port	Mine
	Intendancy	Diocese	Viceroyalty	Archdiocese	Audiencia		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Intendancy [a]	0.185 (0.140)	0.183 (0.120)	0.298** (0.117)	0.294** (0.117)	0.301** (0.121)	0.334*** (0.122)	0.375*** (0.119)
Intendancy x Characteristic [b]	0.222 (0.142)	0.382** (0.155)	-0.130 (0.129)	-0.084 (0.133)	-0.028 (0.109)	-0.205* (0.112)	-0.242 (0.164)
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	0.939
Observations	1959	1959	1959	1959	1959	1959	1959
Treasuries	79	79	79	79	79	79	79
P-value $H_0 : [a] + [b] = 0$	0.002	0.001	0.232	0.133	0.024	0.273	0.424
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 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 5-6 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)	-0.027 (0.028)	-0.051** (0.021)	-0.022 (0.025)	0.011* (0.006)	0.016 (0.031)	0.038 (0.035)
Mean DV	0.138	0.128	0.220	0.186	0.015	0.185	0.132
R-Squared	0.772	0.645	0.724	0.832	0.183	0.491	0.555
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, 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 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. The mean of the dependent variable is reported in levels. \* 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						Number of Post Offices
			Military	Administrative		Remittances	Other	Public goods	
				Total	Tax collection				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intendancy	0.385*** (0.125)	0.044 (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	0.437	0.171	0.220	0.097	0.299	0.257	0.030	8.102
R-Squared	0.914	0.505	0.667	0.332	0.307	0.611	0.393	0.341	0.779
Observations	1937	1928	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 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	-0.274*** (0.073)	-0.266 (0.165)	-0.165*** (0.038)	-0.222** (0.086)	-0.150*** (0.037)	-0.168* (0.084)
Mean DV	0.238	0.238	0.159	0.159	0.138	0.138
R-Squared	0.306	0.478	0.342	0.529	0.337	0.509
Observations	990	990	990	990	990	990
Administrative units	33	33	33	33	33	33
Administrative unit 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 after the arrival of the first intendant. All columns include region and year fixed effects. Even-numbered columns include an additional battery of controls: geographic, locational, pre-colonial, political. Standard errors clustered by region. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

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

	Dependent Variable: % of individuals named after				
	Viceroy			Viceroy/King	Viceroy/Intendant
	Any Name (1)	Only First (2)	Not Common (3)	Any Name (4)	Any Name (5)
Intendencia	-0.108*** (0.033)	-0.103*** (0.029)	-0.109*** (0.031)	-0.109*** (0.033)	-0.103*** (0.034)
Mean Dep. Var.	0.066	0.058	0.040	0.071	0.099
R Squared	0.344	0.352	0.362	0.343	0.399
Observations	1740	1740	1740	1740	1740
Regions	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 1-3, the viceroy or the king in column 4, and the viceroy or the intendant in column 5. Columns 1, 4, and 5 use a dummy signaling if the name of the viceroy (plus king or intendant) appears in the name of an individual. Column 2 restricts the match to all but the last word of the individual's name. Column 3 drops the two most common viceroy names. Intendancy is a dummy equal to one for years after the arrival of the first intendant. All columns include region and year fixed effects. Standard errors clustered by region. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table 8:** Intendencias and independence letters, collapsed

	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 intendency.  $\Delta$  in log revenue is the change in log revenue in the treasuries within an intendency, 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 intendency and that were written between 1807 and 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

### A.1 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>24</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, 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 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 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 of them correspond to 1772 (adding a value of 45 to the sum of that year) and 11 to 1773 (adding a value of 55 to the sum of that year). After this process, we calculate the item sum by year.
4. We match item codes in the raw files to the item categories provided by Klein (1998). For items not found in this 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.

### A.2 Geographical features

**Administrative boundaries:** We retrieve territorial data from the *Territorial gazetteer for Spanish America, 1701-1808* (<https://dataverse.harvard.edu/dataset.xhtml?persistentId=>

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<sup>24</sup>This information is available in Excel files kindly provided by El Colegio de Mexico and Richard Garner: <https://realhacienda.colmex.mx/> and <https://www.insidemydesk.com/hdd.html>. Last accessed: 08/07/2023.

doi:10.7910/DVN/YPEU5E, last accessed 08/11/2023) by Stangl (2020) to identify the following administrative boundaries during the XVIII century Spanish empire:

- **Intendancies in 1797:** We restrict the shapefile to polygons labeled as “intendencias” using the corresponding extension in 1797.
- **Corregimientos:** XXX
- **Viceroyalties:** We restrict the shapefile to polygons labeled as “viceroyalties” using the corresponding extension in 1797.

### **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)
- **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)
- **Other institutions:** We hand-coded several variables indicating the presence of other institutions at the location of treasuries based on multiple sources: port, mine, audiencia capital, intendencia capital, archbishopric, bishopric, and military fort. We retrieve data on historical mines from the Mineral Resources Data System (MRDS) (<https://mrdata.usgs.gov/mrds/>, last accessed 08/11/2023)

**Additional controls:** 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 in which 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 in 1797.

**Geographic controls:** We collect the following raster data to create geographic controls. For each variable, we calculate the mean value within each cell in our grid. The underlying data is sourced from Chiovelli (2016).

- **Elevation:** We retrieve average elevation from the National Oceanic and Atmospheric Administration (NOAA) and U.S. National Geophysical Data Center.
- **Land Suitability:** We retrieve the land suitability index elaborated by Ramankutty et al. (2002)(<https://tinyurl.com/landsuitability>, last accessed 08/11/2023)

- **Ruggedness:** We retrieve the Terrain Ruggedness Index in Riley et al. (1999) (<https://diegopuga.org/data/rugged/#grid>, last accessed 08/11/2023)
- **Precipitation:** We use average monthly precipitation 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)
- **Temperature:** We use average annual temperature for 1961-1990 from FAO/IIASA Global Agro-ecological Zones (GAEZ v3.0) (<https://gaez.fao.org/pages/data-viewer>, last accessed 08/11/2023)
- **Malaria:** We retrieve the Malaria Ecology Index from Kiszewski et al. (2004) (<https://sites.google.com/site/gordoncmccord/datasets>, last accessed 08/11/2023)

**Locational controls:** We calculate distances between each cell's centroid and the following nearest locations.

- **Country borders:** We retrieve vector data on world administrative boundaries from Open-datasoft (<https://tinyurl.com/ctryborders>, last accessed 08/11/2023)
- **Rivers:** We retrieve river vector data from Natural Earth (<https://www.naturalearthdata.com/downloads/10m-physical-vectors/10m-rivers-lake-centerlines/>, last accessed 08/11/2023)
- **Coasts:** We retrieve coastline vector data from Natural Earth (<https://www.naturalearthdata.com/downloads/10m-physical-vectors/10m-coastline/>, last accessed 08/11/2023)

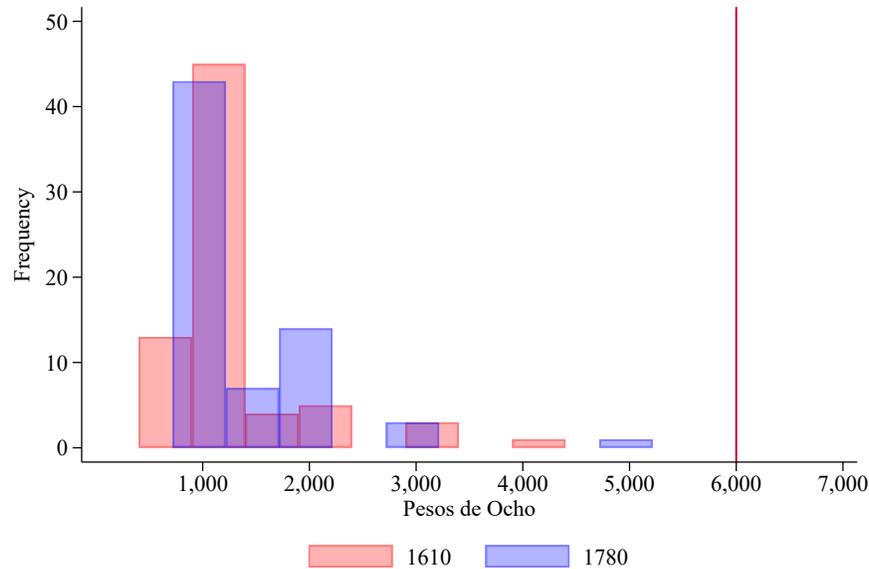
**Pre-colonial controls:** We define the following variables inside each cell. The underlying data is sourced from Chiovelli (2016).

- **Population density in 1492:** Log average population density in 1492 based on Denevan (1992) and digitized by Bruhn and Gallego (2012).
- **Ethnicities:** We identify the number of ethnicities in each cell in the Ethnographic Atlas compiled by Murdock (1967)

**Political controls:** We aggregate indigenous rebellions in each intendency before 1783.

## B Additional Figures and Tables

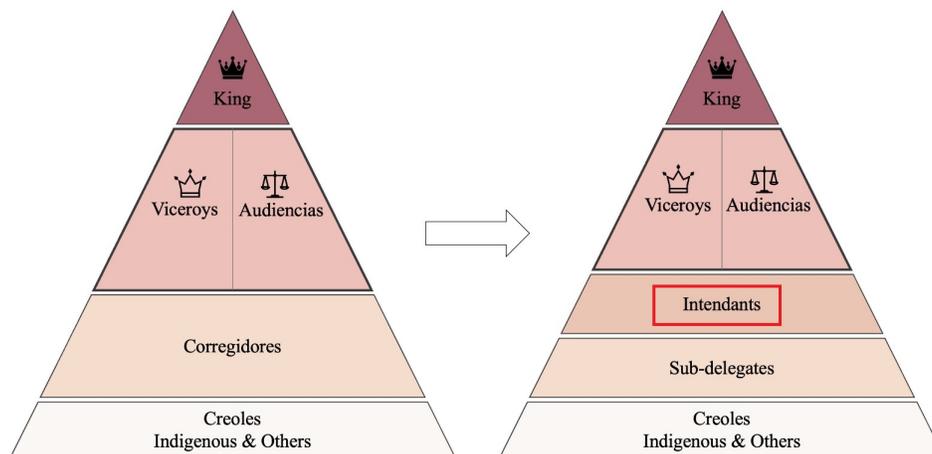
**Figure A1: Distribution of Corregidores' wages**



Note: The red line indicates intendant's wage.

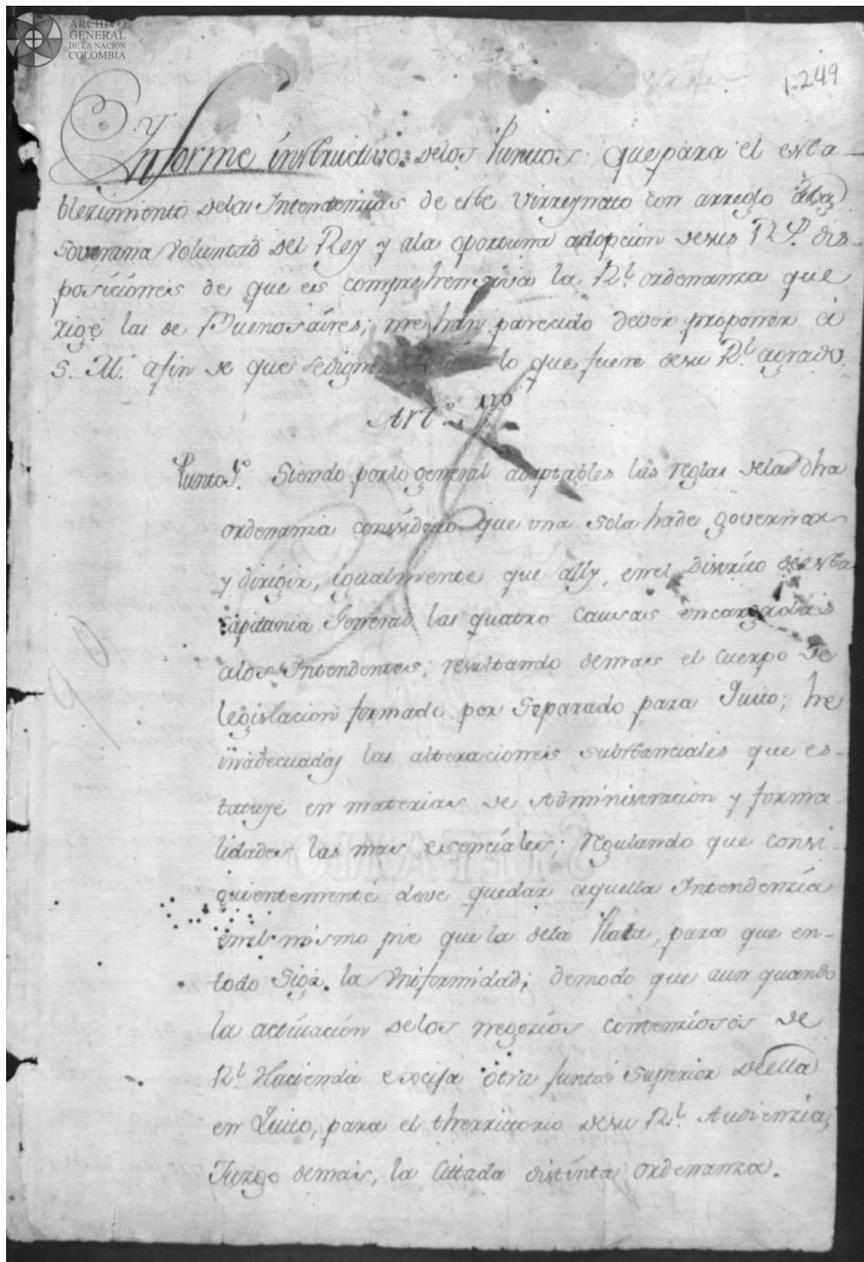
Notes: The figure presents the distributions of corregidores' wages in 75 corregimientos in Peru between 1610 and 1780. Source: Moreno-Cebrián (1977). All wages were converted to pesos de ocho.

**Figure A2: 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 A3:** First page of Ordinance of Intendants for New Granada



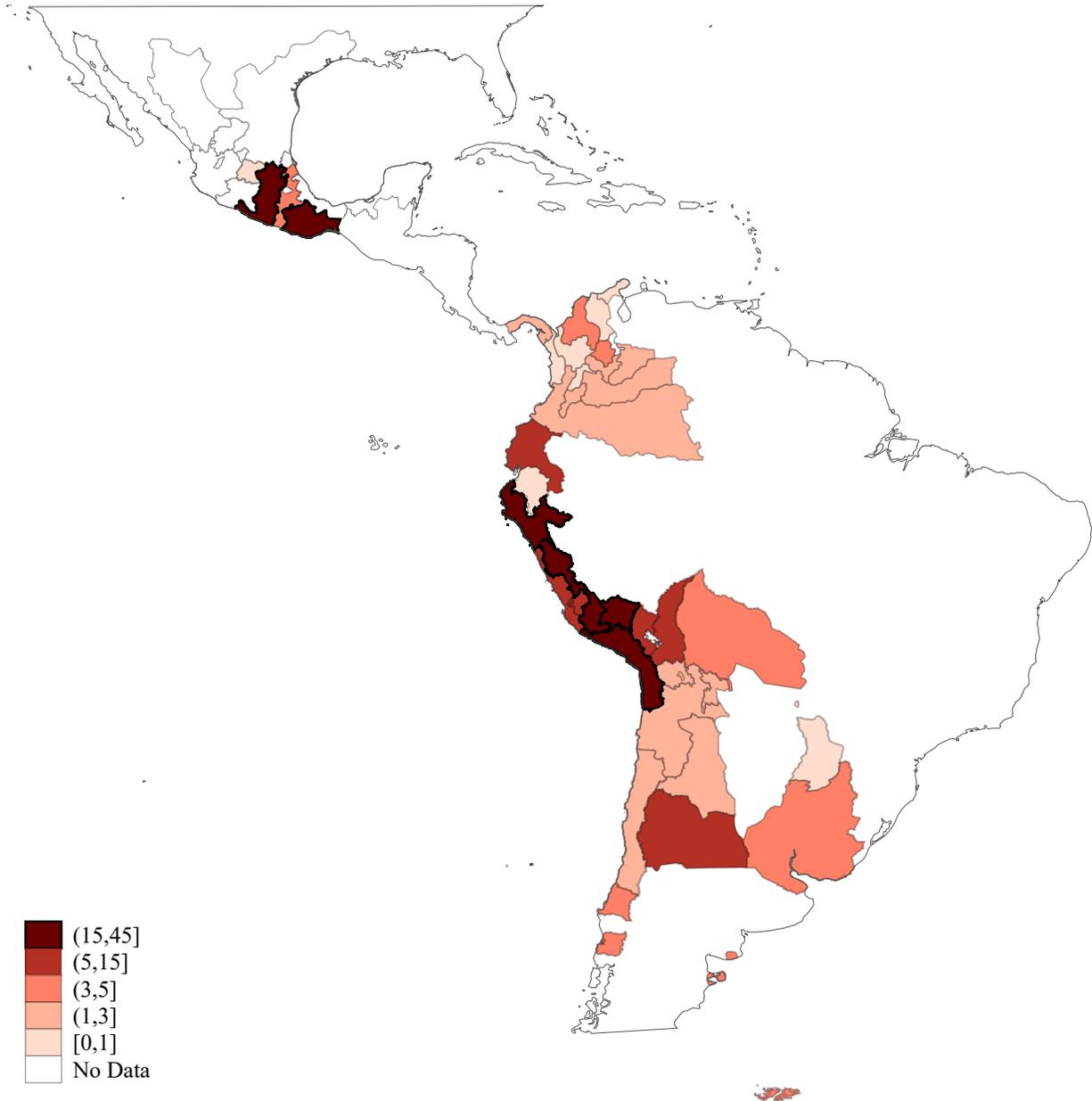
Notes: This figure shows the front page of a copy of the ordinance of intendants for New Granada. Source: Archivo Histórico Nacional de Colombia, Virreyes, vol 17, fols 1249-72.

**Figure A4: Location of mapped areas**



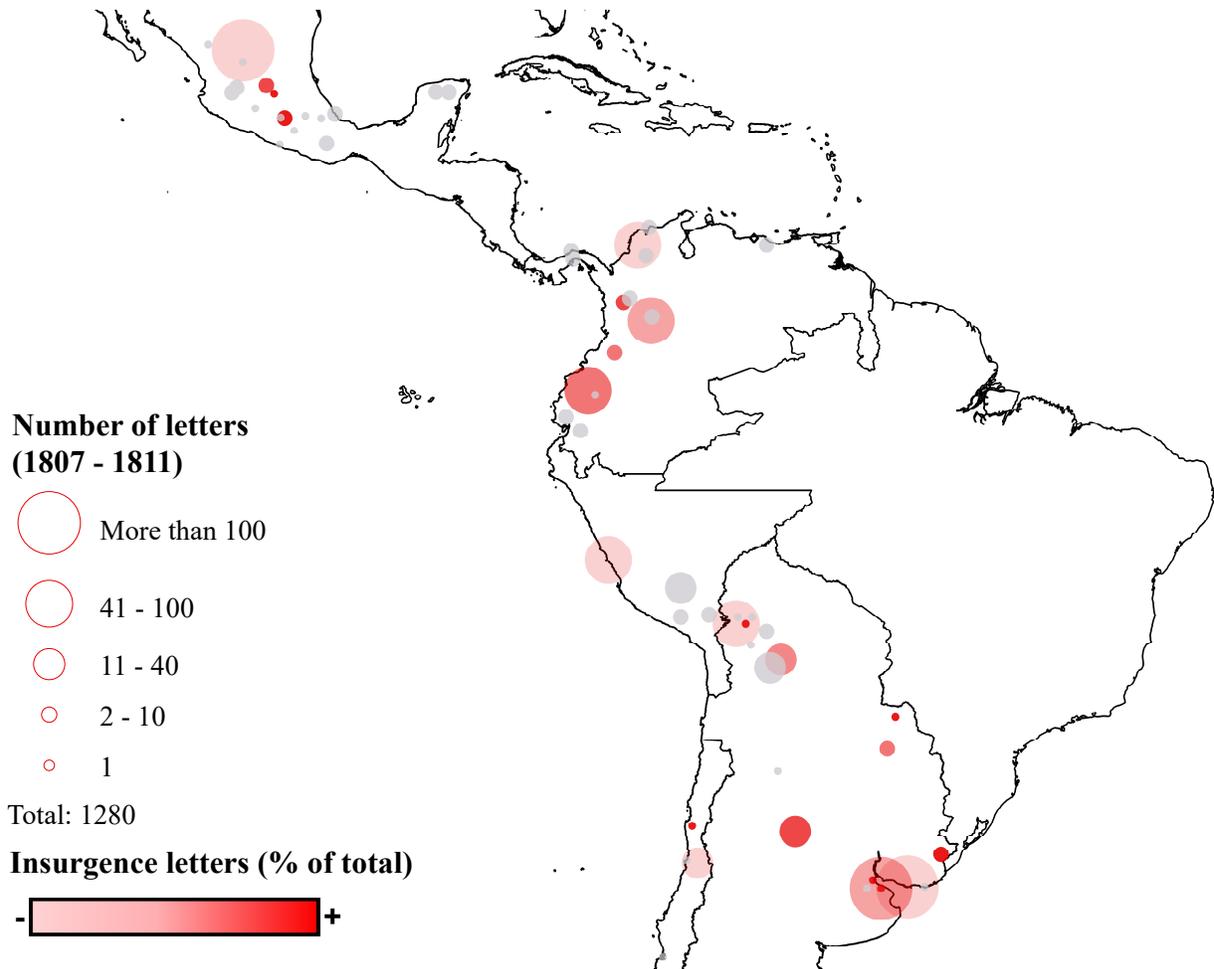
Notes:

**Figure A5: Indigenous Rebellions**

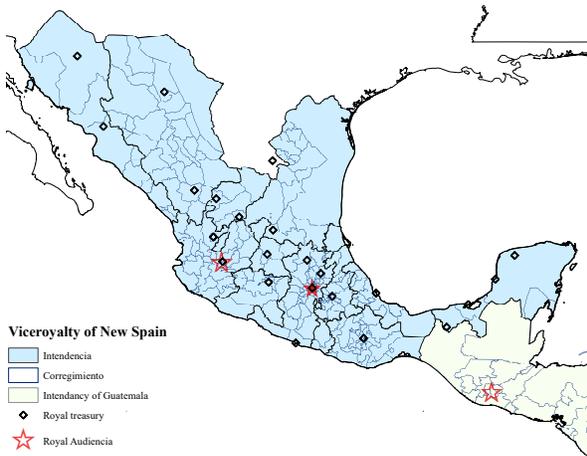


Notes: The map shows the number of indigenous rebellions per region (intendancy or province) between 1770 and 1800.

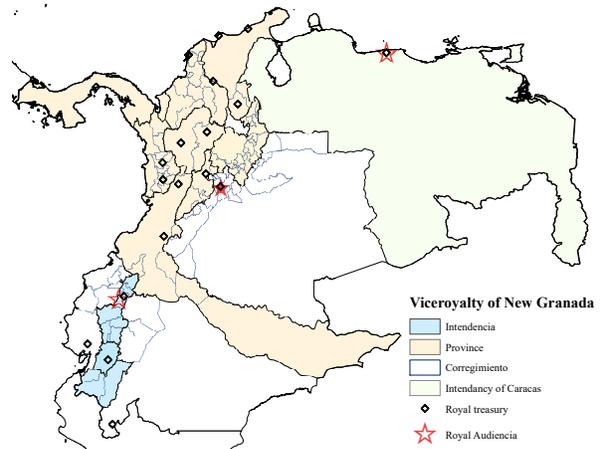
**Figure A6: Location of letters**



**Figure A7: Location of intendancies and corregimientos**



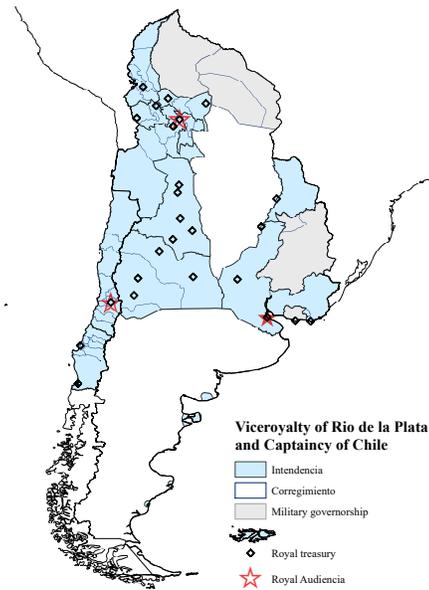
**(a) New Spain**



**(b) New Granada**



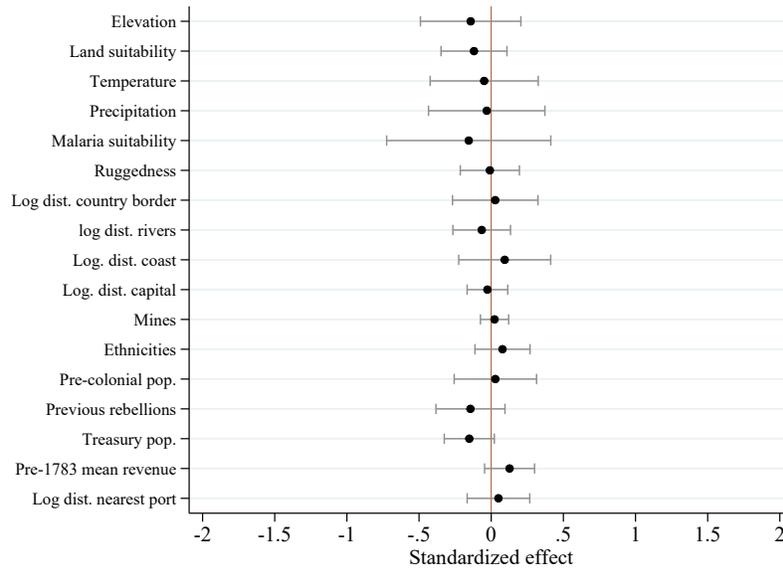
**(c) Peru**



**(d) Chile and Río de la Plata**

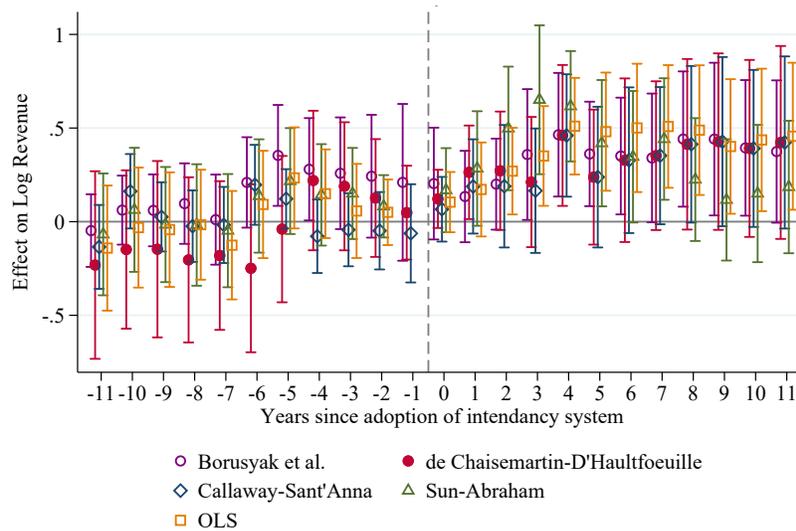
Notes: The figures show...

**Figure A8: The timing of Intendencia and locational fundamentals**



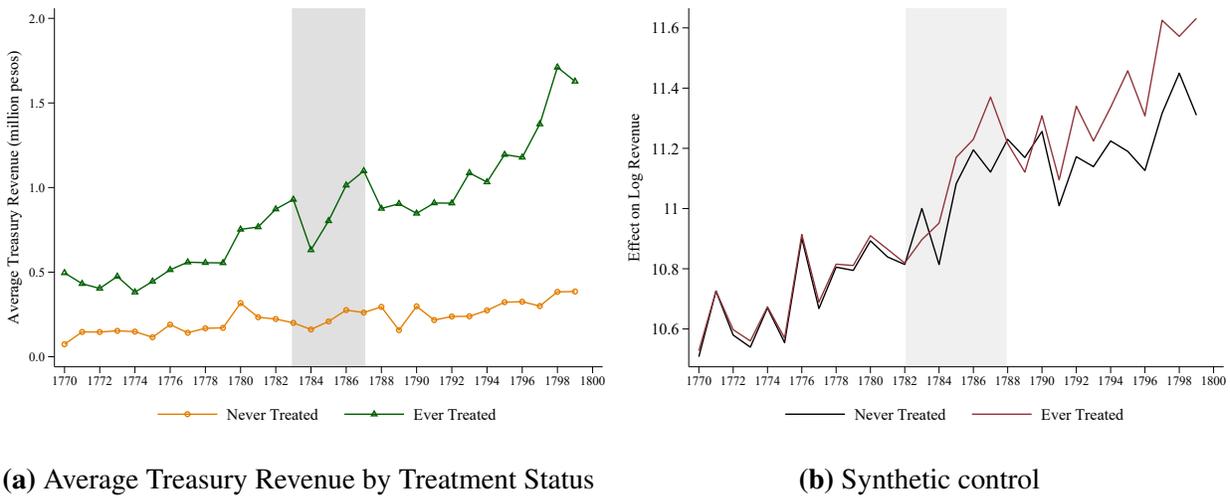
Notes: The figure present point estimates and 95% confidence intervals from a cross-sectional regression, where the unit of observation is a royal treasury. The dependent variable is the difference between the year when the intendency system was formally introduced in the corresponding macro-region (e.g., viceroyalty) and the effective arrival date of the first intendant to the corresponding intendency. The explanatory variables are listed on the left and are all measured before 1783. Standard errors...

**Figure A9: Fiscal Capacity: Alternative Estimators**



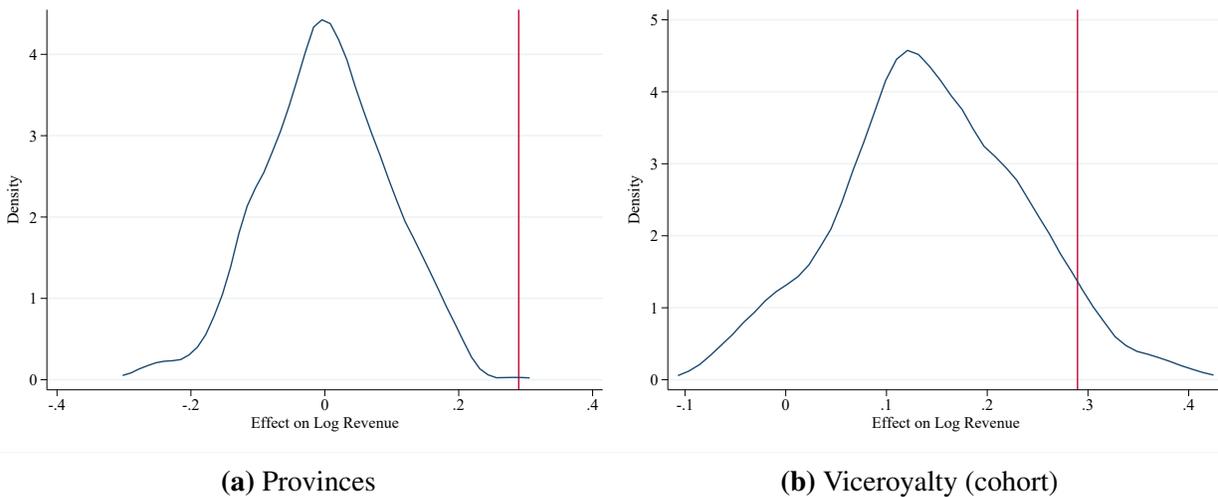
Notes: Figure shows point estimates and 95% confidence intervals for  $\gamma_\tau$  in equation (2). Unit of observation is treasury-year and the dependent variable is log total revenue. Sample period: 1770-1800. The different markers correspond to alternative estimators by Borusyak et al. (2021), de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

**Figure A10: Fiscal Capacity: Synthetic Control Method**



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 in treated treasuries to best match this outcome in untreated ones until 1782 and to predict it for later years.

**Figure A11: 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 intendency 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 present results when treatment is randomized within the same viceroyalty and treatment cohort, but never-treated units are kept untreated in every permutation.

**Figure A12: Fiscal Capacity: Missing Data**

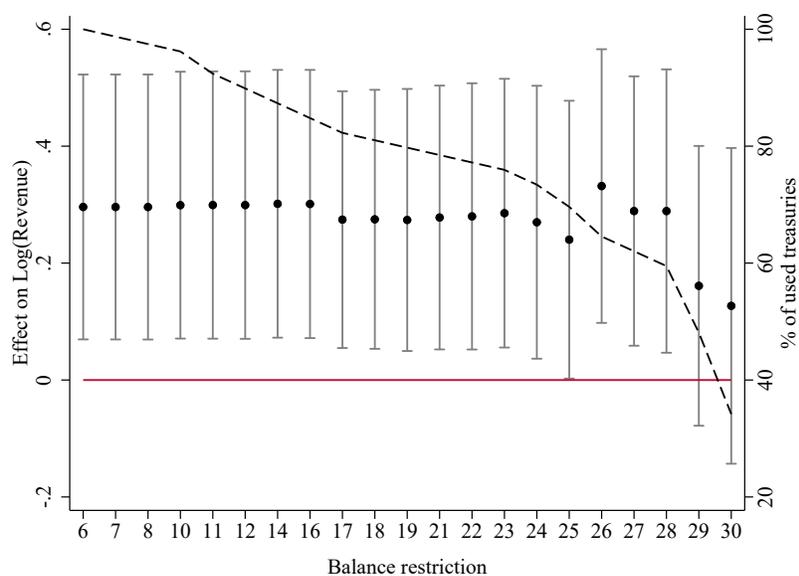
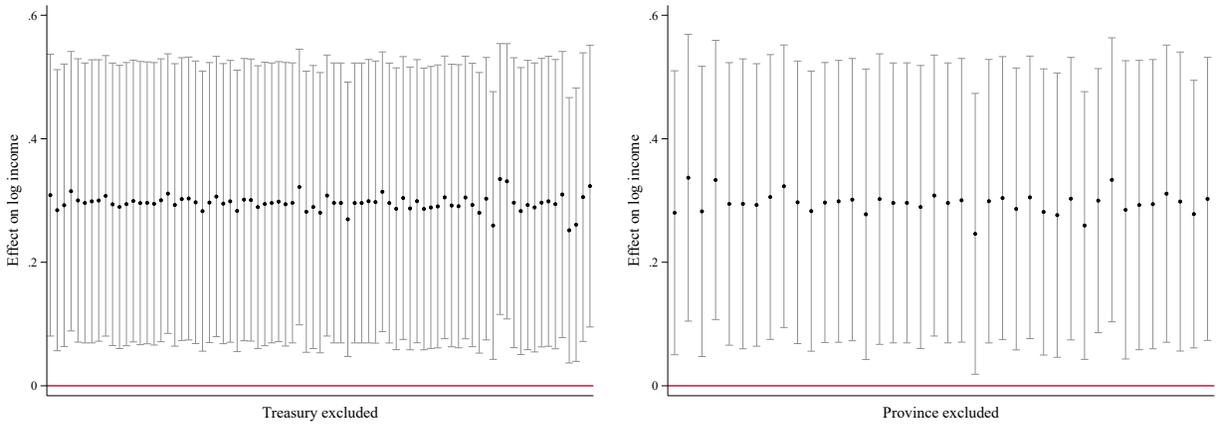


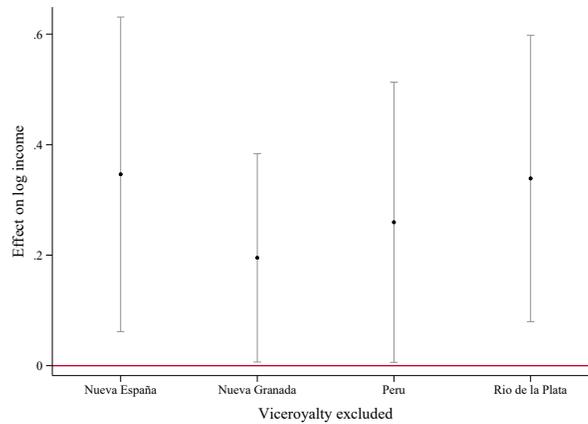
Figure shows point estimates and 95% confidence intervals for  $\beta$  in equation (1) in the left-hand y-axis, using log total revenue as dependent variable. Each set of estimates restrict the sample to treasuries that have at least the number of observations indicated in the x-axis. The dashed line 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 by treasury.

**Figure A13: Fiscal Capacity: Excluding Units**



**(a) Treasuries**

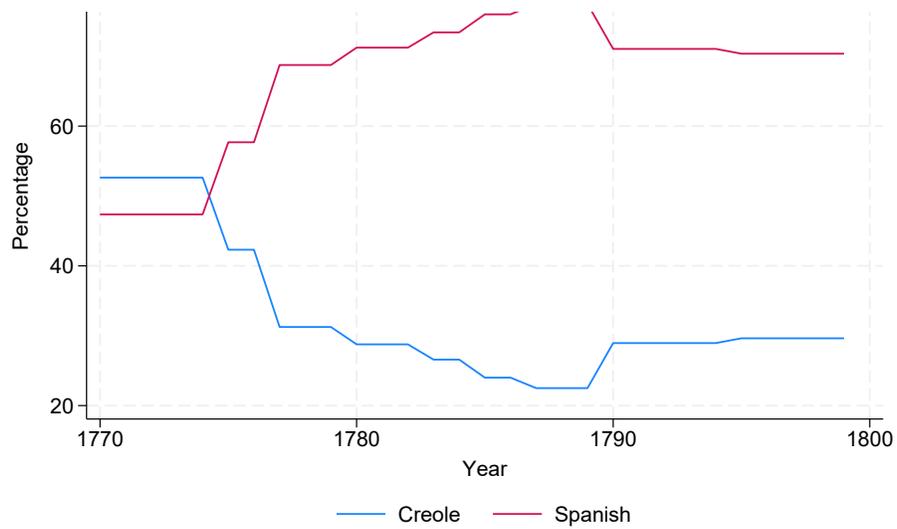
**(b) Intendancies/Provinces**



**(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 by treasury.

**Figure A14: 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 A1: Fiscal Capacity: Robustness Checks**

	Dependent Variable: Log Total Revenue								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intendancy	0.269* (0.161)	0.249** (0.099)	0.386*** (0.117)	0.248** (0.122)	0.302** (0.127)	0.333*** (0.124)	0.296** (0.119)	0.291*** (0.105)	0.256* (0.133)
Mean DV	714,088	44	840,405	504,449	1,299,862	718,607	718,607	718,607	756,257
R-Squared	0.943	0.917	0.929	0.914	0.891	0.939	0.938	0.938	0.940
Observations	1638	1549	1954	1950	1083	1959	1959	1959	1756
Treasuries	79	64	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			✓						
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 4 in which we subtract remittances from other treasuries. The unit of observation is treasury-year in all columns except column 5, 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 intendant to the intendancy where the treasury is located. All columns include treasury and year fixed effects, except column 8 in which we replace the latter with location-specific and time-varying viceroy fixed effects. In column 6, we include an indicator for treasuries located in the viceroyalty of Río de la Plata interacted with year dummies as additional controls. In column 7, 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 intendant to treated treasuries, while in column 9 we exclude from the sample areas with high incidence of indigenous rebellions in the pref-reform period. 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 A2: 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 intendancy 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 never treated, while in column 3 we consider it as 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 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 A3: 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	0.423*** (0.159)	1.165*** (0.381)	0.418*** (0.123)	0.416*** (0.128)
Intendencia x Characteristic	-0.205 (0.157)	-0.075** (0.030)	-0.280* (0.144)	-0.044* (0.026)
Mean DV	729,846	729,846	718,607	718,607
R-Squared	0.938	0.938	0.939	0.939
Observations	1891	1891	1959	1959
Treasuries	73	73	79	79
P-value $H_0 : [a] + [b] = 0$	0.077	0.003	0.350	0.002
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 intendancy 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 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 A4: Heterogeneous effects by intendant characteristics**

	Dependent variable: Log total revenue							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intendancy	0.274** (0.119)	-0.169 (0.183)	0.220* (0.128)	0.263* (0.141)	0.256** (0.122)	0.401*** (0.125)	-0.141 (0.218)	0.134 (0.269)
Intendancy x Foreigner		0.467*** (0.161)					0.494** (0.191)	0.523*** (0.182)
Intendancy x New in America			0.190* (0.103)				0.171 (0.111)	0.177* (0.0989)
Intendancy x Military career				0.0151 (0.120)			-0.0129 (0.130)	-0.116 (0.130)
Intendancy x Noble					0.0530 (0.0962)		0.0305 (0.0970)	-0.0486 (0.0807)
Intendancy x Older than 50						-0.227** (0.103)	-0.186* (0.101)	-0.162* (0.0841)
Mean DV (level)								
Mean of characteristic	-	0.974	0.320	0.734	0.371	0.549	-	-
R-Squared								
Observations	1855	1855	1855	1855	1855	1827	1827	1827
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 the left-most column. In column 2, foreigner intendants 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 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 A5: 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	0.296** (0.114)	1.194* (0.606)	0.217 (0.317)	0.107 (0.307)	1.120** (0.429)	1.251*** (0.409)	0.378* (0.217)	1.241* (0.744)
Mean DV	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 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 A6:** The Intendancy System and Crown Expenditure: Robustness

	Dependent Variable: Log Total Spending				
	(1)	(2)	(3)	(4)	(5)
Intendancy	0.385*** (0.125)	0.402*** (0.146)	0.371*** (0.133)	0.286** (0.139)	0.282* (0.146)
Mean DV	721,979	721,979	721,979	721,979	721,979
R-Squared	0.914	0.921	0.926	0.930	0.931
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 country border, log distance to rivers, and log distance to the coast. Pre-colonial controls: number of ethnicities and the log of population density in 1492. 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 A7: 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	-0.099*** (0.030)	-0.058** (0.023)	-0.067*** (0.025)	-0.096*** (0.027)	-0.090*** (0.029)	-0.085*** (0.028)	-0.084*** (0.028)
Mean DV	0.066	0.066	0.066	0.066	0.066	0.066	0.066
R-Squared	0.342	0.551	0.586	0.618	0.636	0.637	0.643
Observations	1890	1890	1890	1890	1890	1890	1890
Regions	63	63	63	63	63	63	63
Admin. Unit 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 country border, log distance to rivers, and log distance to the coast. Pre-colonial controls: number of ethnicities and the log of population density in 1492. 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.