"Jurisdictional Havens": The Geography of Indigenous Identity in Mexico *

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Abstract

This paper argues that jurisdictional havens-areas where overlapping authority creates competition among rulers-granting subjects greater prerogatives shaping the geographic distribution of ethnic minority groups. We test this theory with the persistence of Indigenous identity in Mexico. Using the eighteenth-century administrative geography and a grid-cell design of Mexico, we first identify havens where royal and religious jurisdictions overlap. We show that, since at least 1800, these areas are more likely to sustain multiple markers of Indigenous identity (language, self-identification, and communal land tenure) than comparable non-haven areas. In contrast, grid-cells with discontinuities in enforcement costs (equidistant) instead better predict the formation of subnational borders. We address endogeneity concerns using within-grid comparisons, placebo tests using shifts in authorities' headquarters, balance on geographic traits, and we present historical evidence from colonial judicial claims and administrative records consistent with greater inter-ruler competition and legal ambiguity in haven areas. Overall, our results highlight the importance of spatial position of competing authorities to explain the long-run persistence of Indigenous identities in Mexico.

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Historically, rulers' capacity—and willingness—to extract resources has been uneven across their territories. Remote or hard-to-reach regions have often been illegible and weakly governed, especially when communication and transportation are limited. Such geographic isolation has enabled some cultural minorities to preserve their identities vis-à-vis extractive rulers and culturally dominant majorities. For instance, in Southeast Asia (Scott, 2010), the Amazon rainforest (Salomon and Schwartz, 1999) and in Mexico (Aguirre Beltrán, 1991), who have long leveraged remoteness for survival. A similar logic underpins the presence of maroon communities—Brazil's *quilombos*, Colombia, Mexico and Cuba's *palenques*, or Venezuela's *cumbes* (González Díaz, 2013).

In this paper, we move beyond arguments of geographic remoteness and instead focus on the role of overlapping jurisdictions. We make the claim that under certain conditions, for example, if rulers have short time horizons or terms limits, shared authority fosters competition between rulers enabling subjects to secure prerogatives they would otherwise not enjoy. Examples of these include greater autonomy in managing their own communities, a lower fiscal burden, or the provision of particular goods, to name a few.

This mechanism is especially visible in frontier and border regions where local elites have historically enjoyed greater autonomy (Malik et al., 2025). For example, local families in the English-Scotland border enjoying considerable more independence than elsewhere. Or the lower taxation rates enjoyed by the peripheral regions of 17th century Spain vis-a-vis central ones (Castille), both examples cited in Acharya and Lee (2018). The argument being that their ability to "switch" sides have secured them greater prerogatives that those located elsewhere. More contemporaneously, overlapping jurisdictions can undermine political accountability by creating ambiguity in responsibility (Gulzar and Pasquale, 2017). It can also distort public policy outcomes —for example, weakening law enforcement leading to higher crime rates (Depetris-Chauvin et al., 2024)—even when overall state capacity is held constant.

Applied to the particular context of colonial Mexico, we argue that this type of competition led to "jurisdictional havens" areas where overlapping authority between local rulers enabled ethnic minorities to survive (and thrive) without having to rely on geo-

graphic remoteness. More formally, we rely on the model set up of Acharya and Lee (2022) to examine cases in which two (or more) rulers compete over the provision of governance in a territory, but where there are little incentives for cooperation among them. Thus creating spatial "havens" where the indigenous population enjoyed greater prerogatives than those available elsewhere. These relative advantages could then persist over time if many of these features remained untouched (or even reinforced) in subsequent administrative arrangements.

We test this argument empirically using the administrative configuration of colonial Mexico from the 16th century until today. As in the model, this is a setting in which local authorities compete to extract resources from the local indigenous population but are limited by enforcement costs (mainly travel), other authorities, and their own time-horizons. Dividing the current territory of Mexico in cells of 0.1 by 0.1 decimal degrees, we start by identifying the areas that could serve as these administrative havens due to the overlap in the jurisdiction of religious and royal officials, or between royal officials. The advantage of a grid design of this type is that it is not based on present or past administrative units and borders, as these are themselves endogenous to the spatial distribution of authorities, as shown in the model and in our own empirical result. This consideration is also particularly important for historical borders, often loosely-defined in the past and which had lacked the meaning we ascribe to them today. Finally, this design can better account for attrition in settlements as havens are held constant over time.

To start, we first locate the grid-cells that exhibit jurisdictional overlap based on the location of early (16th century) and late (18th century) headquarters of colonial officials in each district as well as the timing and duration of missions – a religious authority. These locations thus allow us to identify areas that fall in the domain of a religious and royal officials. We define "domain" based on historical transportation costs by foot (Coatsworth, 1979) from the headquarters of their closest authority (whether royal of religious) to another grid-cell's centroid. Specifically, whether within one (30 kilometers) or two (60 kilometers) walking days, key measures of how long these authorities would

need to travel during daylight to reach them. We also show robustness to other cutoff distances. The idea is that in grid-cells with jurisdictional overlap, subjects might obtain be able to negotiate and obtain prerogatives not available to others.

We also use a second measure of haven based on the set of grid cells that exhibit a discontinuity in their distance to their closest royal ruler – capturing areas where neither royal official has an advantage in resource extraction or tax enforcement.[1] The similarity in enforcement costs, we argue, can be beneficial to subjects in different ways – for example, by creating conflict between authorities and encouraging negotiation with their subjects. Unlike our first measure, this is not based on specific distance cutoffs as these discontinuities can arise at relatively closer or farther distances. We see this as an additional test of the importance of jurisdictional conflict but that also has theoretical significance, since the model of Acharya and Lee (2018) predicts that this is where borders are more likely to emerge if rulers would decide to cooperate instead of compete.

After operationalizing "havens" in this way, the empirical section tests whether such grid-cells are more likely to serve as refuge for different expressions of indigenous identity – such as those based on language use or presence of communal land tenure – throughout the 19th to 21st centuries. In particular, we contrast "haven" grid-cells with two alternatives proposed in the literature, namely, to grids that are "far" in absolute sense, as a way to capture remoteness and isolation. We also compare "havens" to areas in which only one type of authority (either royal or religious) is present, as a way to capture the importance of jurisdictional overlap vis-a-vis the mere presence of royal headquarters or religious missions. Throughout our analysis we always include fixed effects for arbitrarily defined areas of 100 X 100 square kilometers (approximately 10 grid-cells) each as a way to limit comparisons to nearby areas and account for correlated standard errors within these zones.

Using this approach, our most consistent result is that grid-cells with potential jurisdictional conflict between royal versus religious authorities exhibit a disproportionate share of markers of indigenous identity. For example, havens of this type are more likely

[1] Or, put differently, grid-cells, where the distance to the closest ruler is the same.

to host new indigenous pueblos between 1549 and 1800. Furthermore, colonial pueblos in havens are more likely to preserve this administrative status as of 1900 – that is, to not be absorbed into other localities or grow so large as to become a city or villa. Havens also host more communal land tenure in the form of *comunidades* – land restitution based on ancestral claims – but have no effect for other types of land grants (*ejidos*). Finally, havens are more likely to host a larger share of indigenous language speakers and those who self-identify as indigenous today. We also estimate a much stronger effect for areas where religious and royal officials compete than areas where competition took place only between royal officials, but present in both.

In contrast, we show that grid-cells beyond 60 kilometers (two-walking days) of either a missions or royal official's headquarters (generally a regional capital) are statistically less likely to exhibit markers of indigenous identity either historically (1549, 1800) or today. They are also much less likely to be inhabited by indigenous language speakers or those who self-identify as such today. Land tenure arrangements, such as communal land, are also less frequent in these areas. We cross-check this is not driven by comparing very remote grid-cells with those that "just" fall outside our 60-kilometer cutoff. We also show that an alternative scenario, one in which only one ruler is present (either royal or religious) and who therefore faced little competition historical, do not seem any more welcoming to indigenous presence in and of itself.

In all, these results suggest that at the very least, jurisdictionally overlapping areas might have gone hand in hand with greater indigenous identity throughout history. But, do these expressions of indigenous identity follow jurisdictional overlap? Or, is overlap intentionally created in areas of preexisting indigenous presence due to other (un)observable reasons?

To clarify the direction of causality and address other sources of endogeneity, we conduct two types of tests. First, we test for the similarity in geographic traits of haven grid-cells vis-a-vis non-haven ones and find no major differences. Second, we conduct a placebo test to examine whether havens defined by the location of royal officials' headquarters but that later changed had the same effect than those established from 1700

onwards. If this is driven by some unobservable trait of the chosen locations of headquarters, they would still have an effect on indigenous presence even if gone. As shown, only havens created by headquarters that remained in place since 1700 predict indigenous presence today even though those early havens did shape the presence of indigenous pueblos in 1549. Thus, suggesting that it is the continuous presence rather than the initial location selection the main driver of these findings.

Second, we hold constant a number of potential confounders in a *within*-grid design where we compare outcomes among localities in the same grid. That is, hold constant first and second nature factors (Lin and Rauch (2022)) such as those associated with geography and public infrastructure that could explain indigenous presence. Specifically, we estimate locality-level indicators of indigenous presence for localities in the same grid that fall under our definition of haven vis-à-vis those in the same grid that didn't. Given each grid-cell is 11 by 11 kilometers, this is akin to comparing localities that barely meet the definition of haven versus those that barely missed it, a quite stringent test. It also means that potential confounders need to vary within the grid and exhibit a discontinuity precisely at the threshold of our haven definition. In fact, an array of pre-treatment characteristics is very similar in localities within the grid-cell. Even under these conditions, localities that faced greater jurisdictional overlap in the past are more likely to exhibit indigenous presence than those that did not meet it within the same grid. We also consider the role of attrition by limiting our results to longstanding localities.

Finally, using the within-grid design we show that the largest effect of havens is not driven by missions established early but that were gone by 1650. If this were driven by unobservable factors correlated with the selected location of missions, then, early missions would still predict indigenous presence today despite having disappeared before the end of the colonial era. Instead, we find that only missions that either established deep roots (more than a century ago) or appeared later in the colonial era – in conjunction with the presence of nearby officials – are associated with greater indigenous presence in terms of magnitude even if below conventional levels of statistical significance.

But why does jurisdictional overlap matter? Given these are not long distances –

particularly within a grid cell – why are havens more propitious to indigenous *pueblo* survival throughout time? Or, why do these havens seem to facilitate resistance to language assimilation and communal land tenure, just to name two metrics? While the mechanism proposed here focuses on historical competition between authorities leading to greater prerogatives in these areas, it is also possible that other mechanisms are at play. For example, these results could be reflecting geographic poverty traps (Téllez Vázquez et al., 2013), often a result of discriminatory public policies (Trounstine, 2020; Baldomero Quintana et al., 2023). Yet, we find that localities in these havens do not seem to be economically disadvantaged, if anything, they may exhibit higher levels of education, consistent with the role of missions found elsewhere.

Instead, we present historical and econometric evidence that support the idea of competition between rulers and of the particular prerogatives enjoyed by the population in these areas. First, consistent with the model of territorial competition in Acharya and Lee (2018), we find that the demarcation of the borders between royal officials were much more likely to emerge among discontinuities in the distance to the nearest authorities – our second definition of haven. Potentially as a way to solve latent competition between officials and limit the number of prerogatives to subjects in those localities.

Second, we also document a higher rate of administrative continuity of former (colonial) indigenous *pueblos* throughout the 20th century. As mentioned earlier, *pueblos* established in havens as of 1800 were much more likely to still be in place as of 1900 than *pueblos* in non-havens. Furthermore, using decade census data from 1900 until 2000, we show that these these early locations, responsible for the differentially larger indigenous population today we document, exhibit disproportionately higher "administrative" survival rates in havens vis-a-vis non-havens. We interpret this result as a reflection of the particular prerogatives these communities enjoy to remain their own administrative unit over time and not disappear or merge into broader administrative ones.

Third, using unique behavioral measures of indigenous collective action throughout the 18th century, such as the number and the type of claims behind different judicial lawsuits made by indigenous *pueblos*, we show their differential prevalence in havens versus

others. Specifically, legal claims pertaining to "land", that is, contesting the territorial limits between indigenous towns as well as between the latter and other private actors (i.e., haciendas) (Franco-Vivanco, 2021)p.726-727 are much more frequent in jurisdictions facing greater overlap from other authorities versus others. We also observe a disproportionate number of cases related to "taxes", mainly conflicts about the right amount of exaction to be collected. While one interpretation is that these are simply markers of rampant extraction in havens, cases needed to have a legal basis that allowed them to be contested in the first place. We argue that jurisdictional overlap and the presence of multiple authorities with competing claims made them easier.

A final indicator of the presence of competition and fiscal prerogatives is the differentially *lower* economic value assigned to colonial jurisdictions where havens make a larger share of the district territory. Using 18th century data on the (secret) ranking officials gave to different districts as well as the likelihood that these were bought in the market for offices of the 18th century, we find there is a significantly lower valuation and demand for districts with more overlapping jurisdictions with other religious authorities, after controlling for size. Since these rankings and demand for office are strongly correlated with the amount of extraction and profits these individuals could obtain from office (Guardado, 2018, 2025), they are consistent with the presence of competition limiting fiscal gains.

In all, we find that the spatial organization of power created zones of jurisdictional ambiguity that indigenous subjects could exploit to obtain greater autonomy that facilitated the continuation of their language and economic organization.

Altogether, our paper proposes a different mechanism – based on the overlapping jurisdictions with its ensuing legal ambiguity and competition that they encourage– to understand the geographic location of indigenous communities in Mexico today, and potentially elsewhere.

While this does not preclude other mechanisms to play a role – such as isolation-seeking, discrimination, or poverty traps – it highlights the importance of the administrative organization of the colonial administration to explain initial settlements and their

subsequent persistence. For example, (Diaz-Cayeros et al., 2022; Diaz-Cayeros and Jha, 2016) emphasize the importance of non-replicable and non-expropriable economic skills among indigenous populations to explain their long-run survival in Mexico. Our findings imply that these effects would be even greater when farther from the provincial headquarters and (or) where there are other competing actors such as religious missions in the vicinity. The same logic applies to accounts based on the institutional complexity of pre-colonial civilizations (Angeles and Elizalde, 2017; Elizalde, 2020; Arias and Girod, 2011): these traits likely have a larger impact if occurring in "havens" than otherwise.

Second, beyond Latin America, this paper also complements the literature on the long-lasting legacies of religious authorities, particularly missions. While there is strong evidence that missions resulted in higher levels of schooling (Valencia Caicedo, 2019; Waldinger, 2017b; Gallego and Woodberry, 2010; Lankina and Getachew, 2013; Castelló-Climent et al., 2018), trust (Okoye, 2021) and literacy (Cagé and Rueda, 2016), most of these effects are attributed to their direct impact. Namely, these religious missionaries' decisions to provide greater public goods in the form of social capital and (or) education. Our findings show that the fact that they were often in competition with other colonial officials shaped their lasting impact in the first place. In our setting, the effect of missions is much stronger (in fact, only present) when it overlaps with the domain of other officials and not when they are in remote, isolated places. This is not because of attrition, since the effect is visible in 1800 and 1900. Therefore providing an alternative mechanism for why the positive effects of missions seem to be present in certain locations but not others (Jedwab et al., 2022): jurisdictional competition with other rulers (broadly defined).

Finally, our findings contribute to the rich history of indigenous agency and negotiation strategies in Latin America (Serulnikov, 2003; Medrano, 2011; Cunill, 2012), as well as to historical political economy work showing indigenous people's active role in the colonial economy (Diaz-Cayeros and Jha, 2017; Diaz-Cayeros et al., 2021), the judicial system (Franco-Vivanco, 2021), and the protection of privileges of the indigenous nobility (Guardado, 2023), for example.

Background

The 15th century European arrival to the Americas radically transformed the sociopolitical arrangements for the native populations. While the colonial history of what is now Mexico is too rich to fit in a few pages, in this section we center on the administrative and territorial organization of the Spanish Empire from the 17th to 19th centuries.

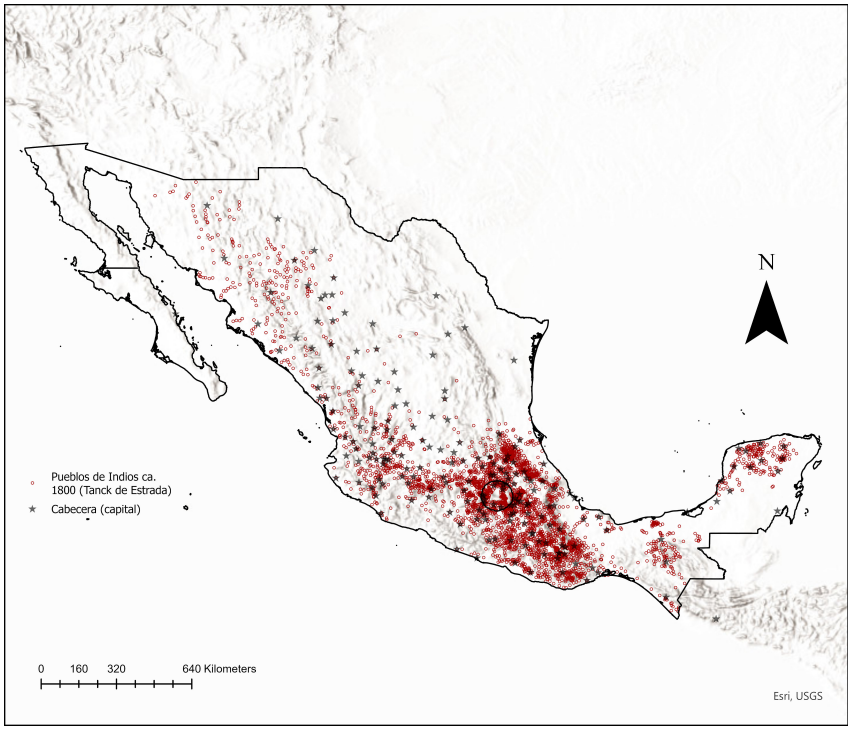
Indigenous Communities (*pueblos*). A key feature of Spanish colonialism is that it retained a number of features of indigenous social units and fiscal organization. For example, after the fall of the Aztec empire in 1521, Spanish conquistadores took advantage of existing arrangements to levy taxes and labor from the hundreds of scattered hamlets known as *altepetl*.[2] This was more a matter of pragmatism than ideology, as a catastrophic population decline griped the territory of what is now Mexico (Cook and Simpson, 1948).

The shortage of population motivated the creation of *congregaciones* in the mid-16th century, a massive demographic engineering project which concentrated several scattered *altepetls* into newly formed polities known as *Pueblos de Indios*. The objectives of this policy were to: 1) ease taxation and social control for the Crown, 2) facilitate religious conversion for the Church, and 3) allocate Indian labor for the settler elites. These newly formed communities received a legal status as basic sociopolitical unit of the Indian world. Each town was granted 72 hectares of communal arable land and designed with a recognizable urban grid, a central plaza, and a church (Ouweneel and Hoekstra, 1998). Crucially, non-Indians were banned from holding property within these lands or to spend more than a couple of days within the town borders (with the exception of the local priest).[3] In turn, each *Pueblo* was part of a broader provincial jurisdiction, which taxed them accordingly. Figure 1 depicts the spatial distribution of pueblos as of 1800.

[2]The *altepetl* was the governance unit of the Aztec empire, "a combination of people, rulership, and land" (Schroeder, 1991), ruled by a local elite that collected tribute for the Aztec emperor.

[3]The legal framework governing the *pueblos* is in the Title III Book VI of the *Laws Governing the Indies* establishing additional regulations.(Estrada et al., 2005, p.21).

Figure 1: **Pueblos de Indios in Today's Mexican Territory**



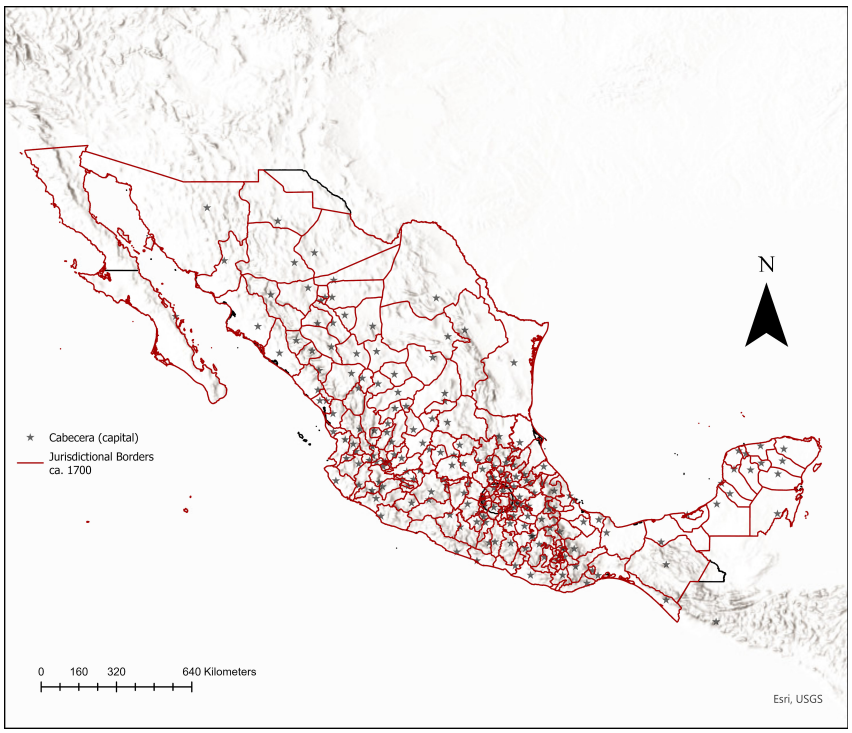
Source: Estrada et al. (2005). Red- *pueblos de indios*. Stars - colonial district headquarters *cabeceras*. 40 kilometers area around Mexico City encircled.

Colonial Jurisdictions. Parallel to the relocation of population in localities or settlements, the colonial government also consolidated administratively. By 1570, the New Spain territory began to be divided into *alcaldias* and *corregimientos* (jurisdictions) as a way to eliminate the indirect rule in the form of *encomiendas*. The main task of the new Crown officials in charge of these administrative areas was that of collecting taxes, imparting justice and enforcing order. They represented the first, and very often, the only point of contact of the indigenous population with the colonial state. In addition to taxes, *corregidores* and *alcaldes* also mobilized indigenous labor for public purposes and, if necessary, recruited militias for defense and security.

In principle, as of 1700, there were 206 historical districts, known as *corregimientos* and *alcaldias mayores* until the 1780s, after which they would be renamed into *subdelegaciones* with the reform of *Intendencias*.[4] Figure 2 provide a geographic representation

[4]While the reform added an administrative level between jurisdictions and viceroys (*intendentes*), it was far less penetrating at the local level, as the jurisdiction of the *subdel-*

Figure 2: **Colonial Districts and royal officials headquarters (cabeceras) ca. 1700 in Today's Mexican Territory**



Source: Gerhard (1972) and Sellars and Alix-Garcia (2018). Red- colonial jurisdictions. Black - current state borders. Stars - colonial district headquarters *cabeceras*. 40 kilometers area around Mexico City encircled.

of the purported colonial jurisdictions within the current territory of Mexico ca. 1700.

However, district boundaries in figure 2 were not as well-defined territorially as they are today. Instead, jurisdiction were defined by the capital (*cabecera*) to which a particular village or indigenous *pueblo* was subject to, and to which it had to remit its taxes. These colonial capitals, were usually "cities" or "villas" where most of the Spanish population lived and where political and the regular clergy had their headquarters (Bishop, Archbishop, etc.). It is from these capitals that Crown officials (*corregidores* and *alcaldes*) conducted their judicial and tax-collection activities. Yet, these functions were not granted in exclusivity, as the Church (secular clergy) also enjoyed the right to extract resources (tithes) and labor, often from the same population. Similarly, land and mine owners often had royal rights to draft indigenous labor, suggesting fierce competition for indigenous economic surplus.

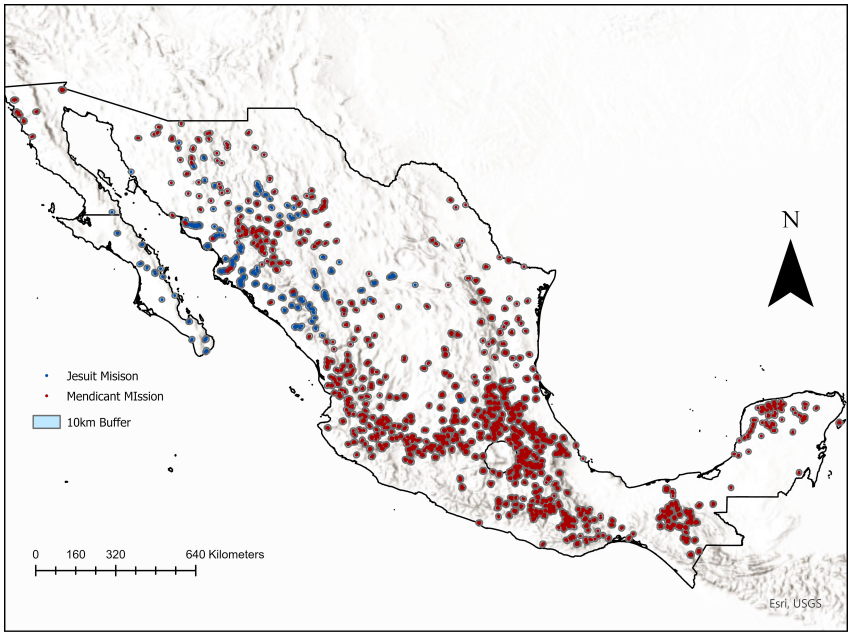
In addition to officials and the secular clergy (residing mostly in cities), there were also numerous missions mostly located outside the *cabeceras* to better serve its evangelization purposes. These missions were important not only for their known role in evangelization and education purposes, but also because they had jurisdiction over the indigenous population living in their surroundings. See Figure 3 below for a representation.

Post-Independence (1821). After independence, the status of indigenous communities became part of the political conflict between *Liberales* and *Conservadores*. In 19th century liberal thought, there was little room for collective land ownership, key to the indigenous *pueblo* or its recognition as a legal entity. In contrast, conservatives sought to retain or restore many aspects of the colonial era including those meant to safeguard the corporate identity of the indigenous *pueblo*. One example is that of the General Indian Court in Mexico, briefly revived during a spell of Conservative rule in the 19th century.[5]

egacion was the same as that of the former *alcaldia*, *corregimiento* and did not involve massive population resettlements.

[5]This institution, known as the "Junta Protectora de las Clases Menesterosas", was created during the second Mexican Empire, by Maximilian I in 1865 (Arenal Fenochio, 1991).

Figure 3: **Spatial Distribution of Missions in Current Mexico's Territory: 16th - 19th centuries**



Source: Waldinger (2017b). Red- mendicant missions (Franciscan, Dominican, Augustines). Blue - Jesuit missions. 40 kilometers area around Mexico City excluded.

Despite a liberal victory in the last quarter of the 19th century, key measures against communal landholdings such as the *Ley Lerdo* of 1856 and the 1857 Mexican constitution, were either belatedly implemented (late 19th century) or did not necessarily mean the demise the indigenous communities (Grieshaber, 1977, p.5). In fact, at the eve of the Mexican Revolution (1910), *pueblos* were still home to 51% of Mexico's rural population.[6]

After the Mexican revolution, autocratic rule under the PRI ushered a massive effort of land redistribution that would entrench in law forms of collective ownership in the form of *comunidades*[7]. These land grants were given (or recognized) via restitution to indigenous communities with historical or ancestral claims to it but had been dispossessed (Fox, 2007), thereby allowing these communities to reclaim land but also limiting their geographic mobility, as they could not be sold individually or without the consent of the

[6]Tannenbaum (1929) cited by Grieshaber (1977) p.8.

[7]Not to be equated to that of *ejidos*, a different type of communal land grant that did not rely on ancestral claims. Crucially, the communities receiving *comunidad* status needed to demonstrate previous claims to their lands (Wolf, 1999).

whole community.

Argument

Our main claim is that "jurisdictional overlap" creates competition between rulers that enabled indigenous subjects to obtain certain prerogatives they would otherwise not enjoy, for example, greater autonomy or a lower fiscal burden. To see how, we adapt the model setup of Acharya and Lee (2018) but apply it to the 18th century Spanish Empire.

As described by historians, this was an administrative system of competing or overlapping jurisdictions (Haring, 1947, p.122) with "continuous and acrimonious" conflict, particularly between royal and ecclesiastic authorities (Phelan, Phelan, p.53).

In the case of New Spain (now roughly central Mexico), Crown officials held exclusive rights over justice administration and the collection of certain taxes. Yet, religious actors also enjoyed fiscal powers and other ways to exact labor and resources from the same indigenous population, often pitying these actors against each other. For example, missions could, by shielding indigenous populations within their catchment, lower the economic demands for the indigenous population. There are well-known instances of royal officials trying to limit the payment of tithes to the Church (likely for their own benefit).[8] Personal correspondence also shows that the Viceroy often intervened to settle labor questions, such as when it ordered royal officials to not force the indigenous population from the missions to provide labor until they are ten years old. A measured promoted by missionaries to shield their subjects.[9]

More formally, we can think of this context as one in which two rulers[10], A and B, are located at the endpoints 0 and 1 of the unit interval. A continuum of individuals (henceforth indigenous subjects) of unit mass is uniformly distributed on $\Theta = [0, 1]$, where

[8] AGN, Instituciones Coloniales, Regio Patronato Indiano, Diezmos, Vol. 18, Exp. 1, 1777-1783

[9] AGN, Instituciones Coloniales, Regio Patronato Indiano, Misiones, Cont. 12, Vol. 27, Exp. 27, 1746.

[10] The model can accommodate more than two ruler see Acharya and Lee (2018).

each subject's location is denoted by $\theta \in [0, 1]$. Each ruler $i \in \{A, B\}$ offers governance at a price $p_i(\theta)$, which we can think of in this context as a tax rate in labor, cash or specie, to be paid to each. Yet, contrary to Acharya and Lee (2018) our model also includes the rights conferred in exchange for this payment, such as that of political standing and autonomy. In other words, in our interpretation governance is not just about who can offer lower "cost", but who offers a path to legitimacy or survival.

However, collecting this tax has a location specific cost for ruler i, captured by $c_i(\theta)$. This cost increases as subjects move farther from the ruler's i location (and viceversa).[11] We assume the value of governance for each subject is $v > 0$, which in this context would mean the value of being subject to the Crown and living in their *pueblo* with political rights and fiscal obligations, which they would forfeit by exiting. We also assume $c_A(0) < v, \quad c_B(1) < v$, namely, that rulers' cost of providing governance (or collecting taxes) is lower than the subject's valuation closer to their location and higher as they move towards the other ruler. With this, the extent of each ruler's profitable market:

$$\theta_A = \sup\{\theta \leq 1 : c_A(\theta) < v\}, \quad \theta_B = \inf\{\theta \geq 0 : c_B(\theta) < v\}.$$

Namely, the furthest point from each ruler's location where they can still sell governance at or below subject's valuation v. For ruler A, this market is $[0, \theta_A]$ and $[\theta_B, 1]$ for B. In additional to profitable markets, there must be a unique threshold $\theta^* \in (0, 1)$ where:

$$c_A(\theta^*) = c_B(\theta^*)$$

That is, ruler A costs beyond threshold (θ^*) are larger than those for B and vice versa.[12] If the profitable markets do not overlap ($\theta_A < \theta_B$) then, in equilibrium, each ruler earns monopoly profits in their own market equivalent to the subject's willingness to pay:

[11] For rulers A and B, located at endpoints 0 and 1 respectively, $c_B(0) > c_A(0), \text{and} c_A(1) > c_B(1)$.

[12] More formally, $c_B(\theta) > c_A(\theta)$ for $\theta < \theta^*$ and $c_B(\theta) < c_A(\theta)$ for $\theta > \theta^*$

$$p_A(\theta) = p_B(\theta) = v$$

Yet, more relevant for our context is when markets do overlap ($\theta_B < \theta_A$). In that case, ruler's profits fall vis-a-vis those obtained when markets do not overlap.[13] With the loss equivalent to the difference between the subject's valuation and the cost of the other ruler to provide governance in that location:

$$\Delta_A = \int_{\theta_B}^{\theta^*} [v - c_B(\theta)]\, d\theta,$$
$$\Delta_B = \int_{\theta^*}^{\theta_A} [v - c_A(\theta)]\, d\theta.$$

This decline in profits is the basis for our claims and observable implications. In our context, we interpret lower profitability so as to include a lower economic surplus obtained from these subjects but also other non-monetary concessions that rulers may have to agree to. For example, colonial officials (known as *alcaldes* and *corregidores*) legally served as the only buyers of local produce that they could resell at higher prices. Yet, as argued in Diaz-Cayeros and Jha (2016) and Challu (2023), producers of cochineal and maize were better off when located in areas that allowed them to easily bypass the local ruler to access alternative buyers. Lower "profits" could also be interpreted as having to provide greater autonomy or self-rule to their subjects in order to meet their potential competitor's offers.

While the above represents the equilibrium in the static game, in principle, if this game is repeated infinitely, a cooperative outcome may emerge where each ruler monopolizes one side of θ^* – the key finding in Acharya and Lee (2018) (see Appendix). Yet, this cooperative equilibrium becomes less likely as rulers become more present-biased (i.e. with lower discount factors).[14] Given colonial officials served for five-years (or less) with no possibility of renewing their appointments in the same post (namely, low δ), the

[13] For space reasons, section **??** in the Appendix provides a fuller development and treatment of this and subsequent results.

[14] See Proposition 2 in (Acharya and Lee, 2018, p.958) where the inequality (and cooperation) is more easily satisfied with evenly distributed gains on the right hand side, as mentioned in the text. Or, we argue, if one or more rulers are more patient (large δ).

cooperative outcome between rulers becomes much less likely. Ruler impatience would matter even if there exists heterogeneous discounting ($\delta_A \neq \delta_B$), as the most impatient ruler is the binding constraint. In sum, the self-enforcement equilibrium is harder to satisfy in the colonial period, resulting in "havens" of contested authority at the time.

Observable Implications. Interpreting this model spatially, and holding constant the value of governance, it has the following implications for the type of havens that will emerge:

1. **Overlap:** Areas where jurisdictions overlap should see higher prerogatives (fiscal, political, administrative) for subjects living there than those that do not.

2. **No Overlap:** Conversely, areas where the cost of governing a particular ruler is low should see less prerogatives granted.

3. **Endogenous Borders:** areas where the cost of governing to each ruler is the same (θ^*) are also where inter-jurisdictional borders are more likely to emerge in the case of cooperation[15]

Empirical Approach

The empirical question is: how to identify a "haven"? We adopt a grid-cell approach whereby we divide the current territory of Mexico in cells of 0.1 by 0.1 decimal degrees (or around 11 kilometers by 11 kilometers at this latitude). The advantage of this approach is that it is not based on present or past sub national administrative units, as these are endogenously defined and shifting over time. Moreover, since the start and end date of missions and royal headquarters is well known, we can hold the spatial unit of analysis constant over time. Therefore reducing concerns that we are only examining "surviving" units, a form of attrition.

[15]See Appendix for explanation.

Having established the unit of analysis, we next define the relevant rulers. While there are number of "rulers" in colonial Mexico – viceroys, *audiencias*, encomenderos-landowners, to name a few – each with their own "powers" within a jurisdiction, we focus on two that have the following characteristics: a) rights to fiscal and labor extraction dictated by law; b) direct authority over the indigenous population[16]; and c) exhibit low discounting rates that prevents cooperation.[17] We focus on the jurisdictional conflict emerging from missions and that of royal officials known as *corregidores* and *alcaldes*, which fulfill the conditions above in addition to the fact that it has spatially overlapping domains that we can measure.[18]

With these authorities in mind, we then measure jurisdictional havens of two types. The first, is that in which the domains of two or more rulers overlap. Namely, areas that can be easily reached by foot within a day or two (30 to 60 kilometers) of their regional capital or from any of the missions scattered throughout the Mexican territory. The assumption is that more than two days involves costlier enforcement and it allows more time for individuals to flee approaching authorities. In these domains, jurisdictional conflict is more likely than where only missions or only royal officials are present.

Panel (a) of Figure 4 represent the current localities that would fall within 30 kilometers of both the former mission and the royal headquarters in colonial, while Panel (b) represent those that fall within 60 kilometers of both. Note that these areas of overlap are not perfectly round as they depend on the location of missions vis-a-vis headquarters. Another trait of these "havens" is that, by definition, they do not imply isolation from other cities or villas in an absolute sense, as they are never more than 60 kilometers from a ruler.

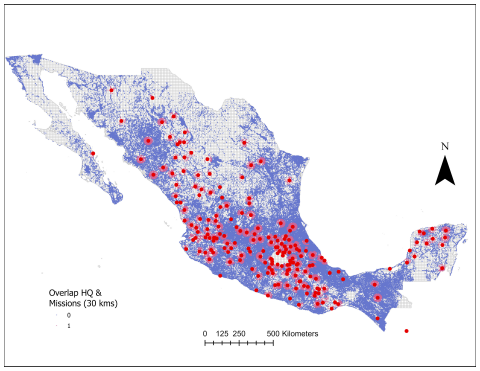
[16]The latter rules out *audiencias*, *caja oficials*, viceroys and others, as their higher hierarchy does not put them in direct contact with indigenous populations or their leaders

[17]The latter would rule out landowners or encomenderos, as they would enjoy longer time-horizons and therefore be theoretically more likely to cooperate to obtain monopoly rents than otherwise.

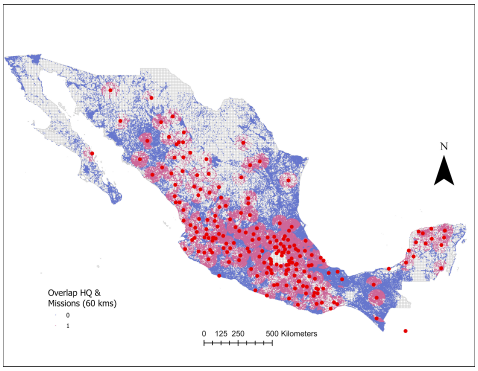
[18]For example, the same logic of overlapping jurisdictions may apply within cities, but we lack that kind of data.

Figure 4: **Jurisdictional Overlap Between Religious and Colonial Authorities**

(a) 30 Kms Overlap



(b) 60 Kms Overlap

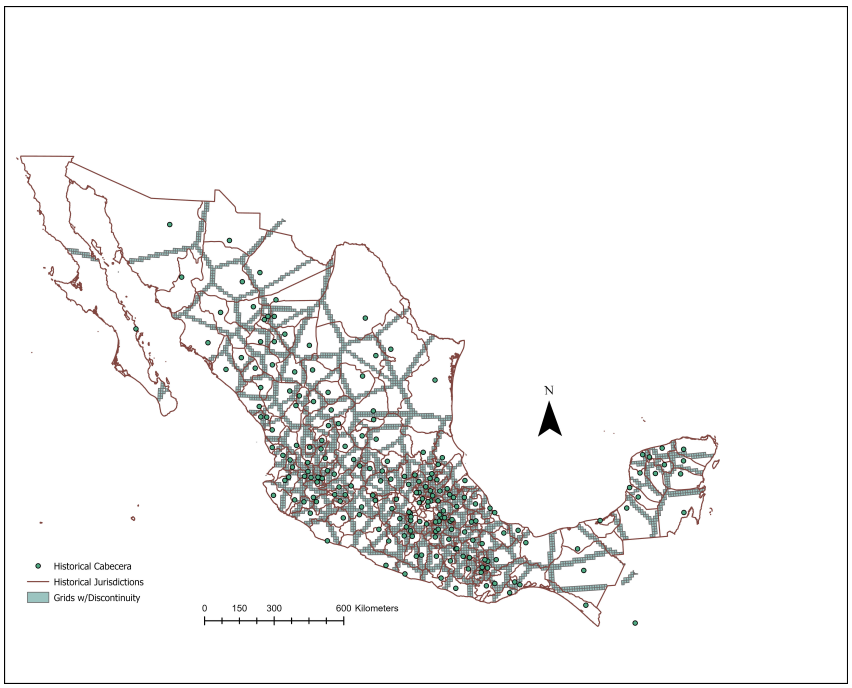


Jurisdictional"havens" defined by distance using the set of 2010 localities (purple circle). Colonial headquarters marked as red circles and the area of overlap area is shared red. Missions excluded for clarity. Grid-cell size: 0.1 X 0.1 decimal degrees or around 11 X 11 kilometers.

The second type of haven (haven type 2), is the one driven by the natural discontinuity in their distance to the headquarters of the nearest royal official (or θ^* in the model). Namely, grid-cells equidistant to two or more officials, such that moving in any direction presumably increases (reduces) the distance and increases (reduces) enforcement costs for one or more of them, or where $c_A(\theta^*) = c_B(\theta^*)$.[19] These natural breaks potentially serve as a focal point for cooperation between rulers and where to demarcate their domains, namely, set borders.

[19] In terms of the Acharya and Lee (2018) model, this would be the geographical representation of l^* in Figure 1 (p.957).

Figure 5: **Grid-Cells with Natural Breaks in Distance to Royal Headquarters.**



Source: own construction. Red: historical colonial jurisdictions. Green circles - Royal headquarters. Green grid-cells, areas equidistant to two or more royal headquarters in colonial times. Grid-cell size: 0.1 X 0.1 decimal degrees or around 11 X 11 kilometers.

Figure A.4 depicts the set of grid-cells that would serve as havens of this type. As noted, these havens are located at different distances from headquarters – depending on the spatial distribution of 18th century headquarters – that is, not based on a specific cutoff. For the purposes of this paper, these grid-cells could be areas with greater prerogatives absent cooperation, as competition may be strongest there. However, they are also where subnational borders may naturally be located when cooperation emerges.

In sum, we would expect that, *all else equal*, there is evidence of greater prerogatives and autonomy towards indigenous groups in areas with overlapping jurisdictions between two or more rulers religious and civil (haven 1), or only among royal officials (haven 2).

Data Description

Our analysis centers on the effects of havens (types 1 and 2) on historical and contemporaneous markers of indigenous presence as well as to the location of sub national borders.

Below we describe the main data used, which we match to our grid-cell framework above. Additional variables are described in their corresponding section.

Jurisdictional Havens. Our main independent variable is the presence of overlapping jurisdictions in colonial times. To identify these havens we start with pinpointing the location of district capitals (cabeceras) that existed in place from 1700 until the end of the colonial era (1821) from Gerhard (1972), Gerhard (1982), and Gerhard (1993).[20] In addition to royal headquarters, we also have data on the foundational date, duration and location of religious missions from Waldinger (2017b). Due to the outsize importance of Mexico City, we exclude grid-cells 40 kilometers around the city.

Indigenous *pueblos*. In addition to royal capitals, we also identify the indigenous *pueblos* they had jurisdiction over. Indigenous *pueblos* were a special administrative category, with fiscal obligations, legal standing and political autonomy (see Figure 1). This information comes from the *Illustrated Atlas of Indian Villages of New Spain in 1800* (Estrada et al., 2005) which we complement with data from **?**. We also complement this dataset with 842 towns that can be traced to the *Suma de Visitas* of 1548, an early colonial population count (Cook and Simpson, 1948; Cook and Borah, 1971), preceding the establishment of historical districts (*corregimientos* and *alcaldias mayores*).

Language Use. To measure contemporary indigenous language use, we rely on the 2010 population census which contains comprehensive information at the locality level (below that of current municipality). Specifically, we focus on the current share of population (5 years old and above) that speak an indigenous language (INEGI, 2010). We also use the share of population in a household where the head (or its spouse) speaks an indigenous language. Alternative measures of indigenous identity such as self-ID can be sensitive to socioeconomic conditions and political context.[21]

Communal Land. A different measure of the presence of former indigenous *pueblos* is the number and size of plots under the figure of *comunidades* – communal land with

[20] In 1786 an administrative reform created an additional government layer (Intendencias) which meant some *cabeceras* would be promoted (and others demoted), but in no case did a new *cabecera* emerged that was not previously one.

[21] See Moreno Morales (2019) for the case of Bolivia.

ancestral claims – which we obtain from the Archivo Historico de Localidades (AHL) from 1930 (when they become legally recognized) until today, which we complement with 2019 data from Watch (2019). We focus primarily on *comunidades* (and not *ejidos*) as only the former was exclusive granted on the basis of ancestral land claims.

Inter-ruler Competition. To understand the role of jurisdictional overlap and its ensuing competition in colonial times, we use two proxies. The first is the number and type of judicial claims these communities submitted to the Indian Court to resist threats to their livelihood, generally due to land encroachment. This data comes from the Colonial Courts Dataset (Franco-Vivanco, 2021). The second is a proxy for the monetary value of the jurisdiction for colonial authorities based on the price and number of times the district was sold by the Crown between 1670 and 1750 from Guardado (2018, 2025); Pietschmann (Pietschmann). Together, the data on judicial claims and economic value help identify areas where pueblos perceived some legitimacy (and possibility) in succeeding in their efforts to resist encroachment as well as how colonial officials perceived these districts.

Administrative Status. To trace the rate of change in administrative categories of localities over time, we use historical decadal census data between 1900 and 1990. Thus allowing us to account for the role of attrition when analyzing localities, as administrative units could disappear and (or) merge over time. It also allow us to define samples where we include only longstanding indigenous pueblos or only "new" localities, for example.

Other Controls. Additional controls include elevation, latitude and longitude, available from INEGI. Other geographic characteristics such as humidity, precipitation, temperate zones, presence of rivers, distance to archaeological ruins, distance to the coast, and ruggedness, also comes from INEGI. Table **??** in the appendix provides summary statistics of these variables and others.

Estimation

The main claim is that, *all else equal*, rulers enjoy lower "profits" and subjects greater prerogatives in havens vis-a-vis locations otherwise similar. In addition, we should observe

that the subsequent definition of borders is endogenous to the spatial distribution of authorities.

Based on this setup, a straightforward way to test this claim would be to compare the linear differences in grid-cells that fall within one of our definitions of "havens" vis-a-vis those that do not.

$$y_{g,z} = \alpha_z + \beta HavenType_{g_{1,2},z} + \boldsymbol{X}_{g,z} + \epsilon_{g,z} \tag{1}$$

Where $y_{g,z}$ represents our outcome of interest in grid-cell g. The main independent variable is $Havens_{g_{1,2},z}$, which will generally be a dichotomous variable capturing grid-cells that fall under our first or second definition of haven. We always include a fixed effect α_z for zones of 1000 square kilometers to account for characteristics common to nearby grids and cluster our standard errors at the level of these zones as error terms could be arbitrarily correlated among them. We also exclude from the analysis the metropolitan area around Mexico City as well as grid-cells that contain the rulers – either the one where regional headquarters were located or that of missions – as these could have been chosen for reasons that could have facilitated indigenous presence. Finally, all specifications include important geographic controls: altitude, latitude, longitude, and grid-cell area represented by $\boldsymbol{X}_{g,z}$.[22]

The main identification assumption is that haven grid-cells are sufficiently similar on an array of potentially confounding factors – other than their haven status – that their differences are uncorrelated with the error term. This is plausible given the approximately 200 zones fixed effects accounts for traits common to a group of cells – surrounding environment, latent likelihood of assimilation, economic activity or skills, ethnic affiliation, or certain conquests and coercion strategies, to name a few – such that alternative explanations should be based on factors that vary within the zone. In fact, Tables **??**, **??** and **??** in the Appendix show that across our different definitions of havens, these observable geographic differences are not be a driver of our results.

A second, and related possibility, is that the selected locations for royal headquarters

[22]Due to the uneven nature of the territory some grid-cells are less than 0.1 by 0.1 decimal degrees.

and (or) missions are due to characteristics which in turn influenced indigenous presence in its surrounding area. For example, it is possible that royal headquarters were explicitly designed to be farther (closer) from historical indigenous settlements such that what we observe today is simply a reflection of this initial choice (and not inter-jurisdictional competition). As will be addressed in the robustness section, we use the fact that some headquarters changed locations (or not) to address this concern. Similarly, we show that the effect on indigenous presence is not present if there is no jurisdictional overlap, that is, if there are only royal officials or only missions.

Havens and the Geography of Indigenous Identity

Table 3 presents the results of estimating Equation 1 using 0.1 by 0.1 decimal degrees as the unit of analysis. We examine the difference in the presence or the number of pueblos existing in 1549 and those existing in 1800. Namely, whether the grid has new *pueblos* founded after 1549 according to two different sources (cols. 1, 2), as well as the total difference in the number of pueblos (cols. 3, 4) and finally, indigenous population counts in column (5), which simply corroborates the fact that more pueblos translate into more people.

As shown in the first row, holding constant elevation, latitude, longitude and the 31 kilometer by 31 kilometer fixed effect, grid-cells with jurisdictional overlap due to missions and royal headquarters exhibit on average 0.057 more pueblos that did not exist in 1549. In other words, havens saw a disproportionate number of new pueblos founded. In terms of magnitude, the coefficient implies an increase in the number of grids with a *pueblo* of roughly 99% of the mean. The effect is similar in magnitude whether we examine the presence of any pueblo or the total number per grid cell. It is also similar, but of slightly smaller magnitude once we expand our definition of overlap and count as havens those grid-cells within 60 kilometers of a mission and a royal headquarter. Finally, in terms of population, havens with 30 and 60 kilometer overlap see on average 45 and 18 more individuals paying head taxes respectively.

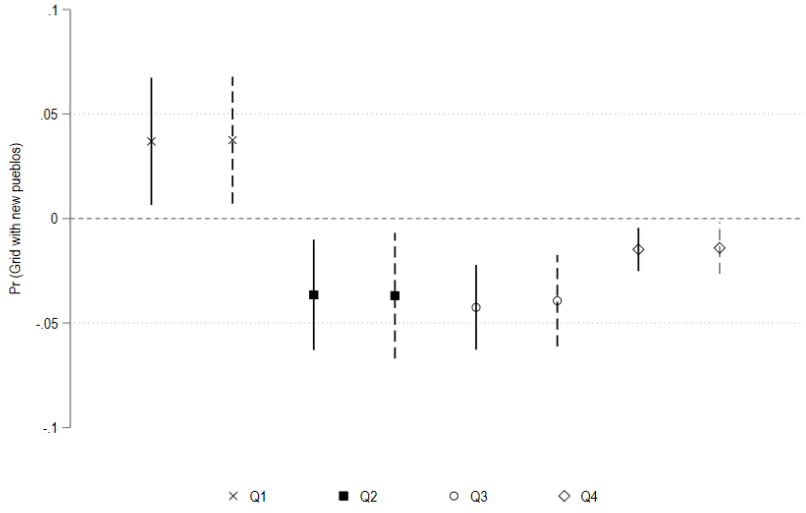
Table 1: **"Havens" and *Pueblo* Presence in 1800: Grid-Cell Analysis**

DV:	(1) Any New Pueblo 1549-1800	(2) Any New Pueblo 1549-1800	(3) Total New Pueblos (Tanck)	(4) Total New Pueblos (Stangl)	(5) Pop 1800 (Tanck)
Haven Type 1	0.057***	0.056***	0.101***	0.100***	44.946***
(30k overlap)	(0.011)	(0.012)	(0.023)	(0.024)	(15.077)
Observations	16,353	16,353	16,353	16,353	16,013
R-squared	0.221	0.208	0.281	0.270	0.188
Clusters	214	214	214	214	214
Mean DV	0.0588	0.0678	0.0969	0.109	38.81
Haven Type 2	0.039***	0.044***	0.064***	0.072***	18.155**
(60k overlap)	(0.007)	(0.008)	(0.016)	(0.016)	(7.394)
Observations	16,353	16,353	16,353	16,353	16,013
R-squared	0.219	0.208	0.280	0.269	0.186
Clusters	214	214	214	214	214
Mean DV	0.0588	0.0678	0.0969	0.109	38.81
Natural Discontinuities	-0.010*	-0.006	-0.002	-0.000	4.608
(θ^*)	(0.006)	(0.006)	(0.010)	(0.010)	(6.570)
Observations	16,353	16,353	16,353	16,353	16,013
R-squared	0.216	0.204	0.277	0.267	0.186
Clusters	214	214	214	214	214
Mean DV	0.0588	0.0678	0.0969	0.109	38.81

Robust standard errors clustered at the 31km by 31km zone in parentheses. All specifications include a 31km by 31km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

In contrast, we find no average effect for our third measure of jurisdictional haven – based on where the distance to the nearest royal headquarters changes, therefore capturing discontinuities in enforcement / governing costs. One possibility is that this result is simply capturing areas where government enforcement or tax-collection could not plausibly reach at the time given the existing technology in 1800. Therefore, in Figure **??** we explore whether the average is masking substantial heterogeneity with respect to where these discontinuities arise. Indeed, we find that the results are positive and statistically different from zero for havens located in the first quartile of the distance distribution (Q1). Namely, the set of grids where the discontinuity lies within 20 kilometers or less from the royal headquarters. After that distance, the effect declines, leading to the overall zero coefficient shown above (Q2, Q3 and Q4). As shown in Figure **??**, there are two coefficients for each distance to account for our two data sources: solid (Tanck), dash (Stangl).

Figure 6: **Distance Heterogeneity in Natural Discontinuities (θ^*): Grid-Cell Analysis.**



Coefficient and 95% CI of Equation 1 at the grid-cell level. Samples: natural discontinuities in distance to nearest royal headquarters by quartiles. All estimates include geographic controls and area fixed effects.

In all, at the eve of Independence, new indigenous pueblos were much more likely to be located in havens than otherwise. This result is not based on comparing widely different areas of Mexico, such as highly densely populated areas versus others, as these are based on differences *within* small areas of around 1000 sq kilometers[23]. We also exclude the grids that contained missions or royal headquarters as they also exhibit other features that may attract (repel) indigenous settlements and instead focus on the surrounding grids.

This result is consistent with indigenous communities seeking to improve their standing or ensure their survival. Indeed, historical documentation in the General Indian Court (*Tribunal General de Indios*)[24] illustrates how the frequency of internal migration and its consequences preoccupied local officials at the time. Court orders on the need to repopulate certain areas; prevent depopulation; and (or) manage the relocation of entire *pueblos*

[23]An area of 3 by 3 grid-cells, or 31 by 31 kilometers approximately.

[24]For more details on this institution see Franco-Vivanco (2021)

show how these were a commonplace phenomenon at the time. For example, in 1702 the Court ordered local officials to inspect the area where the communities currently located in the Desierto del Perote wanted to relocate within the jurisdiction. Similar inspections were ordered to identify the communities residing in a hilly area around Panuco and the possibility or convenience of populating them further. Thus suggesting that mobility was not only possible, but used as a way to improve indigenous living conditions.

The question is, to what extent do these advantages in colonial times shape the subsequent geography of indigenous identity after independence?

Administrative Persistence. While this initial locational choice might have been advantageous to indigenous *pueblos* in colonial times, it clearly stopped being so after Independence in 1821 when royal officials and missions disappear, sometimes abruptly[25]. Moreover, the fifty years after independence (up to the 1870s) were characterized by a high degree of civil conflict, administrative and regime turmoil, lack of recognition of communal land arrangements and extensive land-grabbing which clearly upended these colonial havens.

Yet, Table 2 instead shows that despite the turbulence of the period, former haven-grids with *pueblos* in 1800 continued to disproportionately harbor *pueblos* in 1900. Thus suggesting that the high degree of unrest at the time might have not dislodged local level patterns, with cities, villages and *pueblos* instead exhibit high degree of continuity (see Guardado (2025)).

Specifically, column 1 and 4 of Table 2 shows that grid-cells located 30 kilometers from both missions and royal headquarters in 1800 were disproportionately likely to host a *pueblo* a century later (1900) if they had done so in 1800. The same effect is visible for 60 kilometer overlapping domains (columns 2 and 5), although not statistically significant for our second measure of pueblos (Stangl). Finally, again, natural discontinuities do not

[25]In fact, by 1770 Jesuit missions had already been expelled from all Spanish American territories

exhibit an average effect but a weak positive one for the first quartile of distance.[26] This effect is not driven by restricting the sample to grids with *pueblos* in the past, as the pattern is the same in the whole sample (Table A.6 in the Appendix). Further tests in Table A.7 of the Appendix shows that the rate of survival of settlements throughout the 20th century – measured as the number of census-periods in which the same locality is continuously present – is much higher in havens than otherwise. On average, localities in havens last around 2.7 years more than localities in non-havens. Whereby lasting means they do not merge into a separate administrative units nor disappear. We also do not find a disproportionate number of administrative status changes. As shown in Figure A.1 of the Appendix, it is not until the 1990s – with the explosion in the number of localities along with decentralization efforts in Mexico – that this persistence tends to reduce. Thus overall consistent with the results of Table 2.

Table 2: **"Havens" and *Pueblo* Continuity in 1900: Grid-Cell Analysis**

	(1)	(2)	(3)	(4)	(5)	(6)
DV: Pueblo in 1900?		Tanck			Stangl	
Haven Type 1 (30k overlap)	0.092***			0.080***		
	(0.028)			(0.026)		
Haven Type 2 (60k overlap)		0.066**			0.047	
		(0.033)			(0.035)	
Natural Discontinuities (θ^*)			-0.013			-0.016
			(0.029)			(0.026)
Observations	1,117	1,117	1,117	1,251	1,251	1,251
R-squared	0.269	0.263	0.261	0.316	0.312	0.311
Clusters	93	93	93	113	113	113
Mean DV	0.771	0.771	0.771	0.710	0.710	0.710

Robust standard errors clustered at the 10km by 10km zone in parentheses. All specifications include a 10km by 10km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Indigenous Presence in the Twentieth Century. While the above suggest that the administrative figure of the *pueblo* remained – this is not necessarily a reflection of indigenous identity: administrative *pueblos* can be inhabited by non-indigenous popu-

[26] Results available upon request.

lations too. Yet, evidence from the process of land reforms in Mexico launched in the 1930s shows that havens hosted a disproportionate share of land granted to communities who had ancestral (colonial) claims to it. These reforms were adopted as a way to meet the demands for land that have fueled the Mexican Revolution (1910-1920) but that also helped co-opting these communities for the goals of the new autocratic regime.

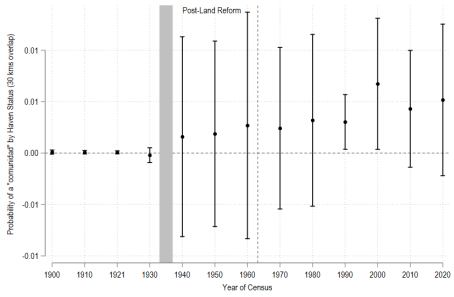
We argue that these *comunidades* – land grants explicitly based on ancestral claims to *pueblo* status in colonial times – were both a reflection of the continuity of this marker of indigenous identity in havens but also a mechanism that continue to tie them to certain areas throughout the 20th century. By law, collective lands granted under the figure of *comunidad* could not be held individually, sold or used as a collateral. This type of arrangement would only end with the reform of 1992, and even then they would need the approval of the whole communal assembly to change their status (Morett-Sánchez and Cosío-Ruiz, 2017). These restrictions meant that *comunidades* would have lasting locational effects for its inhabitants – individuals with ancestral claims to it.[27]

Indeed, as shown in Figure 7, after the enactment of land reforms in the 1930s, we find a higher number of localities constituted in *comunidades* in jurisdictional havens vis-a-vis others. As shown, in all census-years the coefficient is positive, particularly for havens with 60 kms overlap, although not always significant (confidence intervals contain zero as the sample size in each census changes). Interestingly, the likelihood of comunidades in havens has increased in magnitude and precision over time, consistent with comunidades in non-havens disappearing while those in havens remaining. On average, the effect across the 20th century (all census years) is 0.003 (s.e. 0.002) for havens with a 30 kilometer overlap and 0.003 (s.e. 0.001) for havens with a 60 kilometer overlap, as shown in Table A.8 in the Appendix, and outright negative for ejidos. Given the sample mean is 0.003 (i.e. *comunidades* are not that common), the coefficient represents around 90% of the sample mean, a sizable effect in magnitude. Importantly, this effect will continue until today, as seen in the next table 3 when using current plot data from a different source.

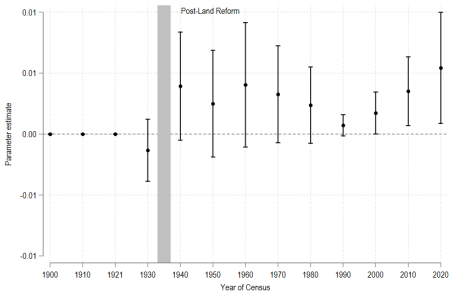
[27]Thus contrasting with *ejidos*, also held collectively but not based on ancestral claims and which could allow for the individual titles and sales, particularly after 1992.

Figure 7: **Presence of Communal Land (*Comunidades*) Throughout the 20th Century**

(a) Haven Type 1



(b) Haven Type 2



95 % CI and estimates of the effect of "havens" and the probability of a *comunidad* in a given grid-cell by decade.

In contrast, we find no average effect for *ejidos*, the other type (and much more common form) of collective land grant, but which is not based on ancestral claims. Specifically, Figure A.2 in the Appendix shows that on average the coefficient is small, imprecise and in some years outright negative. Although in more recent years, havens become slightly more likely to host *ejidos* as well – as all collective land grants elsewhere slowly disappear – this effect is small compared to the one it has on *comunidades*.

Indigenous Identity Today. Consistent with the findings from administrative data of *pueblos* and *comunidades*, Table 3 shows the results for language use in 2010 as well as that of *comunidad* plots in the year 2019. In general, former havens of 30 or 60 kilometers from colonial authorities, are more likely to host land grants on the basis of ancestral claims (cols. 4 and 5) as well as a greater share of population speaking an indigenous language (cols. 1 and 2), although this is only statistically significant for former havens with 60 kilometer overlap between authorities. Finally, natural discontinuities in distance to the nearest authority do not show a systematic effect for indigenous identity.

Table 3: **"Havens" and Markers of Indigenous Identity: Language Use (2010) and Communal Land (2019)**

	(1)	(2)	(3)	(4)	(5)	(6)
DV:	% Indigenous Language			*Comunidad* Land Grants		
Haven Type 1 (30k overlap)	0.019			0.041**		
	(0.016)			(0.018)		
Haven Type 2 (60k overlap)		0.034**			0.037**	
		(0.017)			(0.016)	
Natural Discontinuities (θ^*)			0.004			0.018
			(0.006)			(0.015)
Observations	148,208	148,208	148,208	16,353	16,353	16,353
R-squared	0.342	0.344	0.342	0.163	0.163	0.162
Clusters	213	213	213	214	214	214
Mean DV	0.0783	0.0783	0.0783	0.0746	0.0746	0.0746

Robust standard errors clustered at the 10km by 10km zone in parentheses. All specifications include a 10km by 10km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

In all, the results from Table 3 provide evidence of the locational persistence of indigenous identity in havens from the 19th century to the 21st. Albeit language use today is not differentially higher in havens closer to former missions and royal headquarters – likely due to urbanization and the growth of cities – it is still significantly higher within the 60 kilometers domain. Moreover, the presence of *comunidades* is still significantly more likely in areas where either of these havens stood in colonial times.

Economic havens? A follow up question is whether these havens also lead to persistent differences in economic outcomes. In theory, the type of prerogatives havens granted could be primarily economic in nature, for example, a lower fiscal burden. If these lower extraction levels facilitated greater asset accumulation over time, these havens could also be *relatively* more prosperous than others. Yet, Table A.9 in the Appendix shows that while this might have been the case in colonial times, it did not lead to visible differences in household assets, access to public goods, and adult illiteracy, for example. However, alongside the results for indigenous markers shown above, the only somewhat strong result is a higher share of Catholics in the 60 kilometer radius and a slightly smaller share of migrants (consistent with closed-knit societies). These results imply that while today economic conditions have been largely equalized across havens and non-havens, cultural

traits associated with indigenous identity and Catholic affiliation has not.

Attrition. The main advantage of the grid-cell design is that it fixes units over time – grid-cells – such that the disproportionate presence of markers of indigenous identity in some grids versus others is not due to changes in the unit itself. However, this is not the case when examining localities *within* the grid, which have changed throughout the 20th century. Thus raising the possibility that the language result to be more likely in haven-grids, but not necessarily due to longstanding localities but newer ones.[28] While this does not question our results, it does provide more nuance to potential population movements within the grid.

To examine this possibility, in figure A.3 we show that our language results using 2010 localities are present even if we restrict the sample to those existing from 1930 onwards. The language differences do not seem to appear in the sample of localities present since 1900, 1910 or 1921. As shown in both panels of figure A.3, the language use differences that we observe today only appear after the 1930-1940 census, but not when limiting our sample to the localities already in place in 1900, 1910 or 1921. The implication being that most of the effect we observe today is driven by localities already in place by 1930 and not by newly created localities. In fact, the explosion in the number of localities since 1980s have not dislodged earlier patterns.[29].

Continuous Distance. Our baseline estimates are based on dichotomous measures of havens, which ease their interpretation. However, this variable takes the same value whether the cell is 50 or 5[30] kilometers away from either authority. To further examine whether the result is driven by places located the furthest (closest) from missions or royal headquarters within the grid, in Table A.10 in the Appendix we include in our baseline results (Table 3) an interaction of our haven indicator with that grid's linear distance to

[28] The result based on land grants is less likely to this type of attrition given we can trace them since their inception in the 1930s.

[29] Moreover, it is still possible these existed earlier, as researchers have cautioned against the use of population and locality data for census before 1930 (Wilson, 2025)p.13

[30] Albeit most grid-cells are 11 by 11 kilometers, some are smaller due to the shape of Mexico's territory (not a square), making it possible for the distance between centroids to be less than 11 kilometers, particularly along the coast.

royal headquarters as well as to that of missions.[31] Thus providing more nuance to our results. As shown for historical *pueblos*, for all types of havens, the results are driven by grids closer to both missions and headquarters, and not by those farthest, as the coefficient on distance is always negative.

In terms of contemporary patterns of indigenous language use and *comunidad* land grants shown in Table **??**, we find that indigenous language use and comunidad land grants is stronger in havens, but with some nuances for each case. First, for grids within 30 kilometers of both missions and royal headquarters, indigenous language use is greater among localities in grids slightly farther (but within 30 kilometers) of royal headquarters, while there is no difference for mission distance. Yet, *comunidad* land grants are more likely for grids closer to former missions. For grids within 60 kilometers of both rulers in colonial times, it is the closeness to missions what is driving the effect on language, while that of royal headquarters have little impact. Similarly, for *comunidad* land grants, these are again more likely if closer to former missions. Finally, for natural discontinuities in distance to the nearest royal headquarter, these have the largest effect if closer to a royal headquarter, a result consistent with those shown in figure 6.

Addressing Selection So far, our estimates assume that where these havens were located in colonial times is not directly or indirectly related to factors favoring the establishment and persistence of indigenous *pueblos*. While evidence from observable characteristics such as altitude, humidity, precipitation, rivers among many others suggest these are not significantly different between havens and non-havens, below we conduct three exercises to further shown that it is not *where* these headquarters / missions are located but rather the competition they created what shaped the geography of indigenous presence at the time (and therefore today).

The first test is to exploit the fact that being in the 30 or 60 kilometer domain of a single ruler – either a mission or royal officials – does *not* have the same effect on indigenous identity over time as when competition is present due to the presence of more than one authority. As shown in Table A.12, being *within* the domain of a single authority,

[31] We also always control for the additive effect of distance to missions and to headquarters.

either missions or royal officials does not have similar lasting impacts as elsewhere. In terms of our framework, this result would be consistent with these authorities being able to charge "monopoly prices" and grant fewer prerogatives in terms of political autonomy or a lower fiscal burden, than otherwise.

While the effect above is consistent with our argument, it still could be that areas with two or more rulers are "different" in (un)observable ways than where they are present. Therefore, in a second exercise, we then test whether havens created by changes in royal headquarters prior to 1700 has an effect on indigenous identity rather than the one it had from 1700 onward. The logic of this exercise is to show that the initial drivers of selection of headquarters are not necessarily predictive of a long-term impact. As shown in Table A.13, these short-lived havens exhibit a coefficient around five times smaller for overlapping domains within 30 kilometers and are outright negative (but not significant) for those within 60 kilometers. In all, these findings are in-line with the presence of these authorities having an effect only when they had a lasting presence and not due to the factors driving their establishment in the first place.

Finally, as a third exercise, we compare localities within the same grid where one happens to fall just inside (or outside) the 30 or 60 kilometer overlapping jurisdiction of two or more authorities. This is akin to studying changes in the intensive margin of "havens" among otherwise very similar locations . This is a stringent test of the role of havens for two reasons.

First, most of the variation comes from grids where there are localities that are just within the haven and those outside it ("border cells"), reducing the set of relevant observations and increasing standard errors.[32] Namely, this comparison is excluding variation in cells that are either completely in the haven versus those that completely out and focuses on those with shared memberships. An example is shown in Figure A.4 in the Appendix, whereby "pink" dots document current localities within the domain of a haven, while those in purple are just outside it. The estimated effect will come from differences

[32]For example, 69.5% of our localities (around 130,000) fall completely outside of the 30k overlapping domain of missions and royal headquarters, while 15% are fully in overlapping areas. This exercise therefore focuses on the remaining 15.5% of cells with localities on both sides.

between these neighboring set of localities.

The second feature of this exercise is that many observable and unobservable traits are held constant *within* the grid (there are 18,000 for the whole territory of Mexico) such that any driver of indigenous presence – that is not the haven status itself – needs to vary *within* that grid as well. The identifying assumption is that conditional on begin within the same cell, the difference in the degree of overlap is plausibly exogenous to the traits themselves.

As shown in columns (1) and (2) of Table 4, *on average*, there are no significant differences in indigenous language use for localities *within* the same grid whereby one is marginally closer to jurisdictional conflict or not. It is only among longstanding localities (columns 3 and 4), namely those which were former pueblos, where we see significant differences arising from their closeness or not to this jurisdictional conflict. In fact, when only looking at localities created post 1900 (columns 5 and 6), it is clear that these are the ones driving the average estimate to zero. This result not only shows that meaningful differences can arise even among very similar observations due to their exposure to conflicting authorities. These results are also consistent with results from Figure A.3, whereby longstanding localities are the main drivers of the effect.

Table 4: **"Havens" and Indigenous Markers: *Within*-Grid Variation**

	(1)	(2)	(3)	(4)	(5)	(6)
	All Localities		Former Pueblos		New Localities	
DV: % Indigenous	Language	HH Members	Language	HH Members	Language	HH Members
Haven Type 1	0.011	0.016	0.022*	0.035**	0.009	0.013
(30k overlap)	(0.010)	(0.012)	(0.013)	(0.016)	(0.010)	(0.012)
Observations	65,387	65,387	6,805	6,805	57,597	57,597
R-squared	0.664	0.655	0.796	0.817	0.663	0.652
Clusters	212	212	144	144	212	212
Mean DV	0.0893	0.117	0.0677	0.0969	0.0918	0.119
Haven Type 2	0.011	0.016	0.022*	0.035**	0.009	0.013
(60k overlap)	(0.010)	(0.012)	(0.013)	(0.016)	(0.010)	(0.012)
Observations	65,387	65,387	6,805	6,805	57,597	57,597
R-squared	0.664	0.655	0.796	0.817	0.663	0.652
Clusters	212	212	144	144	212	212
Mean DV	0.0893	0.117	0.0677	0.0969	0.0918	0.119

Double clustered Robust Standard Errors, at the 10km by 10km zone as well as at the grid-cell in parentheses. All specifications include an individual grid-cell fixed effect. Geographic controls: altitude, latitude, longitude, and population. *** p<0.01, ** p<0.05, * p<0.1

Finally, in-line with the results obtained at the grid-cell level, we show that there are no significant socioeconomic differences for localities within the grid in Table A.14. For example, there are no more (less) share of households without utilities or assets depending on their proximity to colonial jurisdictional conflict. However, we do observe a higher share of population with more schooling – a result found in other studies (Waldinger, 2017a; Valencia Caicedo, 2019). Yet, key for our paper is these patterns are driven by "newer" localities and not by the ones where this paper finds significantly higher levels of indigenous language use. We also show no socioeconomic differences for localities within the grids 30k from colonial headquarters and formers missions.[33]

In all, it appears that "haven" grid-cells are particularly suited for the preservation of certain markers of indigenous identity such as language and communal land tenure. Visible since at least 1800, "havens" have seen more pueblos that have lasted, a disproportionate share of *comunidad* land grants, and greater use of indigenous languages. But, are these locational advantages really reflecting jurisdictional competition among author-

[33]Results available upon request.

ities in colonial times or are they instead capturing other mechanisms such as access to roads?

Mechanisms

If jurisdictional *competition* in colonial times facilitated the presence of different markers of indigenous presence which then lasted until today, this should be evident in other behaviors and indicators at the time. The challenge is that unlike electoral competition, no single measure can fully capture it. Instead, we rely on three measures of actions and behaviors indigenous populations took that reflect different incentives and opportunities in havens versus outside them.

Indigenous Judicial Claims. The first is the the number and the type of judicial lawsuits filed by indigenous *pueblos* to protect and advance theirs interests vis-a-vis royal officials, landowners, and other colonial actors. Differences in the prevalence of certain *types* of claims versus others can illuminate the specific type of challenges they face.[34] One constraint of this data is that it is only available at the historical district level (see Map 2), therefore we instead use as main measure the share of the territory of these districts classified as haven of either types.

As shown in Column 1 of Table 5, the most consistent pattern is the significantly larger share of claims submitted by indigenous *pueblos* pertaining land or territorial claims in districts with more area covered by havens versus not. Namely, claims contesting the territorial limits between indigenous towns as well as between the latter and other private actors (i.e., haciendas) (Franco-Vivanco, 2021)p.726-727. We also observe a somewhat disproportionate number of cases related to "taxes", mainly conflicts about the right amount of exaction to be collected. While one interpretation is that these are simply markers of rampant extraction in havens, cases need a legal basis to be contested in the first place. We argue that jurisdictional overlap and the presence of multiple authorities with competing claims made them easier to file in the first place. This is also consistent

[34]We focus on type and not on number to show that this is not driven by the initial decision to file a lawsuit or not.

with our finding in column 2, where the likelihood of abuses of power – generally defined – are consistently negative and statistically significant for our second measure of haven. If this were pure extraction, we would expect abuses and land or tax claims to go hand in hand. Instead, the pattern is more in line with having greater prerogatives – such as the absence of abuse – and potentially empowerment to contest their rights to land and fair[35] taxation. Finally, we do not observe a substantially different share of claims involving *alcaldes* or *corregidores*.

Table 5: **"Havens" and Type of Judicial Claims (1700-1821)**

DV: % of Claims...	(1) Lands	(2) Abuses	(3) Taxes	(4) *Alcalde*	(5) *Corregidor*
% District Haven Type 1	0.166***	-0.111	0.205**	0.012	-0.008
(30k overlap)	(0.061)	(0.070)	(0.089)	(0.186)	(0.006)
Observations	9,307	9,307	9,307	9,307	9,307
R-squared	0.182	0.107	0.204	0.198	0.153
Clusters	144	144	144	144	144
Mean DV	0.126	0.0350	0.0925	0.213	0.00353
% District Haven Type 2	0.128**	-0.092**	0.119	0.028	-0.001
(60k overlap)	(0.058)	(0.046)	(0.086)	(0.177)	(0.003)
Observations	9,307	9,307	9,307	9,307	9,307
R-squared	0.187	0.120	0.191	0.198	0.151
Clusters	144	144	144	144	144
Mean DV	0.126	0.0350	0.0925	0.213	0.00353
% District w/ Natural Discontinuities	0.246**	-0.053	0.037	0.091	-0.013
(θ^*)	(0.108)	(0.053)	(0.108)	(0.171)	(0.014)
Observations	9,307	9,307	9,307	9,307	9,307
R-squared	0.188	0.076	0.166	0.199	0.154
Clusters	144	144	144	144	144
Mean DV	0.126	0.0350	0.0925	0.213	0.00353

Robust standard errors clustered at historical municipio level in parentheses. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Competition and Economic Value. In addition to judicial lawsuits, we use the same approach (% historical district under different haven measures) to show the extent to which jurisdictional competition shape the value colonial officials assign to different positions. As shown in previous work (Guardado, 2018, 2025), these measures reflect

[35] As given by existing laws.

the returns colonial officials expect to obtain from their rule in the Americas; they also correlate with measures of uprisings and indigenous displacement. If jurisdictional competition meaningfully constrains actors, then we would expect areas with greater overlap to be systematically less valued.

The first data source is a 18th century anonymous rankings of different jurisdictions in terms of their profitability to local authorities (Anonymous, 1777). This ranking comes from the 1770s description of each colonial jurisdiction, delving into the reasons why certain jurisdictions are more valuable than others, generally related to the presence of cochineal, wheat production, or textiles – all indigenous produce. One constraint with this data is that not all districts were ranked, as many smaller and unimportant ones were left. This missingness, however, works against finding out any significant differences between those that were coded.[36]

The second source is the demand for offices in the 18th century as measured by the frequency a position was sold by the Crown between 1680 and 1750. As documented elsewhere (Guardado, 2018, 2025), ruling positions in the Americas were systematically sold by Habsburg and Bourbon Kings alike, with negative governance consequences in the Americas. Key for this paper is the fact that the demand for positions varies depending on the possibility to profit from them. If competition lowered the gains from office, this would lead to dampened demand for certain places versus others.

As shown in Table 6, districts with a greater share of its territory covered by havens have significantly lower ranking and a negative (but imprecise) effect on the likelihood of being sold. As shown in column 1, a hypothetical district 100% covered by havens loses around a full ranking point (on a 1-3 scale) compared to those with lower presence of havens. This a consistent result regardless of whether havens are measured by a 30k or 60k radii overlap, or whether it instead captures the presence of natural discontinuities in distance. Similarly, our results using our second measure of sales in columns 2, 4 and 6, are substantively consistent with the results from anonymous rankings, but more

[36]In fact, imputing a hypothetical value of 4 to excluded change little our results.

imprecisely estimated.[37] In all, these findings strongly suggest places with more havens were not considered highly lucrative in colonial times, consistent with their inability to charge "monopoly prices" as implied by the model.

Table 6: **"Havens" and Economic Value**

	(1)	(2)	(3)	(4)	(5)	(6)
% District Haven Type 1	-0.938**	-2.486				
(30k overlap)	(0.385)	(2.079)				
% District Haven Type 2			-1.189***	-2.384		
(60k overlap)			(0.297)	(1.839)		
% District w/ Natural Discontinuities					-1.291**	-0.650
(θ^*)					(0.512)	(3.195)
Observations	4,689	16,344	4,689	16,344	4,689	16,344
R-squared	0.491	0.235	0.554	0.241	0.497	0.231
Clusters	96	190	96	190	96	190
Mean DV	1.739	2.735	1.739	2.735	1.739	2.735

Robust standard errors clustered at the historical municipality in parentheses. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Natural Discontinuities (θ^*) and Borders. A different implication of the presence of the jurisdictional competition modeled in Acharya and Lee (2018), is that once rulers begin exhibiting longer time-horizons they would be more likely to cooperate as oppose to compete and agree to "divide" the market. Namely, they would start to delimit their markets using territorial borders to serve as monopolists within each. In terms of empirical implications, this would suggest that borders between rulers will precisely emerge where their enforcement costs start to increase.

Indeed, as shown in Table A.15 in the Appendix, we show that grid-cells equidistant from royal officials headquarters were much more likely to serve as borders after the administrative reform of *Intendencias* (1786) and later as inter-state borders as of 1900, well-after Independence. While it is beyond the scope of this paper to trace how the process of border formation was indeed a way to solve latent competition between officials (and limiting the prerogatives or subjects within), its empirical patterns are consistent with the presence of competition in these grid-cells.

[37] There is also loss of information in the sales data as it is not exploiting its temporal variation.

Conclusion

This paper studies the geographic distribution of indigenous presence in Mexico. Unlike explanations based on discrimination, displacement, poverty traps or pure isolationist preferences, we put forward the idea of "jurisdictional havens". Namely, areas that due to the presence of jurisdictional conflict (competition) between administrative and religious authorities, indigenous communities leveraged for their own survival. For example, by reducing the extent of economic appropriation and granting of greater political autonomy.

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Online Appendix For:

"Jurisdictional Havens: The Geography of Indigenous Identity in Mexico"

1 Acharya and Lee (2018) Non-Cooperative Equilibrium.

In the main text we describe the intuition behind "jurisdictional havens" – whereby inter-ruler competition due to overlapping domains – granted indigenous groups greater prerogatives vis-a-vis others. To formalize this intuition, we rely on the model of Acharya and Lee (2018) which show the emergence of territorial states as a way to gain monopoly rents from their subjects. Our argument is that it is precisely the absence of cooperation (or presence of competition) what led to greater indigenous autonomy in some locations than others.

Setup

Two rulers, A and B, are located at the endpoints 0 and 1 of the unit interval. A continuum of individuals –henceforth subjects – of unit mass is uniformly distributed on $\Theta = [0, 1]$, where each individual's location is denoted by $\theta \in [0, 1]$.

- Each ruler $i \in \{A, B\}$ offers governance (or collects taxes) at a price $p_i(\theta)$.
- Providing governance (or collecting taxes) from subjects θ costs $c_i(\theta)$ to ruler i.
- The value of governance to each subject is $v > 0$, which we can conceptualize as the value of remaining in their community (and not exiting).

Assume costs of each ruler at their own endpoint are lower that subjects' valuation of governance and the costs of the other ruler.

$$c_A(0) < v, \quad c_B(1) < v, \quad c_B(0) > c_A(0), \quad c_A(1) > c_B(1).$$

With these definitions, the markets of governance for rulers A and B area:

$$\theta_A = \sup\{\theta \leq 1 : c_A(\theta) < v\}, \quad \theta_B = \inf\{\theta \geq 0 : c_B(\theta) < v\}.$$

Whereby A's profitable market is $[0, \theta_A]$, and B's profitable market is $[\theta_B, 1]$.

Based on the above, there exists a unique threshold $\theta^* \in (0, 1)$ such that:

$$c_A(\theta^*) = c_B(\theta^*),$$

with $c_B(\theta) > c_A(\theta)$ for $\theta < \theta^*$ and $c_B(\theta) < c_A(\theta)$ for $\theta > \theta^*$.

Equilibrium in the Static Game

If markets do not overlap ($\theta_A < \theta_B$), each ruler earns monopoly profits over their own market:

$$p_A(\theta) = p_B(\theta) = v$$

If markets overlap ($\theta_B < \theta_A$),

$$p_A(\theta) = \min\{v, \max[c_A(\theta), c_B(\theta)]\},$$
$$p_B(\theta) = \min\{v, \max[c_A(\theta), c_B(\theta)]\}.$$

$\theta \in [0,1]$ **Overlapping markets**
0ℓ A lower cost B lower cost

Ruler A sells to $[0, \theta^*]$, ruler B to $[\theta^*, 1]$. Each ruler's profit shortfall relative to the joint monopoly is:

$$\Delta_A = \int_{\theta_B}^{\theta^*} [v - c_B(\theta)]\, d\theta,$$
$$\Delta_B = \int_{\theta^*}^{\theta_A} [v - c_A(\theta)]\, d\theta.$$

Proposition 2: Self-Enforcing Equilibrium

In an infinitely repeated game with a common discount factor $\delta \in (0,1)$, a cooperative equilibrium can emerge whereby each ruler monopolizes one side of θ^*. Examples of this type of cooperation are the emergence of territorial demarcations (borders), as a way to minimize competition and preserve monopoly rents. Yet, this is sustainable iff

$$\delta \geq \max\left\{\frac{\Delta_A}{\Delta_A + \Delta_B},\ \frac{\Delta_B}{\Delta_A + \Delta_B}\right\}.$$

The inequality is more easily satisfied when both rulers' gains from cooperation are similar, for example, the RHS is minimized at $1/2$ when $\Delta_A = \Delta_B$). However, cooperation is also more likely to be sustained when rulers are more patient. In contrast, if δ decreases, the self-enforcement inequality is harder to satisfy. Namely, if

$$\delta \ < \ \max\left\{\frac{\Delta_A}{\Delta_A + \Delta_B},\ \frac{\Delta_B}{\Delta_A + \Delta_B}\right\},$$

then at least one ruler finds deviation profitable, and the cooperative (cartel) equilibrium collapses. The more impatient ruler is the *binding* constraint: with heterogeneous discounting (δ_A, δ_B), cooperation requires

$$\delta_A \ \geq \ \frac{\Delta_A}{\Delta_A + \Delta_B} \quad \text{and} \quad \delta_B \ \geq \ \frac{\Delta_B}{\Delta_A + \Delta_B}.$$

If either inequality fails, cooperation cannot be sustained. In our context, the different time horizons of colonial officials meant that cooperation was harder to achieve and rulers had to provide greater prerogatives to some subjects vis-a-vis others.

2 Summary Statistics

Table A.1: Summary statistics (Grid-Cells)

Variable	Mean	Std. Dev.	Min.	Max.	N
Grid ID	9176.493	5300.288	1	18384	17972
Haven Type 1 (30k)	0.145	0.352	0	1	17972
Haven Type 2 (60k)	0.376	0.484	0	1	17972
Distance Discontinuities (θ^*)	0.221	0.415	0	1	17972
Any Pueblo (Tanck)	0.113	0.317	0	1	17972
Any Pueblo (Stangl)	0.128	0.334	0	1	17972
New (post-1549) Pueblos (Tanck)	0.094	0.292	0	1	17972
New (post-1549) Pueblos (Stangl)	0.109	0.312	0	1	17972
Total Pueblos Cell (Tanck)	0.233	0.858	0	22	17972
Total Pueblos Cell (Stangl)	0.2	0.764	0	20	17972
Total Pueblos Cell (1549)	0.022	0.171	0	4	17972
Any Pueblo (1549)	0.019	0.137	0	1	17972
Any Comunidad (centroid) in Cell	0.104	0.559	0	23	17972
Any Ejidos (centroid) in Cell	1.544	2.578	0	37	17972
Comunidad Area in Cell	0.332	1.082	0	35	17972
Ejido Area in Cell	4.04	4.602	0	51	17972
Distance Nearest HQ	95.229	113.266	0	937.842	17972
Distance HQ	118.444	135.927	0	938.083	17959
Distance Nearest Mission	37.12	42.071	0	735.75	17972
Distance Cabecera pre-1700	151.94	148.474	0	1205.168	11565
Any Mission	0.087	0.281	0	1	17972
Cabecera post-1700	0.01	0.101	0	1	17972
Longitude	-102.629	6.732	-118.358	-86.729	17972
Latitude	23.933	4.536	14.539	32.698	17972
Grid-cell area	0.009	0.002	0	0.01	17972
Elevation (meters)	989.711	822.953	-5	4344	17972
Humidity Rank	5.601	2.042	0	8	17972
Precipitation Rank	3.667	1.86	0	10	17972
Water Body in Cell	0.133	0.34	0	1	17972
Warm Temperature	0.384	0.486	0	1	17972
Semi-Warm Temperature	0.385	0.487	0	1	17972
Semi-Cold Temperature	0.003	0.052	0	1	17972
Cold Temperature	0.221	0.415	0	1	17972
River Presence	0.407	0.491	0	1	17972
Arquaeological Zone	0.007	0.082	0	1	17972

3 Balance Tables Across Samples

Table A.2: Geographic Differences Between Grid-Cells: Haven Type 1

	(1)	(2)	(3)	(4)	(5)
DV:	*Altitude*	*Humidity*	*Precipitation*	*WaterBody*	*WarmTemp*
$Haven_{30kms}$	0.029	-0.049	-0.059	-0.015	-0.003
	(0.030)	(0.052)	(0.042)	(0.014)	(0.016)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.815	0.839	0.888	0.181	0.697
Clusters	214	214	214	214	214
Mean DV	0.959	5.698	3.589	0.134	0.387
	SemiWarm	*SemiCold*	*Template*	*RiverPresence*	*ArchaeologicalZone*
$Haven_{30kms}$	-0.012	-0.001	0.015	0.006	0.000
	(0.015)	(0.001)	(0.014)	(0.017)	(0.002)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.615	0.293	0.708	0.194	0.036
Clusters	214	214	214	214	214
Mean DV	0.392	0.00294	0.210	0.386	0.00587

Robust standard errors clustered at the 100 X 100 Sq Km zone. All specifications include a 100 X 100 Sq Km fixed effects, latitude, longitude and grid-cell size. *** p<0.01, ** p<0.05, * p<0.1

Table A.3: Geographic Differences Between Grid-Cells: Haven Type 2

	(1)	(2)	(3)	(4)	(5)
DV:	*Altitude*	*Humidity*	*Precipitation*	*WaterBody*	*WarmTemp*
$Haven_{60kms}$	0.021	-0.018	-0.028	-0.007	-0.003
	(0.025)	(0.055)	(0.046)	(0.014)	(0.016)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.815	0.839	0.888	0.181	0.697
Clusters	214	214	214	214	214
Mean DV	0.959	5.698	3.589	0.134	0.387
	SemiWarm	*SemiCold*	*Template*	*RiverPresence*	*ArchaeologicalZone*
$Haven_{60kms}$	0.003	-0.004	0.003	-0.003	0.001
	(0.016)	(0.004)	(0.014)	(0.017)	(0.002)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.615	0.293	0.708	0.194	0.036
Clusters	214	214	214	214	214
Mean DV	0.392	0.00294	0.210	0.386	0.00587

Robust standard errors clustered at the 100 X 100 Sq Km zone. All specifications include a 100 X 100 Sq Km fixed effects, latitude, longitude and grid-cell size. *** p<0.01, ** p<0.05, * p<0.1

Table A.4: Geographic Differences Between Grid-Cells: Distance Discontinuities (θ^*)

	(1)	(2)	(3)	(4)	(5)
DV:	*Altitude*	*Humidity*	*Precipitation*	*WaterBody*	*WarmTemp*
$Haven_{\theta^*}$	0.034**	-0.036	0.027	-0.001	-0.002
	(0.017)	(0.029)	(0.025)	(0.010)	(0.009)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.816	0.839	0.888	0.181	0.697
Clusters	214	214	214	214	214
Mean DV	0.959	5.698	3.589	0.134	0.387
	SemiWarm	*SemiCold*	*Template*	*RiverPresence*	*ArchaeologicalZone*
$Haven_{\theta^*}$	-0.000	-0.001	0.004	0.018	0.002
	(0.010)	(0.001)	(0.008)	(0.011)	(0.002)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.615	0.293	0.708	0.194	0.037
Clusters	214	214	214	214	214
Mean DV	0.392	0.00294	0.210	0.386	0.00587

Robust standard errors clustered at the 100 X 100 Sq Km zone. All specifications include a 100 X 100 Sq Km fixed effects, latitude, longitude and grid-cell size. *** p<0.01, ** p<0.05, * p<0.1

Table A.5: Geographic Differences Between Localities

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	Altitude	Humidity	Precipitation	Dist River	Dist Ruins	Temp Rank	Temp Code	Ruggedness	Dist Coast
$Haven_{30kms}$	0.001	-0.028	-0.025**	-0.000	-0.000	0.833	0.002	0.573	0.227
	(0.009)	(0.023)	(0.012)	(0.001)	(0.004)	(1.015)	(0.011)	(0.587)	(0.157)
Observations	65,387	65,372	65,373	65,387	65,387	65,373	65,373	51,807	51,807
R-squared	0.973	0.978	0.984	0.995	0.999	0.777	0.936	0.620	0.999
Clusters	21	21	21	21	21	21	21	21	21
Mean DV	1.021	4.469	4.860	0.106	1.012	29.61	4.231	26.64	148.6
$Haven_{60kms}$	0.023	-0.015	-0.030*	0.002	-0.006***	3.048	-0.009	2.396	0.863***
	(0.025)	(0.015)	(0.016)	(0.002)	(0.002)	(3.051)	(0.016)	(1.466)	(0.204)
Observations	65,387	65,372	65,373	65,387	65,387	65,373	65,373	51,807	51,807
R-squared	0.973	0.978	0.984	0.995	0.999	0.777	0.936	0.620	0.999
Clusters	21	21	21	21	21	21	21	21	21
Mean DV	1.021	4.469	4.860	0.106	1.012	29.61	4.231	26.64	148.6

Robust standard errors clustered at the 100 X 100 Sq Km zone. All specifications include a 100 X 100 Sq Km fixed effects, latitude, longitude and grid-cell size. *** p<0.01, ** p<0.05, * p<0.1

Table A.6: **"Havens" and *Pueblo* Continuity in 1900: All Grid-Cells**

	(1)	(2)	(3)
	DV: Pueblo Status in 1900		
Haven Type 1	0.057***		
(30k overlap)	(0.012)		
Haven Type 2		0.034***	
(60k overlap)		(0.008)	
Natural Discontinuities			-0.002
(θ^*)			(0.006)
Observations	16,353	16,353	16,353
R-squared	0.282	0.280	0.279
Clusters	214	214	214
Mean DV	0.0783	0.0783	0.0783

Robust standard errors clustered at the 1000 sq km zone in parentheses. All specifications include a 1000 sq km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

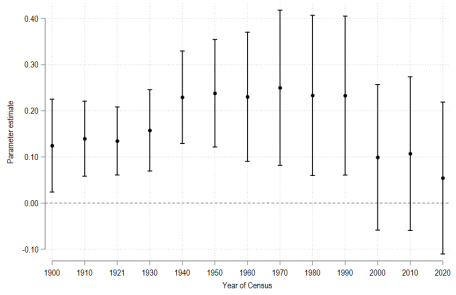
Table A.7: **"Havens" and Politico-Administrative Continuity of Localities 1900-2020: Grid-Cell Level**

	(1)	(2)	(3)	(4)	(5)	(6)
	Average Survival Rate			Total Status Changes		
Haven Type 1	0.273***			0.036		
(30k overlap)	(0.102)			(0.022)		
Haven Type 2		0.267**			0.022	
(60k overlap)		(0.109)			(0.022)	
Natural Discontinuities			0.076			0.022
(θ^*)			(0.066)			(0.015)
Observations	16,353	16,353	16,353	16,353	16,353	16,353
R-squared	0.343	0.344	0.343	0.210	0.210	0.210
Clusters	214	214	214	214	214	214
Mean DV	4.522	4.522	4.522	0.549	0.549	0.549

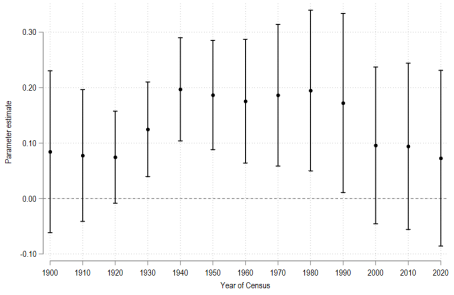
Robust standard errors clustered at the 10km by 10km zone in parentheses. All specifications include a 10km by 10km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Figure A.1: **Persistence of Politico-Administrative Localities Throughout the 20th Century**

(a) 30kms Overlap



(b) 60kms Overlap



95 % CI and estimates of the effect of "havens" and the difference in survival rate of localities existing in havens versus not in a given census decade.

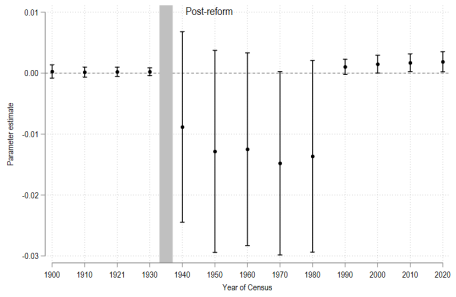
Table A.8: **"Havens", *Comunidades* and *Ejidos* Land Grants 1900-2020: Pooled Localities**

	(1)	(2)	(3)	(4)	(5)	(6)
DV: Locality is...	Comunidad			Ejido		
Haven Type 1	0.003*			-0.003		
(30k overlap)	(0.002)			(0.002)		
Haven Type 2		0.003***			-0.001	
(60k overlap)		(0.001)			(0.002)	
Natural Discontinuities			-0.000			0.001
(θ^*)			(0.001)			(0.002)
Observations	1,224,872	1,224,872	1,224,872	1,224,872	1,224,872	1,224,872
R-squared	0.049	0.049	0.049	0.095	0.095	0.095
Clusters	214	214	214	214	214	214
Mean DV	0.00372	0.00372	0.00372	0.0218	0.0218	0.0218

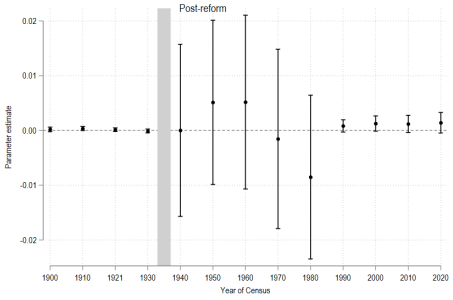
Robust standard errors clustered at the 1000 sq km zone in parentheses. All specifications include a 1000 sq km fixed effect. Geographic controls: altitude, latitude, longitude. Addiitonal controls: total number of localidades per grid, grid area, and a year of census fixed effect. *** p<0.01, ** p<0.05, * p<0.1

Figure A.2: **Presence of Ejido Land Grants Throughout the 20th Century by Haven Status**

(a) Haven Type 1



(b) Haven Type 2



95 % CI and estimates of the effect of "havens" and the probability of a *comunidad* in a given grid-cell by decade.

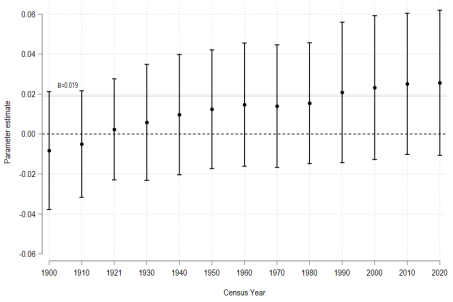
Table A.9: **"Havens" and other Socioeconomic Outcomes: Grid-Cell Analysis**

	(1)	(2)	(3)	(4)	(5)
DV: % Population...	Lack Utilities	Lack Assets	Adult Illiteracy	Catholic	Migrant
Haven Type 1	-0.009	-0.000	0.003	0.008	-0.005*
(30k overlap)	(0.012)	(0.007)	(0.004)	(0.013)	(0.003)
Observations	148,208	148,208	148,208	148,208	148,208
R-squared	0.171	0.204	0.195	0.250	0.100
Clusters	213	213	213	213	213
Mean DV	0.355	0.0746	0.0654	0.433	0.0503
DV: % Population...	Lack Utilities	Lack Assets	Adult Illiteracy	Catholic	Migrant
Haven Type 2	0.004	0.011	0.006	0.023**	-0.004
(60k overlap)	(0.011)	(0.008)	(0.004)	(0.011)	(0.003)
Observations	148,208	148,208	148,208	148,208	148,208
R-squared	0.171	0.205	0.195	0.250	0.100
Clusters	213	213	213	213	213
Mean DV	0.355	0.0746	0.0654	0.433	0.0503

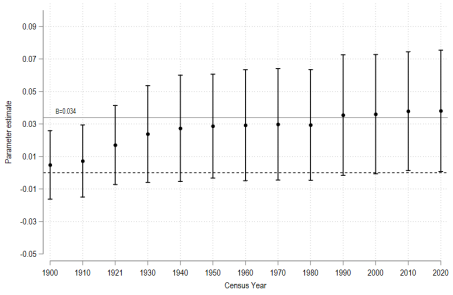
Clustered Robust Standard Errors, at the 1000 sq km zone. All specifications include an 1000 sq km zone fixed effect. Geographic controls: altitude, latitude, longitude, grid area, and population. *** p<0.01, ** p<0.05, * p<0.1

Figure A.3: **Locality % Indigenous Language Use (2010) Conditional on Being Present in a Given Census Year**

(a) 30k overlap



(b) 60k overlap



95 % CI and estimates of the effect of "havens" on the % of indigenous language speakers limiting the current locality to only those present in a given census year. Horizontal line is the estimate for 2010.

Table A.10: **"Havens" and *Pueblo* Presence in 1800: Grid-Cell Analysis with Continuous Distance Measures**

DV:	(1) Any New Pueblo 1549-1800	(2) Any New Pueblo 1549-1800	(3) Total New Pueblos (Tanck)	(4) Total New Pueblos (Stangl)	(5) Pop 1800 (Tanck)
Haven Type 1 (30k overlap)	0.075**	0.092***	0.197***	0.220***	85.273*
	(0.030)	(0.032)	(0.059)	(0.068)	(45.747)
Haven Type 1 X Distance Missions	-0.002*	-0.002	-0.006**	-0.007**	0.083
	(0.001)	(0.001)	(0.003)	(0.003)	(1.963)
Haven Type 1 X Distance Royal HQ	0.000	-0.001	-0.002	-0.002	-2.070
	(0.001)	(0.001)	(0.003)	(0.003)	(1.956)
Observations	16,341	16,341	16,341	16,341	16,007
R-squared	0.221	0.209	0.284	0.273	0.188
Clusters	214	214	214	214	214
Mean DV	0.0586	0.0676	0.0960	0.108	38.64
Haven Type 2 (60k overlap)	0.115***	0.124***	0.217***	0.230***	73.227***
	(0.020)	(0.019)	(0.042)	(0.043)	(24.746)
Haven Type 2 X Distance Mission	-0.002***	-0.002***	-0.003***	-0.004***	-1.131***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.377)
Haven Type 2 X Distance Royal HQ	-0.001***	-0.001***	-0.002***	-0.002***	-0.835
	(0.000)	(0.000)	(0.001)	(0.001)	(0.517)
Observations	16,341	16,341	16,341	16,341	16,007
R-squared	0.224	0.213	0.286	0.276	0.188
Clusters	214	214	214	214	214
Mean DV	0.0586	0.0676	0.0960	0.108	38.64
Natural Discontinuities (θ^*)	-0.002	0.007	0.025	0.031	18.894
	(0.010)	(0.010)	(0.019)	(0.019)	(13.224)
N. Discontinuities X Dist. Nearest Royal HQ	-0.000	-0.000	-0.000*	-0.000**	-0.152
	(0.000)	(0.000)	(0.000)	(0.000)	(0.098)
Observations	16,353	16,353	16,353	16,353	16,013
R-squared	0.217	0.206	0.279	0.268	0.186
Clusters	214	214	214	214	214
Mean DV	0.0588	0.0678	0.0969	0.109	38.81

Robust standard errors clustered at the 31km by 31km zone in parentheses. All specifications include a 31km by 31km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Table A.11: **"Havens" and Markers of Indigenous Identity: Language Use (2010) and Communal Land (2019) with Continuous Distance Measures**

	(1)	(2)	(3)	(4)	(5)	(6)
DV:	% Indigenous Language			*Comunidad* Land Grants		
Haven Type 1 (30k overlap)	-0.018			0.097**		
	(0.020)			(0.044)		
Haven Type 1 X Distance Missions	-0.001			-0.006**		
	(0.001)			(0.003)		
Haven Type 1 X Distance Royal HQ	0.003**			-0.000		
	(0.001)			(0.002)		
Haven Type 2 (60k overlap)		0.028			0.100***	
		(0.027)			(0.032)	
Haven Type 2 X Distance Missions		-0.001*			-0.003***	
		(0.000)			(0.001)	
Haven Type 2 X Distance Royal HQ		0.000			-0.000	
		(0.000)			(0.001)	
Natural Discontinuities (θ^*)			0.019*			0.046*
			(0.010)			(0.027)
N. Discontinuities X Dist. Nearest Royal HQ			-0.000			-0.000*
			(0.000)			(0.000)
Observations	148,208	148,208	148,208	16,341	16,341	16,353
R-squared	0.346	0.347	0.344	0.164	0.165	0.163
Clusters	213	213	213	214	214	214
Mean DV	0.0783	0.0783	0.0783	0.0742	0.0742	0.0746

Robust standard errors clustered at the 10km by 10km zone in parentheses. All specifications include a 10km by 10km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Table A.12: **"Non-Havens" and Markers of Indigenous Identity: Language Use (2010) and Communal Land (2019)**

	(1)	(2)	(3)	(4)	(5)	(6)
DV:	% Indigenous Language			*Comunidad* Land Grants		
Non-Haven	-0.015			0.006		
(¿60k mission & ¿60k HQ)	(0.013)			(0.004)		
Non-Haven		-0.024			-0.003	
(¡30k HQ & ¿60k mission)		(0.032)			(0.020)	
Non-Haven			-0.008			-0.012
(¿60k HQ & ¡30k mission)			(0.011)			(0.012)
Observations	148,208	148,208	148,208	16,353	16,353	16,353
R-squared	0.342	0.342	0.342	0.162	0.162	0.162
Clusters	213	213	213	214	214	214
Mean DV	0.0783	0.0783	0.0783	0.0746	0.0746	0.0746

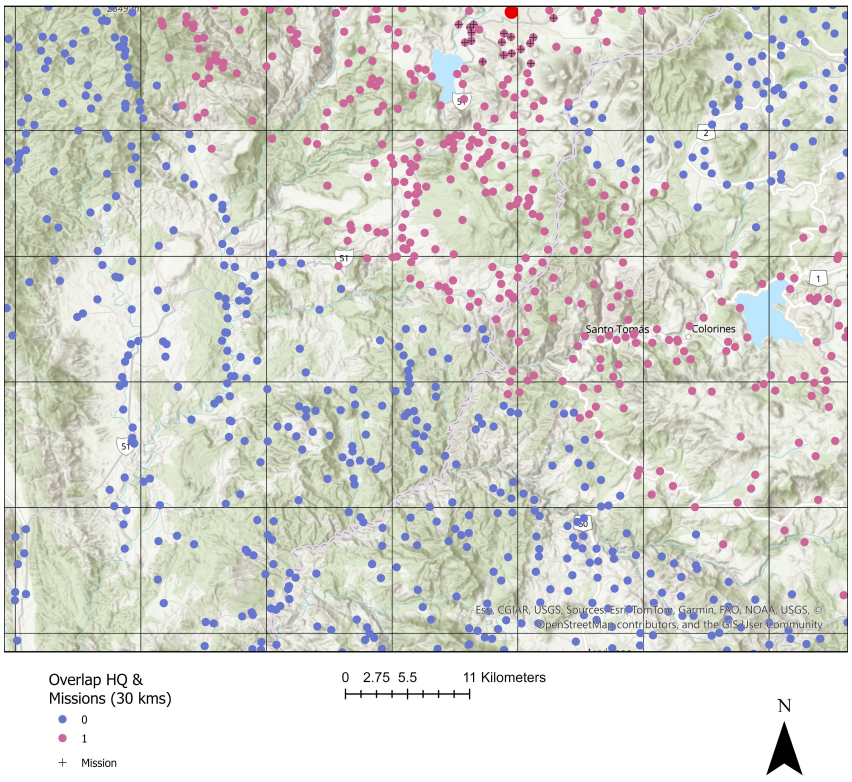
Robust standard errors clustered at the 10km by 10km zone in parentheses. All specifications include a 10km by 10km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Table A.13: **Short-Lived Havens and Markers of Indigenous Identity: Language Use and Communal Land (Grid-Cells)**

DV:	(1) % Indigenous Language	(2)	(3) % Indigenous Household	(4)	(5) *Comunidad* Land Grant	(6)
Haven Type 1 w/Former HQ (30kms)	0.004 (0.019)		0.003 (0.021)		0.026 (0.034)	
Haven Type 2 w/Former HQ (60kms)		-0.010 (0.016)		-0.011 (0.018)		-0.002 (0.019)
Observations	148,208	148,208	148,208	148,208	16,353	16,353
R-squared	0.342	0.342	0.348	0.348	0.162	0.162
Clusters	213	213	213	213	214	214
Mean DV	0.0783	0.0783	0.103	0.103	0.0746	0.0746

Robust standard errors clustered at the 1000 sq km zone in parentheses. All specifications include a 1000 sq km zone fixed effect. Geographic controls: altitude, latitude, longitude, and population (cols.1-4). *** p<0.01, ** p<0.05, * p<0.1

Figure A.4: ***Within*-Grid Analysis: An Example**



Source: own construction. Red: historical colonial cabeceras. Pink: current localities within the domain of both missions and *cabeceras* (havens). Purple: current localities outside havens. Grid-cell size: 11 X 11 kilometers.

Table A.14: **"Havens", Indigenous Identity and Socioeconomic Outcomes: *Within*-Grid Variation**

	(1)	(2)	(3)	(4)	(5)	(6)
	All Localities		Former Pueblos		New Localities	
DV: % Population Lacking..	Utilities	Assets	Utilities	Assets	Utilities	Assets
Haven Type 2	0.012	0.002	0.010	0.006	0.016	0.002
(60k overlap)	(0.012)	(0.005)	(0.025)	(0.007)	(0.012)	(0.006)
Observations	65,387	65,387	6,805	6,805	57,597	57,597
R-squared	0.315	0.398	0.484	0.542	0.323	0.400
Clusters	212	212	144	144	212	212
Mean DV	0.364	0.0793	0.467	0.0685	0.350	0.0805
DV: % Population..	Illiterate	Educ Level	Illiterate	Educ Level	Illiterate	Educ Level
Haven Type 2	0.001	0.215***	0.001	0.180	0.001	0.241***
(60k overlap)	(0.002)	(0.070)	(0.005)	(0.136)	(0.003)	(0.079)
Observations	65,387	65,387	6,805	6,805	57,597	57,597
R-squared	0.345	0.370	0.470	0.501	0.351	0.369
Clusters	212	212	144	144	212	212
Mean DV	0.0689	2.921	0.0992	4.803	0.0651	2.673

Double clustered Robust Standard Errors, at the 10km by 10km zone as well as at the grid-cell in parentheses. All specifications include an individual grid-cell fixed effect. Geographic controls: altitude, latitude, longitude, and population. *** p<0.01, ** p<0.05, * p<0.1

Table A.15: **Natural Discontinuity (θ^*) "Havens" and Intra-State Borders: 1700, 1800 and 1900**

	(1)	(2)	(3)
	DV: Grid-Cells Intersects Inter-State Border		
Natural Discontinuity	0.064***		
(ca. 1700)	(0.014)		
Natural Discontinuity		0.248***	
(ca. 1800)		(0.032)	
Natural Discontinuity			0.245***
(ca. 1900)			(0.025)
Observations	16,353	16,353	16,353
R-squared	0.299	0.296	0.378
Clusters	214	214	214
Mean DV	0.301	0.144	0.192

Robust standard errors clustered at the 1000 sq km zone in parentheses. All specifications include a 1000 sq km fixed effect. Geographic controls: altitude, latitude, longitude, area of the grid-cell. *** p<0.01, ** p<0.05, * p<0.1

Table A.16: **Havens and Colonial Road Connectivity: *Camino Real* (Grid-Cells)**

	(1)	(2)	(3)
DV:	Distance to *Camino Real*		
Haven Type 1	-2.811		
(30 kms)	(2.532)		
Haven Type 2		-7.735**	
(60 kms)		(3.076)	
Natural Discontinuities			-4.205***
(θ^*)			(1.235)
Observations	16,353	16,353	16,353
R-squared	0.981	0.981	0.981
Clusters	214	214	214
Mean DV	321.9	321.9	321.9

Robust standard errors clustered at the 10km by 10km zone in parentheses. All specifications include a 10km by 10km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Table A.17: **Havens and Contemporary Road Connectivity: Federal, State and Municipal Roads (Grid-Cells)**

DV: Type of Highway...	(1) Federal	(2) State	(3) Municipal
Haven Type 1	-0.004	-0.011	0.003
(30 kms)	(0.012)	(0.014)	(0.010)
Observations	16,353	16,353	16,353
R-squared	0.015	0.015	0.012
Clusters	214	214	214
Mean DV	0.252	0.418	0.124
Haven Type 2	0.008	-0.001	0.007
(60 kms)	(0.009)	(0.013)	(0.008)
Observations	16,353	16,353	16,353
R-squared	0.015	0.015	0.012
Clusters	214	214	214
Mean DV	0.252	0.418	0.124
Natural Discontinuities	0.016*	-0.006	-0.007
(θ^*)	(0.010)	(0.010)	(0.006)
Observations	16,353	16,353	16,353
R-squared	0.015	0.015	0.012
Clusters	214	214	214
Mean DV	0.252	0.418	0.124

Robust standard errors clustered at the 10km by 10km zone in parentheses. All specifications include a 10km by 10km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1

Table A.18: **"Havens" and *Pueblo* Presence in 1800: Including *Camino Real***

DV:	(1) Δ Pueblos 1549-1800	(2) Any 1800 Pueblo (Tanck)	(3) Any 1800 Pueblo (Stangl)	(4) Total Pueblos (Tanck)	(5) Total Pueblos (Stangl)
Haven Type 1	0.056***	0.055***	0.058***	0.091***	0.104***
(30k overlap)	(0.012)	(0.012)	(0.012)	(0.024)	(0.026)
Dist Cam Real	-0.000*	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.210	0.291	0.274	0.305	0.292
Clusters	214	214	214	214	214
Mean DV	0.0679	0.0681	0.0783	0.104	0.121
Haven Type 2	0.043***	0.038***	0.045***	0.061***	0.073***
(60k overlap)	(0.008)	(0.008)	(0.009)	(0.016)	(0.017)
Dist cam real	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.210	0.290	0.273	0.304	0.291
Clusters	214	214	214	214	214
Mean DV	0.0679	0.0681	0.0783	0.104	0.121
Natural Discontinuities	-0.007	0.001	0.001	0.010	0.006
(θ^*)	(0.006)	(0.006)	(0.006)	(0.010)	(0.010)
Dist cam real	-0.000*	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	16,353	16,353	16,353	16,353	16,353
R-squared	0.206	0.287	0.270	0.302	0.289
Clusters	214	214	214	214	214
Mean DV	0.0679	0.0681	0.0783	0.104	0.121

Robust standard errors clustered at the 10km by 10km zone in parentheses. All specifications include a 10km by 10km fixed effect. Geographic controls: altitude, latitude, longitude. *** p<0.01, ** p<0.05, * p<0.1