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# What we gained that time we lost so much: demographic trends and territorial control in Mexico after the war with the United States

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## **Abstract**

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**Keywords:** Wars, State formation, Native Americans, Mexico, Modernization

**JEL:** N46, F51, P16, H56

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# What we gained that time we lost so much: demographic trends and territorial control in Mexico after the war with the United States

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August 2023

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## **ABSTRACT:**

This paper underscores demographic dynamics as a silent force shaping Mexico's 19th-century narrative, enhancing our comprehension of the nation's historical evolution. By examining the aftermath of American expansion (1846-1848) and the subsequent French intervention, this study shifts the focus from traditional state capacity discussions to demographic trends. It reevaluates Mexico's state formation during the 19th century and reveals the intrinsic role of demographic dynamics. Analyzing population trends at critical junctures, this research illuminates Mexico's vulnerability during its formative years. The transformation of Mexico's demographic landscape post-Mexican-American War becomes pivotal, laying the foundation for a more robust state in the face of foreign threats. The shift from a sparsely populated frontier to a strategically controlled border forms the core of this exploration, demonstrating how demographic shifts influenced territorial dominance and state resilience. This paper contributes to a deeper understanding of Mexico's historical evolution through the lens of demographic dynamics.

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**Word count:** 9010

## **Introduction**

The intricate process of forging a sovereign state is a formidable endeavor, often shaped by a myriad of factors. In the annals of Mexico's history, this arduous journey is characterized by internal political complexities and external challenges imposed by the global stage. While the concept of state capacity has traditionally taken center stage in discussions surrounding Mexico's trajectory, this paper seeks to illuminate an alternative lens through which to view the nation's history – that of demographic trends. By delving into the demographic currents that coursed through Mexico during the 19th century, this study uncovers a tapestry of insights that enrich our understanding of pivotal moments in the nation's development. In other words, this inquiry diverts from the conventional discourse centered on state capacity, directing its gaze instead toward the often-underappreciated role of demographic dynamics.

In this article, we present evidence that demonstrates a small yet consistent shift in the demographic trends of the northern states of Mexico following the war with the United States. While classical evidence of state strengthening is hard to obtain, we contend that changes in demographic trends imply that the territory became progressively safer for the Mexican population, eventually enabling its resettlement in the region. We posit that this process of territorial reoccupation is a prerequisite for appreciating state strengthening based on classical variables such as fiscal revenues.

The 19th century posed two critical junctures for Mexico's nascent statehood: the aftermath of American expansionism from 1846 to 1848, which resulted in the loss of a significant portion of Mexican territory, and the subsequent endeavor by the French, in collaboration with Mexican conservatives, to establish a foreign monarchy. These events highlight the vulnerability of the Mexican state during its formative years, but they also necessitate an explanation of the changes that occurred between one and the other, even if they are hardly perceptible at a superficial level.

The population trends that intersected with these historical crossroads offer a novel vantage point to analyze Mexico's resilience and endurance. By evaluating demographic shifts within the broader context of territorial consolidation, this study uncovers a latent force – the ebb and flow of the Mexican populace – that played an indispensable role in the state's ability to navigate challenges and forge ahead. The transformation of Mexico's demographic landscape

post-Mexican-American War is a tale of profound significance, laying the groundwork for a more robust state as it grappled with the specter of foreign intervention.

In this exploration, we unravel the intricate interplay between demographic changes, territorial control, and the nation's ability to repopulate its northern territories. This paper aims to shed light on how demographic trends in Mexico's northern states evolved after the Mexican-American War, indicating a notable shift in the nation's approach to populating and occupying this vital region. The pivotal shift from a sparsely populated frontier to a strategically controlled border constitutes a central aspect of this analysis. Through the lens of demographic trends, we unveil a narrative that underpins Mexico's ability to withstand foreign pressure and turning this region from liability to a resource against potential invaders.

By acknowledging the role of demographic dynamics as a silent force shaping Mexico's 19th-century narrative, this paper endeavors to augment our comprehension of the nation's historical evolution. As we navigate through the following sections, we offer a quantitative argument about changing demographic trends in the period between two major foreign invasions.

### **The Argument**

In 1935, almost ninety years after the signing of the Guadalupe Hidalgo agreements, Gilberto Loyo, the most prominent demographer in Mexico during the mid-20th century, reiterated an age-old Mexican argument: the security of Mexican territory depended on its demographics; the territories lost in 1848 were lost due to demographic "weakness." For Loyo, the central objective of the Mexican state had to be population growth: "To populate Mexico so that the nationality becomes strong and so that the modern Mexican state does not remain a myth"(Loyo, 1935, p. 23). While Loyo belongs to a specific demographic school of thought, the reality is that since the end of the war with the US, there was a demographic obsession in Mexico. It was clear that a considerable portion of the territory lost in 1848 was "occupied" by the United States due to Mexico's inability to populate it adequately. This was both a demographic and military issue.

Let us consider the following as a mere invitation to think about the difference between the Mexican territorial and demographic situation of 1846 and those of 1862. At the Battle of

Angostura (Buenavista) in February 1847, a Mexican force of about 14,000 troops was unable to soundly defeat the 5,000 troops under General Taylor primarily because, after a couple of days of fighting, the Mexican troops ran out of food (See: Balbontín (1883) and Guardino (2017)). This is not the place to judge if Santa Anna's decision to retreat was the right one from the military point of view, but the precariousness with which the Mexican army fought in the Angostura is difficult to deny. Years later, in 1863, the French army required more than 30,000 troops and 62 days of combat to defeat the Mexican army (with around 25,000 troops) that defended the city of Puebla (See: Macías Guzmán (2013)). Once the French Army occupied Mexico City, the northern part of the country allowed the Mexican government to survive.

Is this a mere coincidence or can we find reasons and evidence that between 1848 and 1862 something happened that allowed the northeastern Mexico to be profitable and sustain larger populations, thus improving the chances for the Mexican State to survive? In this article we intend to explore a hypothesis in this regard: the end of the war reduced the cost and increased the incentives for the Mexican state to repopulate the north. Having a populated northern border changed the conditions in which the Mexican state faced the French challenge in 1862 in comparison with what happened in 1846-48.

The idea of repopulating the territory may seem wrong if the historical context in which it is being used is not clarified. Much of the territory that Mexico inherited from the Spanish empire was Mexican territory in a purely Eurocentric sense: it was delineated by agreements between European empires, tacit or not, but it was not territory under the control of the Mexican state in practice. A good part of these territories were deserts, physical and in population terms, where the authority of the Mexican state could not be exercised or was in dispute with Native Americans who rightly saw these territories as their own and were unwilling to accept the authority of the Mexican state. The challenge for the Mexican state in the 19th century was not to strengthen its control over these territories, but to occupy them and establish institutions.

After the war with the US, those territories still represented a frontier, but it was now easier to control and with fewer threats than the frontier that existed prior to the American invasion. With the Native American threat lessened and with the objective of reducing the interest of

the United States to acquire more land, the Mexican population returned to those previously perilous territories. As it has been studied for different cases particularly in Africa, building state capacities requires certain population density. In this paper we show how the demographic dynamic changed before and after the Mexican-American war, creating conditions for a more dense population in the Mexican north, and thus, making state consolidation eventually possible.

Controlling a certain territory, a fundamental part of the definition of a modern state, was one of the most important challenges faced by Latin American countries in the 19th century. As Miguel Centeno (2002, p. 269) points out: "While the United States, Canada and equivalent European states could 'grow into' their frontiers, the Latin American republics were handed too much territory too soon". In the case of Mexico, in addition to the fiscal and organizational inability to control the enormous territory inherited from Spain, there was a military threat from Native Americans first and an existential threat from the United States later. Brian DeLay (2008) has documented the tremendous human and financial costs that the wars with Native-Americans implied for the nascent Mexican state and the importance that the proximity and interest of the United States played in that conflict. In the end, the Treaty of Guadalupe-Hidalgo, which undoubtedly represented the materialization of the worst nightmares of the Mexican state and was, rightly, considered a symbol of national humiliation, at least partially solved the enormous fiscal and organizational challenge of controlling the territory. It not only made the territory more manageable, but also reduced the expansionist pressure of the United States and placed the responsibility of controlling native attacks on Mexican populations in the hands of the American state, at least formally and temporarily, making the territory safer for the Mexican population.

Did the conditions agreed in Guadalupe-Hidalgo about Native American attacks on Mexican soil affected the demographic trend in Northern Mexico? Did this great national tragedy at least make the construction of a sovereign national state viable again by making easier for Mexico to "occupy" the territory? Did we gain anything that time we lost so much? If there is an important change in demographic trends, is that a sign that the Mexican state could have now better chances to get consolidated?



There are several reasons to think about this possibility. As Centeno (2002, p. 101) points out, wars (or their threat) can have a constructive side: "The destructive capacity of war is self-evident. Less so is the manner in which war, or more accurately, the process of going to war, can be constructive". Of course, not all wars create states; Centeno points out that for that to happen, a certain level of prior political organization is required so that war functions as a catalyst for the centralization of power, fiscal capacities and then, territorial control. Centeno calls this process conflict-led state building. In the case of Mexico, and Latin America in general, Centeno finds that the process was different: Latin American countries did not go to war frequently precisely because they lacked this prior organizational capacity.

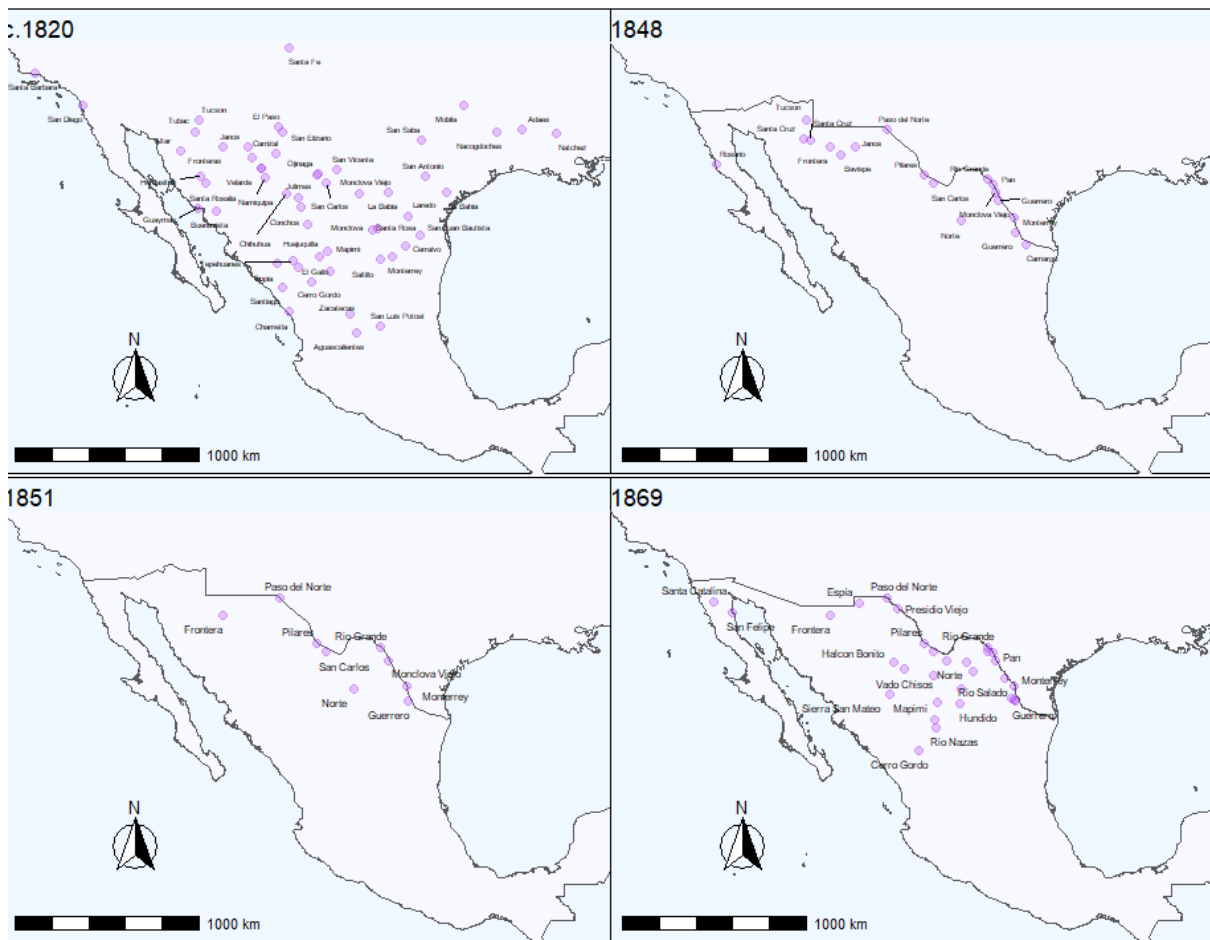
In the case of the war of 1846-1848, it is evident that Mexico lacked those capacities that Centeno finds in the European countries whose states benefited from the wars. However, an alternative process seems to have taken place. The catastrophic outcome of the war allowed Mexican elites to reach an agreement: the north of the country had to be repopulated. Particularly eloquent is the story of Vidaurri, as recounted by Moseley (1965), and his efforts to consolidate the new frontier. It is also noteworthy that his disagreements with Juárez and his move to Mexico City to support Maximiliano relegated him to a secondary role from 1864 onwards. The differences between different factions of the elites on many issues remained, so much that between one invasion and the other we had a revolution (that of Ayutla), a coup d'état (that of Comonfort and Zuluaga), and a civil war (the War of the Reform). However, the reorganization of the north became a shared project, probably the only one: it changed to a strategy of a smaller army<sup>1</sup>, fewer but better financed presidios<sup>2</sup>, and customs were built, especially on the border with Texas (see figure 1).

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<sup>1</sup> Proyecto para el Arreglo del Ejército por el General Mariano Arista (1848). Reglamento Para El Establecimiento De Las Colonias Militares En La Frontera Del Norte (1869).

<sup>2</sup> The presidio (a fortress/military base/ military colony/garrison) was an integral part of the Spanish defensive strategy used by the Spanish Tercios in the war in Flanders, it was inspired by the Roman tradition of military fortress in the borderlands of the empire. Upon the "conquest" of New Spain septentrional lands the Spanish crown implemented a large network of presidios as its principal strategy to hold its territories and protect the expansion of cities, towns and haciendas. Later the governments of Mexico kept and adapted the presidio to fulfil the same military role. See Arnal (1995, 1999).

**Figure 1: Presidios C.1820, 1848, 1851 and 1869**



Source: Authors elaboration with data from Arnal (1995,1999,2006) and Reglamento Para El Establecimiento De Las Colonias Militares En La Frontera Norte de 1869.

However, it should be noted that such a political agreement probably would not have been enough before the war. The north that the Mexicans set out to repopulate after 1848 was more manageable territorially, less dangerous militarily, and more profitable fiscally. Territorial control attempts prior to the war of intervention showed the Mexican state's inability to deal with threats from both Native Americans and American settlers. The transformation from frontier to border would take the rest of the 19th century, but the process began when, after the war, the attacks of Native Americans on Mexican populations were reduced, and, in addition, article 11 of the Treaty of Guadalupe- Hidalgo made those attacks the responsibility of the US government. The vulnerability of the Mexican populations did not disappear, the

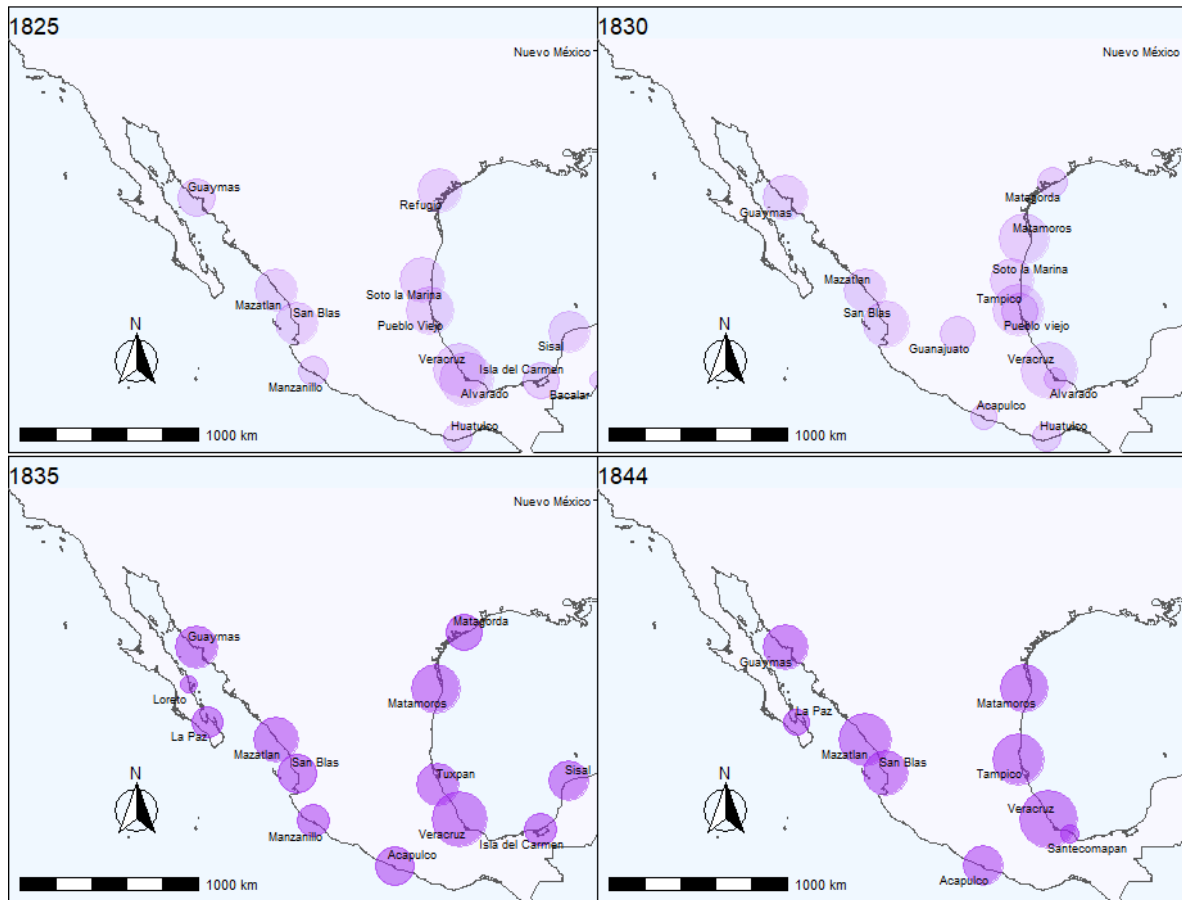
Native Americans continued to attack Mexican towns until the end of the 19th century, but never with the ferocity and constancy of the decade before the American invasion.<sup>3</sup>

The at least partial consolidation of the border had three concrete effects on the Mexican state. First, it reduced the military needs and therefore the military expenses, since native incursions into national territory were reduced in part as a consequence of the provisions of article 11 of the Treaty of Guadalupe-Hidalgo and in part simply as a consequence of the repression of the Native Americans on the part of the United States. Second, it allowed the economic growth of the Northern States and their contribution to national growth. Third, it had fiscal effects, particularly reducing the federal government's dependence on Veracruz's customs revenues (see figure 2). In short, the war left a more manageable and lucrative territory for the Mexican state. The territorial control of the north and its sources of income are essential to understand the different conditions that the Mexican state had in 1863 compared to what had remained in 1848. However, the first evidence that anything changed in this direction needs to be demographic: is it possible to see an important change on the northern states' demographic trends as a consequence of the war, of the establishment of new borders and the increased security for Mexicans in those territories? In the next section, we present quantitative evidence to explore this hypothesis.

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<sup>3</sup> In the work of DeLay (2008), the evolution of violence between Mexican and Native American populations from the 1830s until the end of the war with the United States is described with multiple sources. It is a particularly useful work for understanding the Native American agenda that controlled that territory and how the territorial advance of the United States deepened the conflict between Native Americans and the Mexican army. Some time before DeLay's work, Griffen (1988) had already pointed out how the dynamics between Apache, Mexicans and Americans evolved after Mexican independence. Independent Mexico, particularly the government of Sonora, renounced the Novo-Hispanic project of partial peace and how between infections and wars the Apaches were weakening in the vicinity of the Presidio de Janos. The upsurge in violence beginning in the 1830s is explained therein as a combination of the inability of the nascent Mexican government to offer at least partial peace to the Apaches and the entry of American expansionism.

**Figure 2: Custom Revenues before Guadalupe-Hidalgo.**



Source: Memorias de la Hacienda Pública 1828-1868

1849

1857

1867

Source: Memorias de la Hacienda Pública 1828-1868

**Table 1: Changes in the revenue collection by custom office 1825-1868**

Customs	Revenue 1825	Revenue 1830	Revenue 1835	Revenue 1844	Revenue 1849	Revenue 1857	Revenue 1868
North excluding New Mexico	27.81	68.47	33.74	12.88	22.08	32.62	67.03
Rest of the country including maritime	211.62	213.19	162.96	127.44	180.46	148.30	193.70
Total	239.42	281.66	196.70	140.31	202.54	180.93	260.73
North %	0.12	0.24	0.17	0.09	0.11	0.18	0.26
Rest of the country%	0.88	0.76	0.83	0.91	0.89	0.82	0.74

**Table 2: Revenue growth rate by custom office 1825-1868**

Customs	% change 1825-1830	% change 1830-1835	% change 1835-1844	% change 1844-1849	% change 1849-1857	% change 1857-1868
North excluding New Mexico	146.25%	-50.72%	-61.84%	71.47%	47.74%	105.47%
Rest of the country including maritime	0.74%	-23.56%	-21.80%	41.61%	-17.82%	30.61%
Total	17.64%	-30.16%	-28.67%	44.35%	-10.67%	44.11%

## **I. DATA AND EMPIRICAL STRATEGY.**

The hypothesis we want to prove is that a foreign shock (the US invasion) changed the conditions in the Mexican North allowing for a small but significant change in demographic trends. This change would be explained by two factors. First, it brought a less hostile environment in the Mexican north in which population density was more easily built. Second, the disaster of the war forged a political agreement in the center of the country on the importance of occupying the north. These changes opened the door for the Mexican population to return to a territory from which they had had to escape.

Demonstrating this quantitatively has two important challenges. First, we are talking about a precarious state during the whole period, and it would be difficult to expect a deep change in just 15 years. What we are seeking is not a drastic shift, but rather a subtle alteration in demographic trends for a country that appeared to be teetering toward total collapse by 1848. So, what we are looking for are subtle but significant changes. The second challenge is shared with any empirical study of 19th century Mexico: the quality of the data. What we do below is what in our eyes is the best way to address both challenges.

Before the war with the United States, Mexico had, nominally and as part of a Eurocentric culture, an enormous territory that it never managed to control. As Delay (2009) explains, Mexican attempts to militarily control the territory were unsuccessful and extremely costly. The north meant for the first Mexican governments an enormous cost whose material benefits were difficult to find. In addition, the situation became more complicated as the North American expansion of the 19th century progressed, occupying the territories on the western side of the Mississippi River, the pressure on the nominally Mexican territory grew, both due to the advance of the United States and the presence of Native Americans displaced from other territories.

We sustain that the result of these pressures, especially Native American incursions, was a significant reduction in the Mexican population in the northern states. The inability of the Mexican state to protect the lives and property of its population in the north made the territory increasingly inhospitable to the Mexican population. Beginning in the 1830s, raids increased

as the Americans advanced from the east, the Texans became independent and internal conflicts in Mexico complicated the capabilities of the Mexican state to keep its own population safe. Beginning in 1843, as the American invasion approaches, native raids reach their highest level. For the next five years it is difficult not to describe the Mexican state in the north simply as a failed state whose population had to flee to the center of the country.

With the end of the war the dynamics on the border change for different reasons. First, the territory to be controlled was now smaller. Fewer resources were required to control that land than would have been required to control the original territory. In addition, nomadic raids in the north formally became the responsibility of the U.S. government. Mexico could now make claims against the U.S. government for each incursion. A commission is formed, and the claims will find their way. Not that the U.S. government had really held up its end of the bargain to the letter, but at least there is a process of institutionalization in terms of control of that border where the U.S. had to participate. Second, the military defeat of 1848 made the elites in the center of the country realize the importance of occupying the north. That territory that remained under Mexican control continued to be on risk, both from nomadic raids and American filibusters, as long as the Mexican state did not devote resources to occupying that territory.

Also, the war disaster of 1846-48 prompted an important change in strategy in terms of location and financing of presidios which, although, as Nieto Camacho (2021) rightly describes, had different levels of success in its implementation and was not free of serious coordination problems between federal and state authorities, it did mean a greater interest and budget on the part of the central government in the protection of the border. Finally, the agreement with the United States allows for the economic institutionalization of the border: with a well-defined, manageable border and with a neighbor that recognizes that border and during an economic boom in Texas, the Mexican state found it profitable to develop customs along that border and to combat smuggling, economically institutionalizing the border.

All the above had important effects on life in the border states except in Sonora. In that state the incursions of Native Americans did not diminish, the threats of American filibusters continued, it was impossible to create a border to fight contraband and collect taxes on trade. Until the Porfiriato, Sonora remained a territory with the same problems as before the war.



Within this historical landscape after the Mexican American War and before the French intervention in Mexico, we can use quantitative methods to test out our main hypothesis. What we do next is to use population dynamics in the northern states, which is both a proxy for economic activity and a prerequisite for building state capacities to see if these changes described above meant at least a marginal change in the depopulation trend in the north before the war, to measure which changes explain better the result and using Sonora as a sort of control group.

The impact of the raids from the nomad tribes in the early 1840s in northern Mexico is of great importance in understanding the formation of the Mexican state and its capacity to control its territory. Northern Mexico was a moving frontier (Tuner 1893; Bolton 1921) with constant shifts in control among the nomad tribes such as the Apache and Comanche and the Mexican settlers in which no one emerged as a hegemonic power. What we would expect according to our hypothesis is an increase in the depopulation pattern after 1843, and a change in that pattern after 1848. The population data comes from the *Estadísticas Históricas de México*<sup>4</sup> and the *Boletines de la Sociedad de Estadística y Geografía*, with the missing years completed by linear interpolation. Demographic statistics in 19<sup>th</sup> century Mexico are scarce, however for 20 of the current 32 states of Mexico we have population data for several consecutive years with some interruptions, to use this data we pooled the states together with their neighbouring states and used the population growth rates of the bordering states who have continuous observations to calculate a population growth rate that then enabled the linear interpolation of the missing years. For the years without any neighbour observations, we employ the estimates from McCaa (1997) of 0.5% population growth rate per year to complete those years.

Our data is not significantly differing from McCaa estimates, except in one important case, we believe that the population trend towards depopulation in Sonora as reported in the *Estadísticas Históricas de México* is accurate. Romero Sotelo and Jáuregui (2003, p.36) examining the population changes in Mexico between 1821 and 1867 find that Sonora had

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<sup>4</sup> The population data reported in the *Estadísticas Históricas de México*, represent the best available alternative to have a continues population series for the majority of Mexican states. Given the uncertainties related to this source, it's important to consider our results as probabilistic estimates that reveal the trend rather than accurate point estimates.

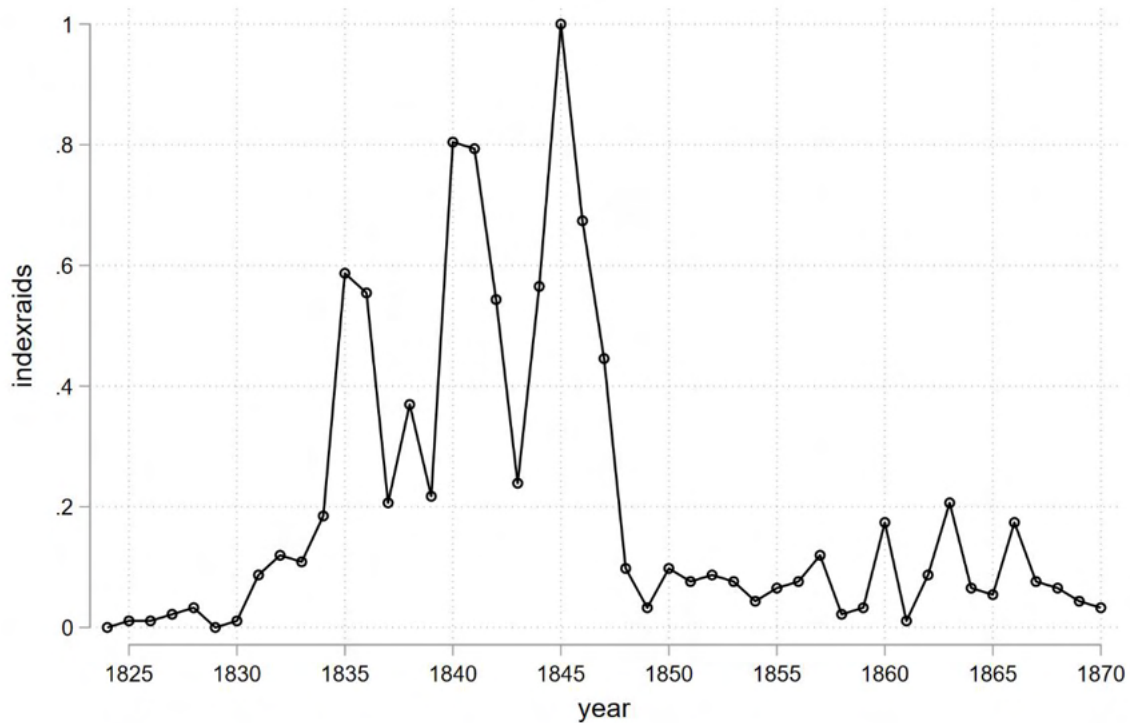
negative rates of population growth and was among the most affected states. Romero Sotelo and Jáuregui report that the population gains from some states are related to the population losses of other states, and some of the main causes are the nomad's raids, the better economic conditions of other states as well as other conflicts and epidemics. Similarly, Terrazas and Basante (2018) argues that population density either remained the same or declined due to several forces, among the most important the nomads' raids. In favour of these data the work of Almada Bay (2015) adds important historiographical support.

To assess the magnitude of the raids, we created a raid index employing the data from Delay (2008), The Borderland: Struggle for Texas Project and the newspapers stored at the Hemeroteca Nacional Digital de México. The index is constructed in the following way: We take 1845, the year that register the largest number of raids<sup>5</sup>, as the base year ( $1845 = 1$ ) and then we see the changes before and after the year ( $\text{year}/\text{base year}$ ). In addition, we collected data about localities (i.e., cities, villages, towns), haciendas, ranches and mines for the different states as predictors of population density from Navarro and Noriega (1943) and Lerner (1968). Finally, we collected the number of presidios or military colonies registered in the defensive plans from New Spain and then Mexico (Nieto Camacho 2012) and the rulebook from the military colonies.

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<sup>5</sup> An alternative to the number of raids to assess the raid "intensity" could be to use the number of people killed and the stolen/destroyed property. However, this information is only available for some raids. It is a reasonable assumption that as the number of raids increases both killed and stolen/destroyed property increases, as both are logically correlated.

**Figure 4: Index of raids 1820-1870**



As reported in the literature, the nomad raids were an important factor in the depopulation of the northern Mexican states. Almada Bay (2015) documented the depopulation of several villages, ranches and towns in Sonora due to the attack of the nomads between 1852 and 1883. To attribute the population fall in the north to the raids it is necessary to isolate the effect.

Customs data are from the "Memorias de Hacienda" collected by Carlos Marichal at the Colegio de México. From the documents and tabulations collected there, the revenue section was reviewed year by year to determine which of these revenues corresponded to the existing international customs. In the documents there is no clear distinction between external and internal customs, what we show here are the data of those customs that are physically located on the border and in some port of entry.<sup>6</sup>

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<sup>6</sup> The data and reports contained in the "Memorias de Hacienda" can be found at <https://memoriasdehacienda.colmex.mx>

To start looking for correlations among these variables and the population dynamic, we start with a set of panel regressions in the following general specification<sup>7</sup>:

$$\begin{aligned} population_{it} = & cities_{it} + villagestowns_{it} + haciendasranches_{it} + indexraids_t + \\ & warspenditures_t + customrevenues_{it} + presidio_{it} + guadalupehidalgo_t + \\ & guadalupehidalgo_t * north_i + epidemiccontrols_{it} + \theta_t + \varphi_i + othercontrols_{it} + u_{it} \end{aligned} \quad (1)$$

Where  $i$  and  $t$  are state  $i$  and time  $t$ ,  $\theta_t$  represents time fixed effects,  $\varphi_i$  represents state fixed effects and  $u_{it}$  is the error term.

The purpose of this set of regressions is to explore the existence of a relationship between our outcome variable (population density) and the explanatory variables related to the territorial control, the index of raids from the nomad tribes (indexraid), the existent presidios and the expected predictors of population density in a mostly rural country (cities, villages, haciendas, etc) and the Guadalupe-Hidalgo treaty and its interaction with the north dummy, which looks to reveal if the treaty had any specific effect over the north. State and year fixed effects are introduced to deal with omitted variables bias related to either state specific characteristics or time dependent characteristics. The epidemic controls check for population changes due to the outbreak of epidemics. Finally, the controls for the Gadsden purchase and the War of the Reform attempts to account for the possible population loss incurred after the sale of la Mesilla<sup>8</sup> to EEUU in 1854 and the deaths from the war between 1858 and 1861.

There is some expected evidence that having more villages, towns, haciendas, and ranches associated with having a larger population; therefore, it is logically to suspect that the depredation of these localities by the nomad's raids should have a negative demographic impact. This hypothesis is strengthened by the coefficient from the index of raids that is steadily significant at the 99% level and negatively associated with population. Offering further evidence favoring our hypothesis, the presidio variable, which captures the number

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<sup>7</sup> The correlates units are as following: population density = inhabitants per KM<sup>2</sup>. Cities, towns, villages = the number of such human settlements. Indexraids = an index of the raids registered. warexpenditures and customrevenues = the natural logarithm of the quantity in pesos. The rest of the variables are dummies.

<sup>8</sup> Although la Mesilla was barely populated (500 or 600 people), the sale of the territory became an important grievance factor for the inhabitants of Sonora. Sonorans feared the rest of their land would follow the same fate (Tinker Salas p.99). Soon after the acquisition, American settlers moved and open business along the new frontier, thus the sale of la Mesilla could trigger population movements.

of presidios functioning in a state at a given year, is significant at the 90% level on three specifications and associated with a modest increase in population density. Surprisingly, the expenditure in war is negatively associated with population density and significant at the 95% level on two specifications, apparently more money on the army was not making Mexicans safer in the border. This result could point to low effectiveness of the military expenditures and therefore the lack of state capacity. The Guadalupe-Hidalgo Treaty is significant at the 99% level and displays a positive association with the population density; this is expected as the introduction of Article 11, although short-lived, affected the control of raids emanating from the newly acquired U.S territories, and because the new border facilitated the consolidation and expansion of urban centres in north-central Mexico.

The interaction between the north and Guadalupe-Hidalgo Treaty shows no significance which prevent us for making further claims on its impact on the population density of the north. Finally, the controls introduced such as the War of the Reform and the epidemics are mostly non-significant, with the exception of the typhus epidemic of 1847 and 1848 during the Mexican-American War. Although the overall evidence remains somewhat weak, it is consistent with the historiography of the region and therefore merits further investigation.

**Table 3: Population panel regression correlates.**

Dependent variable: popdensity	(OLS)	(State FEs)	(State & Year FEs)	(State & Year FEs +Guadalupe-Hidalgo)	(State & Year FEs +Guadalupe-Hidalgo +Epidemics)	(State & Year FEs +Guadalupe-Hidalgo +Epidemics +Interaction +Gadsden)
Variables	1	2	3	4	5	6
cities	-1.053 (1.095)	1.215 (1.051)	-0.0257 (1.115)	-0.0257 (1.115)	-0.00559 (1.085)	0.00778 (1.040)
villages/towns	0.0189*** (0.00463)	0.00410 (0.00405)	0.00526 (0.00601)	0.00526 (0.00601)	0.00561 (0.00570)	0.00533 (0.00589)
haciendas/ranches	-0.00958*** (0.00248)	0.00201** (0.000939)	0.00115 (0.00115)	0.00115 (0.00115)	0.00114 (0.00113)	0.00119 (0.00111)
indexraids	-15.71*** (3.071)	-0.173 (0.283)	-2.419*** (0.820)	-2.419*** (0.820)	-2.417*** (0.812)	-2.689*** (0.811)
lnwarexpen	0.155 (1.289)	-0.251** (0.119)	-3.251** (1.485)	-1.384 (0.890)	-1.384 (0.891)	-1.408 (0.857)
lncustoms	0.210 (1.865)	0.265* (0.152)	3.003*** (1.142)	-0.629* (0.341)	-0.628* (0.342)	-0.644** (0.319)
presidio	-2.250*** (0.366)	0.0804 (0.0519)	0.211* (0.116)	0.211* (0.116)	0.213* (0.116)	0.162 (0.111)
1.cholera33					0.200 (0.730)	0.218 (0.732)
1.typho4748					-1.033** (0.506)	-1.079** (0.514)
1.cholera50					-1.051 (1.948)	-1.067 (1.924)
1.reformwar					0.854 (1.172)	0.857 (1.160)
1.guadalupehidalgo				4.969*** (1.786)	4.119*** (1.019)	4.171*** (1.148)
1.north						-18.92 (12.69)
1.guadalupehidalgo#1.north						-0.581 (1.371)
1.gadsden						0.162 (0.521)
Constant	18.55 (21.67)	10.01 (6.417)	16.76 (17.48)	41.11* (23.67)	40.99* (23.82)	50.22* (28.46)
State F:E.	NO	YES	YES	YES	YES	YES
Year F.E.	NO	NO	YES	YES	YES	YES
Observations	560	560	560	560	560	560
R-squared	0.111					
Number of id		20	20	20	20	20

Robust clustered standard errors in parentheses (specs-2-6)

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Starting from the promising results from the set of panel regressions, we focus on specific cases along the Mexican-US border. To claim that depopulation can be explained by the lack of territorial control and the effect of the nomad raids it is necessary to show that neither a chance event nor the impact of other developments were responsible. We also need to show that the depopulation trend changed after 1848. To solve this problem, we choose an empirical strategy that employs the synthetic control method (Abadie and Gardeazabal 2003, Abadie et al. 2010 and Abadie et al. 2015). This method is appropriate for our case because it is less data-intensive than other microeconomic alternatives. The synthetic control method allows the construction of a counterfactual unit employing just a handful of controls. The method is intuitive; it generates a synthetic unit composed by weighting other states in the sample and finding the best combination that closely mimics the treatment unit. To verify the results of our method, we follow Abadie et al. (2015) in constructing placebo tests with the available states that did not suffer nomad raids.

**Figure 5: The impact of the nomad raids in northern Mexico in Population.**

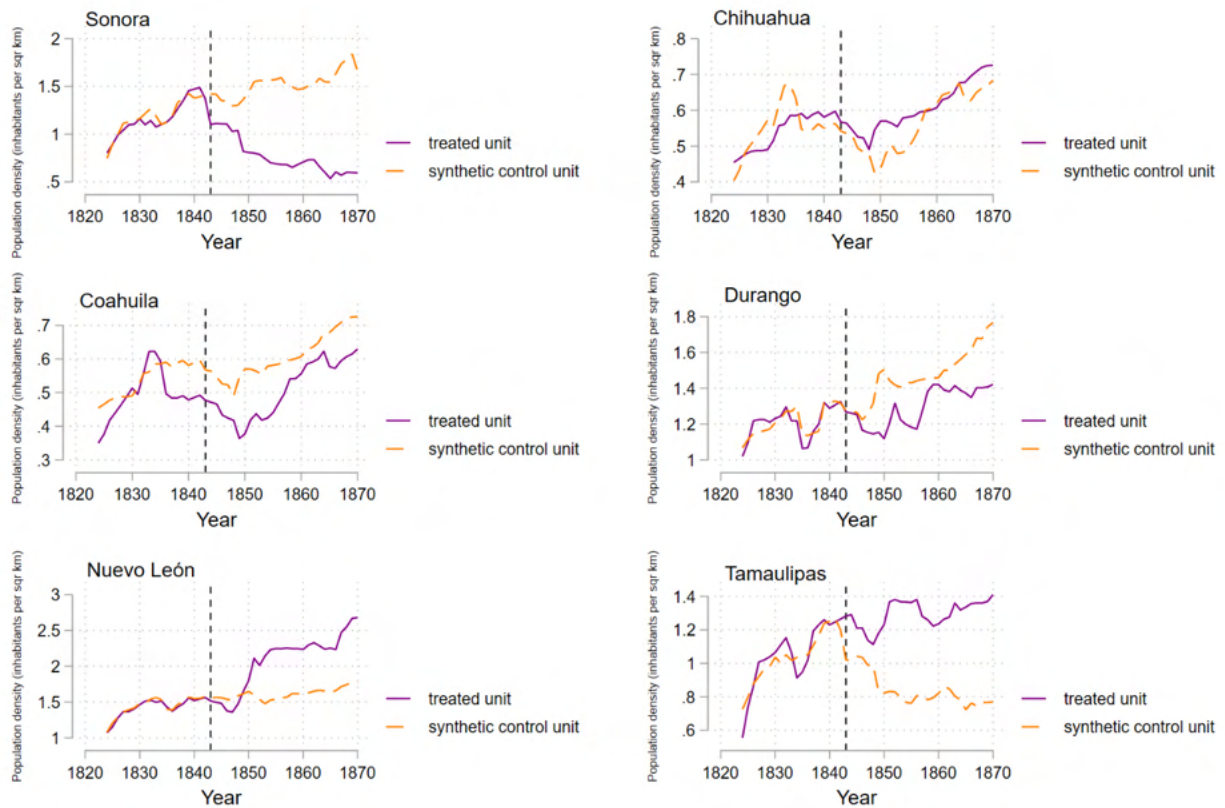
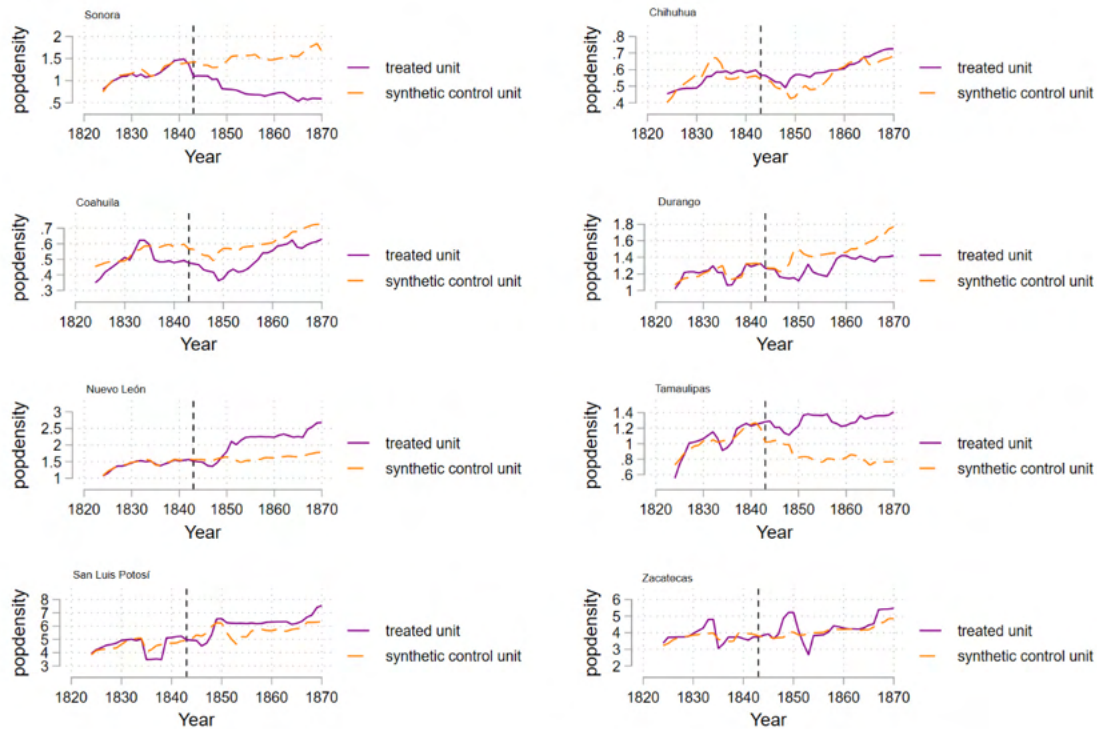


Figure 5 presents the real and synthetic units that correspond to the states of Coahuila, Chihuahua, Durango, Nuevo León, Tamaulipas, and Sonora, the six states that historically struggled the most against the nomad tribes' incursions. After 1843 when the raids intensified, we see a deviation in the state population trends between the treatment unit and the synthetic one. This effect is arguably a result of deaths, captures and the displaced population that fled the attacks due to property loss and fear of death or capture for enslavement. For the states of Sonora, Durango, Nuevo León and Chihuahua it is clear that after the intensification of the raids in 1843 there are important deviations from the synthetic trend. For the state of Coahuila although there is an important gap after the raids intensify, it is the separation from Texas in 1836 that provides the greater shock.



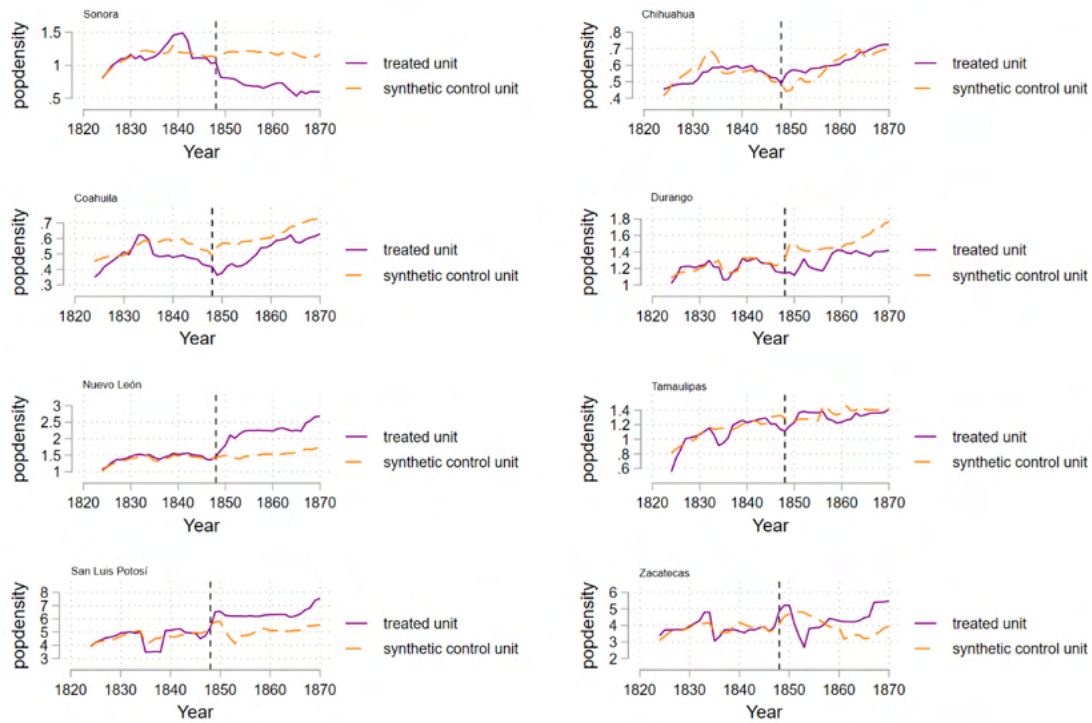
**Figure 6: The impact of the nomad raids in northern Mexico in Population Density.**



When using population density instead of population the results remain largely the same. In Figure 6 we add a couple of states that became buffers for the displaced population at the border, San Luis Potosí and Zacatecas. For Sonora the collapse in population density is very pronounced going from 2.5 inhabitants per square kilometer to 0.5. For Nuevo León on the other hand after the fall associated to the intensification of the raids, population density recovers moving from 1.5 to 2.7 inhabitants per square kilometer. For the rest of the states particularly Coahuila and Chihuahua we observe a pattern that closely follows the population result.

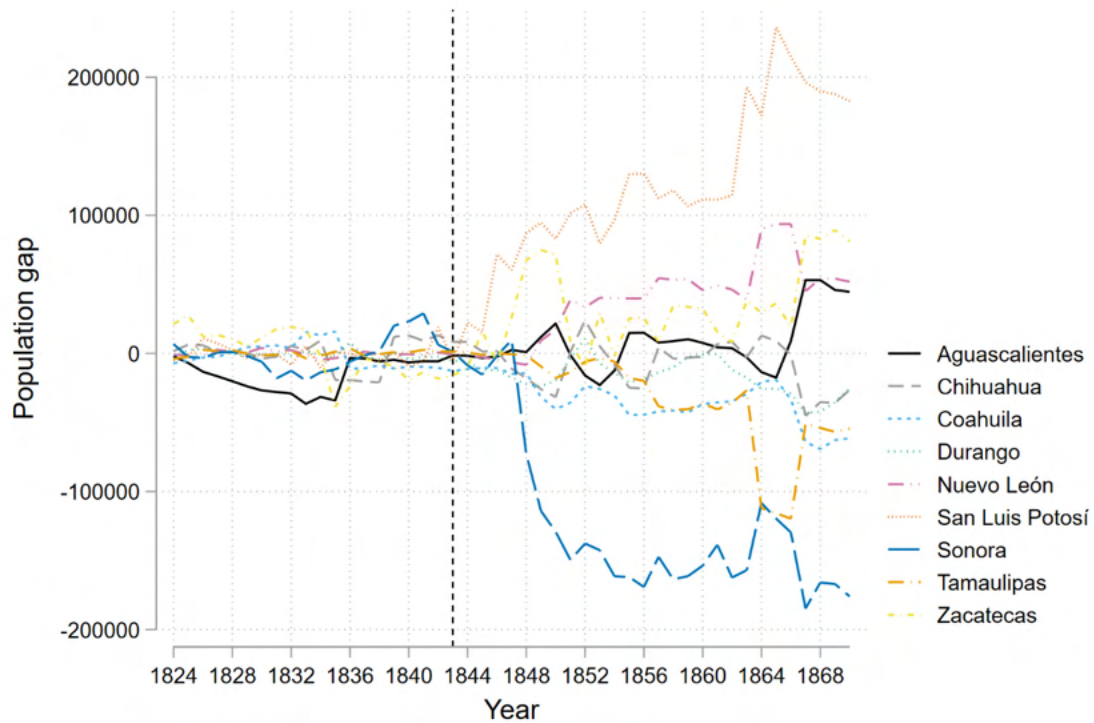
Did that change after 1848? If we use the same model but now with an intervention in 1848, we find that for some states the trend clearly changed (Nuevo León and San Luis Potosí, particularly). For this cases population increased faster than what our model expected. For other states as Chihuahua, population increased as our model expected. But in some other states (Durango and Sonora) there is no change in the previous depopulation trend.

**Figure 7: The impact of the end of the Mexican American War in Population Density.**

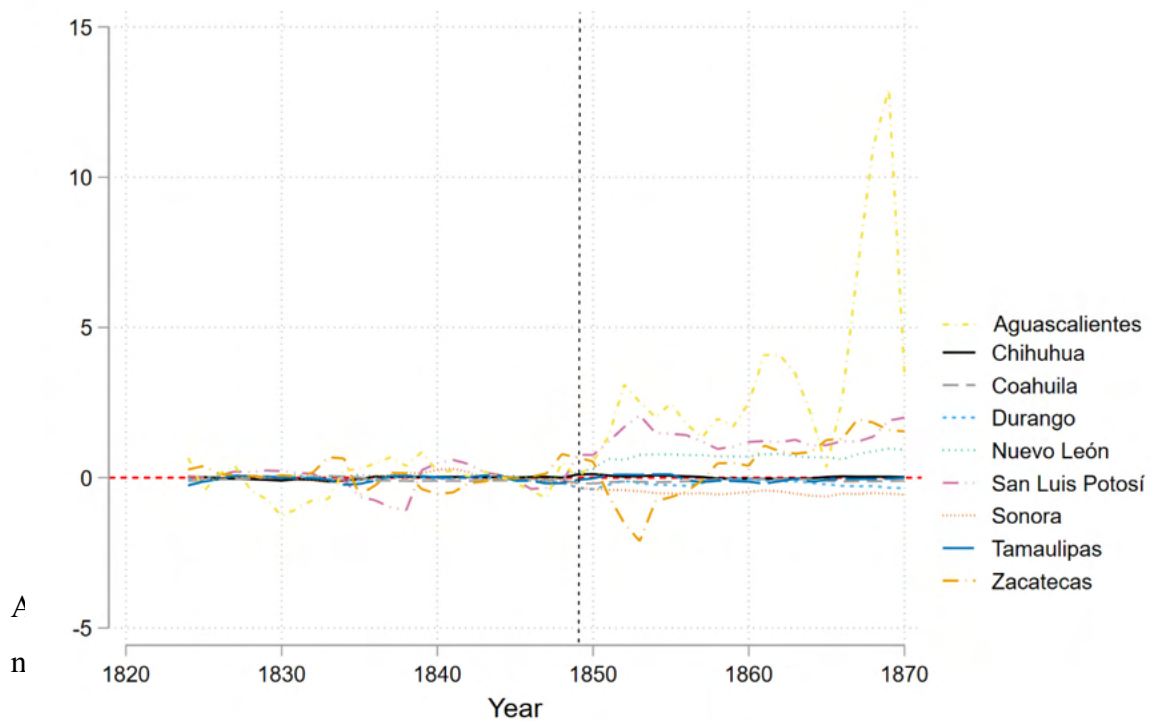


Employing 1848 rather than 1843 as the date of the event (the end of the Mexican-American War and signature of the Guadalupe-Hidalgo Treaty) we observe largely the same effect. States like San Luis Potosí and Zacatecas now display a stronger increase in population density compared with their synthetic controls, the same can be said for Nuevo León. The rest of the states with the exception of Tamaulipas, display a similar pattern as in Figure 6. This evidence suggests that the war and the signature of the Guadalupe-Hidalgo Treaty had an important effect in the population density changes for some states.

**Figure 8: Placebo gaps in population for a sample of states after 1843.**



**Figure 9: Placebo gaps in population for a sample of states after 1848.**

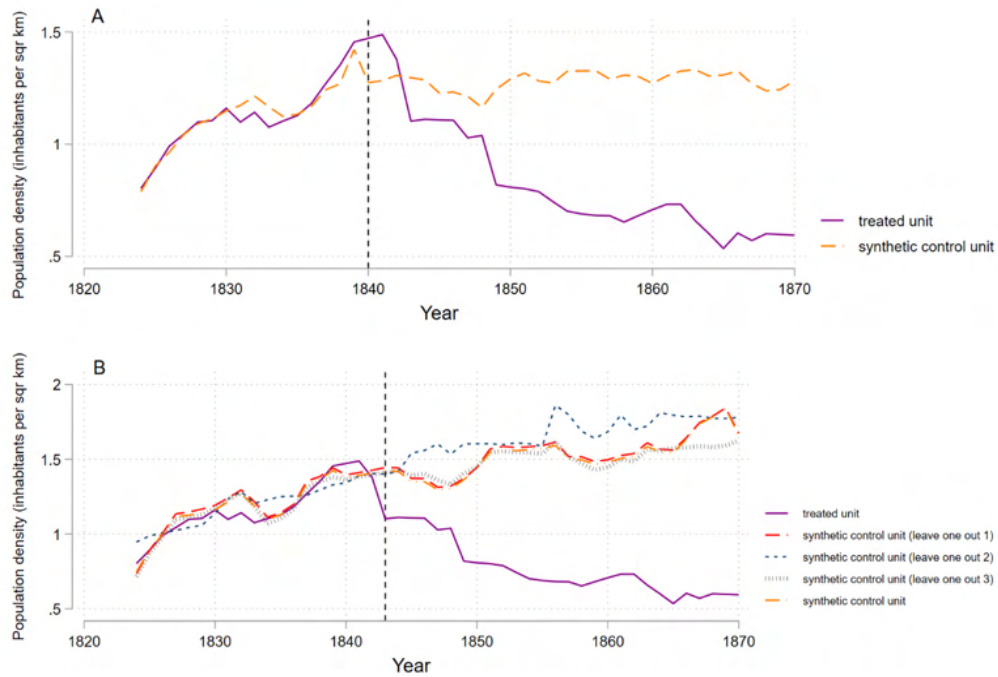


Zacatecas, San Luis Potosí and Aguascalientes showing sustained population gains, partly due to the internal emigration from the north. And the Northern States except for Nuevo León showing moderate to large depopulation. Among the Northern states, Sonora is by far the more affected and Nuevo León the less affected. This opposite trend could be explained by the fact that Nuevo León benefited from being close to the Texan border and its booming economy and in a more well-connected region with defensive presidios. On the other hand, Sonora was extremely disconnected from the rest of the country and left without any substantive defensive grid of military colonies. Following Abadie et al. (2010) we interpret the larger gap in population for the state of Sonora relative to the gap of other states in the region as an indication that the results are not driven by chance.

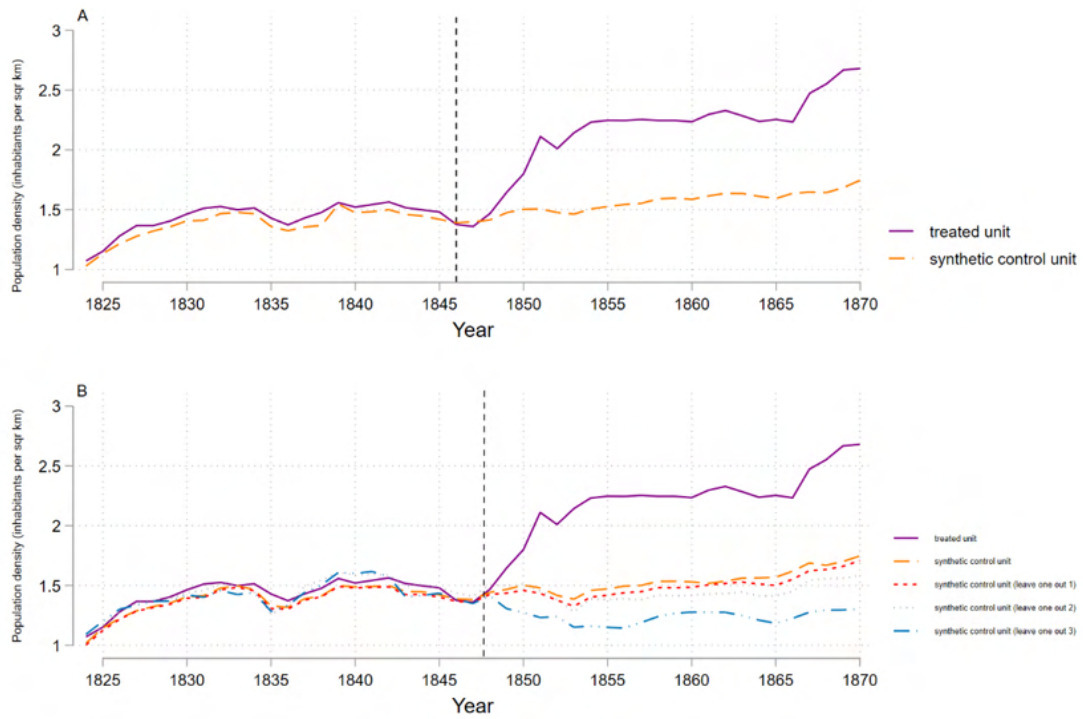
Abadie (2021) in his extensive discussion of synthetic control methods suggests a series of robustness checks to see if the application of the method is credible. Following his recommendation, we present two such procedures to enhance the credibility of our results. First, we backdate the nomad's raids from 1843 to 1840 for the state of Sonora (Panel A in Figure 10) and the end of the war to 1846 to the case of Nuevo León (Panel A in Figure 11). Backdating serves two purposes: one, it becomes an in-time placebo test (Abadie 2021) showing how the synthetic control keeps tracking the development pre-treatment. Second, it shows how the gap between the two series widens around 1843 and 1848, the same time as in figures 8 and 9.

Panel B in both figures 10 and 11 reports another test, the leave-one-out test (Abadie 2021) in which we systematically remove from the control units the donor states from which the synthetic unit is built, and then we let the search algorithm construct a different synthetic unit selecting a different combination of donors. The result shows that after the interventions (1843 and 1848) the synthetic units constructed with less donors approximate the same trajectory centered above the treated unit. Even if constructed with different donors, panel B in both figures 10 and 11 shows that under normal circumstances population density would be above the real Sonora (Figure 10) and below the real Nuevo León (Figure 11). These results suggest that our estimates are robust to changes in the donors' pool and therefore, likely to reflect the true effect of the treatments.

**Figure 10: Backdate (A) and leave-one-out (B) tests for Sonora (1843)**



**Figure 11: Backdate (A) and leave-one-out (B) tests for Nuevo León (1848)**



This quantitative exercise leaves us with an important conclusion. When we cut the information in 1843 to construct a synthetic control what we find is evidence that the trend in the following years after that cut is biased towards depopulation in the northern states. While when we make the cut-off in 1848, we find a tendency towards an increase in population in practically all of the northern region. This result is consistent with the historiography that mentions how the dangers of the frontier and Mexico's military inability to prevent them made life very complicated for Mexican people. Those conditions clearly diminished after the war with the United States in a good part of the border.

### **From frontier to border**

Against what traditional bellicist theory (developed by Tilly (1990) and Mann (1988)) could expect from Mexican history, 19<sup>th</sup> century wars did not lead to a better formal military, nor to more fiscal capacity. However, through an uncommon process of territorial losses. The conditions faced by Mexico on its northern border changed radically. Threats were reduced and territorial integrity became attainable. Finally, there was a border where it was possible and profitable to establish, to combat smuggling, to invest, pay taxes, to live. The treasury benefited from the orderly conduct of trade with an economically booming Texas. Occupying the north made sense for Mexican institutions, but above all for Mexicans. Mexico finally got in the struggle to first defend and then control and exploit the north, and to increase the possibilities for a Mexican state to survive.

Perhaps the hardships suffered by Sonora during most of the 19<sup>th</sup> century serve as an example of the fate that would have fallen upon the whole of the northern territories of Mexico if the country had not mustered the political will to invest in its occupation. Sonora in the period between 1848 and 1870 had, because of nomad raids, an average rate of 637 deaths per-100,000 inhabitants compared to 411 in Coahuila and 276 in Nuevo León (Informe de la Comisión Pesquisadora De la Frontera Norte Al Ejecutivo de la Unión Sobre Depredaciones de los Indios 1872; Almada Bay 2015). Sonora's geographical isolation and the lack of lucrative opportunities vis a vis the northeast border together with the remarkable endurance of the Apache in the region made it a deadly desert. What this committee described at the time coincides with the results of our second synthetic control model.

When Mariano Arista redesigned the strategy of presidios in the north, he not only reduced their number to provide the existing ones with more resources, but he also saw to it that the presidios were concentrated around the part of the frontier that was now manageable and lucrative. In other words, the renewed presidio strategy paid off not only because it provided some security, but because their geographical location near important trading places between the Mexican-Texas border enabled them to transform into rich sources of revenue for both the Federal Government, the local governments and the ever-present smugglers. The emergence of men like Santiago Vidaurri in Nuevo León and Evaristo Madero in Coahuila (Nieto Camacho 2012, pp. 260-304) show the enormous economic and strategic importance of becoming the hegemon in those lands. During the conflicts of the War of the Reform, Vidaurri control of the customs in the states of Coahuila, Nuevo León and Tamaulipas became an important source of money and men towards the liberal cause. Again, during the French Intervention even after Vidaurri's joined Maximilian court in Mexico City, Juárez control of the resources from the dying moving frontier kept the Mexican Republic alive.

The process to transform a *malpais*<sup>9</sup> in which no hegemonic power dominates, a constantly shifting frontier (Turner 1893; Bolton 1921) into a border was a long-term costly process for Mexico. Northern Mexico was a contested territory for more than two centuries (1680-1880). During the Period between the end of the Mexico-American War in 1848 and the death of Benito Juárez in 1872 this process accelerated. A series of profound changes will take place in the north, which would have been impossible if the Mexican population had not first found reasons to once again attempt to inhabit those territories. Mexican population finally claimed that territory in which eventually rapid economic development was going to take place in the last quarter of the century. Eventually, even Sonora would finally become a border region rather than a frontier land once the capture of the last great chieftain of the Chiricahua Apache, Geronimo, in 1886 marked the end of any real territorial challenge in the north.

An important effect of the lack of control of the northern territories is the difference between winners and losers from its distributional dynamics. Almada Bay (2014) documented how

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<sup>9</sup> Malpaís is an arid unfertile land not suitable to sustaining life. It also signifies the field in the middle of two opposing armies.



*“la saca”<sup>10</sup>* was an important redistribution practice among the population affected by the raids as the peasants fought the nomads to recover cattle and other stolen property to keep a percentage of the value of what was recovered. Castañeda Garza (2022a) in its analysis of the impacts of the Mexican-American War on inequality, briefly points out to the fact that the raids from the nomads could had a positive effect on inequality since the distribution of losses from these conflicts were concentrated with the poorest population as the poor were the less equipped to defend themselves from the attacks of Comanches and Apaches. The need to survive and the impoverishment of the region could have easily been part of the depopulation of the north. If this interpretation is correct, then the control of northern Mexico by the government is one of the key factors behind the distributional dynamics changing from pre-industrial to something resembling the Kuznetsian forces of structural change.

What once was an enormous region disputed by the American territorial expansionism, Mexico and the Comanche empire (Hamalainen 2009, Gwynne 2010) and the Apache (Griffen 1998), became one of the important engines of economic growth. By the last decade of the 19<sup>th</sup> century, on the Mexican side of the border, the region was a booming economy with important mining, agricultural and early manufacturing sectors. The territorial control of the north enabled the vertical integration of the hacienda economy (Haber 1989) and its interconnection with central Mexico. The Mexican American war meant the loss of a huge territory for the Mexican State, at the same time made possible for the Mexican population to occupy the territory that remained in its hands and that was a precondition for both, the territorial and, probably, fiscal consolidation of the Mexican State and the economic boom of the late 19<sup>th</sup> century. The territorial control of the north would again become an important economic, political and strategic factor when, at the beginning of the 20<sup>th</sup> century, the Revolution swept Mexico.

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<sup>10</sup> La saca was a legal practice since 1834 in which a percentage of the recover property was distributed between those who fought the nomads as a reward.



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