



The inefficacy of land titling programs: homesteading in Haiti, 1933–1950

Craig Palsson¹ · Seth Porter¹

Received: 13 June 2023 / Accepted: 30 July 2024

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2024

Abstract

One of the most common policy recommendations in developing countries is titling land. Yet, titling programs around the developing world frequently fail to produce many titles. We try to understand these failures by exploring a titling program in Haiti in the 1930s. The program offered tenants renting public land an opportunity to privatize the land as a homestead, giving them an official title and ending rental payments. Making use of archival data on all homesteads granted in the first 16 years, we find the program created fewer than 700 homesteads. We discuss potential reasons for the program's failure and argue that it failed because it required homesteaders to farm at least 50% of the plot in cash crops. We discuss whether this requirement was the government's attempt to extract revenues from the land in the absence of other options or whether it was an intentional barrier to resist foreign interference.

Keywords Property rights · Haiti · Economic development · Land reform

JEL Classification O10 · D23 · R52

1 Introduction

Since property rights in developing countries are often insecure and poorly defined, one of the most common policy recommendations is to title land.¹ For instance, De Soto in the *Mystery of Capital* (2000) argues that effective land titling could help alleviate global poverty. Moreover, in recent years several countries have implemented land programs and have seen significant efficiency gains: titling land increases investment on the property (Galiani & Schargrodsky, 2010) and frees labor to move to better opportunities (Agyei-Holmes

¹ For example, secure property rights were a key feature of the Washington Consensus (Williamson, 2005).

✉ Craig Palsson
craig.palsson@usu.edu

Seth Porter
a02309525@usu.edu

¹ Jon M. Huntsman School of Business, Utah State University, 3500 Old Main Hill, Logan, UT 8432, USA

et al., 2020; Chernina et al., 2014; De Janvry et al., 2015; Field, 2007). Land titling programs have also been used by governments to mobilize private citizens to secure claims to important territory (Allen, 1991, 2019). Despite these benefits, the efficacy of land title programs appears to be low. In Sub-Saharan Africa, 23 countries have implemented titling programs, yet almost none of the programs succeeded in widespread titling (Ali et al., 2014; Deininger et al., 2008). For example, Ghana established a titling program in 1988, but by 2006, out of a population of 23 million, it had only received 42,000 applications (Kuntu-Mensah, 2006). De Soto (2000) documents similar titling programs in Haiti and Peru that received few applications relative to the amount of untitled land. Why are titling programs in developing countries ineffective?

In this paper, we look at the factors affecting the efficacy of titling programs using a homesteading program in Haiti. This program aimed to transfer state-owned land to farmers who were willing to rent and improve the land for two years. After the two-year probation, farmers gained full title. We collect archival data on every property titled under this program during its first 15 years. We find that in this period the government issued only 679 titles, only 2% of the properties that were under immediate consideration for homesteading (De La Rue et al., 1933, p. 163).

We analyze the homesteading program using archival data and test whether the number of titles is correlated with factors affecting the costs and benefits faced by the homesteaders and the government. In reviewing the historical accounts, we find that program officials blamed the program's failure on low literacy rates, claiming illiteracy prevented potential homesteaders from learning of its benefits. We test this awareness hypothesis using two approaches. First, we regress homesteads on local literacy rates. Contrary to the prediction that a higher literacy rate will be associated with more homesteading, we find a negative, statistically imprecise, relationship. Second, we regress homesteads on participation in the state rental program. The homestead program targeted these tenants, intending to give them stronger rights over the land they already cultivated, so these areas should have been the most aware of the program. We find that districts with 10% more tenants had 6% more homesteads, a result significant at the 5% level. While this is consistent with program awareness leading to greater adoption, we cannot conclude that awareness was the main barrier since the number of homesteads amounted to only 2% of state tenants.

We introduce a new hypothesis that a significant barrier to the program's success was the program's requirement to cultivate a cash crop. Along with a residency requirement, the 1934 law said that the government could require the homesteader to cultivate 50% of the plot in an export commodity. Since coffee comprised 70–80% of Haiti's exports, we test for the importance of this requirement by regressing homesteads on an indicator for whether coffee was an important part of the local economy. We find that areas where coffee played a large role had 129% more homesteads than those without, though our proxy is noisy and the result is only significant at the 10% level. Combining this empirical result with comments from the archive, we argue this is the most compelling hypothesis for the program's failure.

We explore several other hypotheses, and while we cannot dismiss all of them, the evidence is less compelling. We find some evidence that the cost of applying, measured by the delay between application and approval, deterred homesteading, but the result is not statistically or economically significant. To test whether political connections were important, we create a proxy for political connections using a dictionary of all Haitian political office holders. But we find no relationship between political connections and homesteading. We also review the historical records on whether other program requirements acted as a barrier and whether land quality was an issue. Most of the alternative hypotheses have insufficient

historical evidence to push them forward as a primary explanation, and no definitive claims regarding them are possible.

We conclude that this program is an example of wealth-destroying property rights and the property rights gap. Under wealth-destroying property rights, the government makes inefficient decisions because it is not the residual claimant of land that has been completely privatized (Leeson & Harris, 2018). And under the property rights gap, the government allocates property without complete rights to retain control over the land and the people (Albertus, 2021). We argue that one factor motivating the cash crop requirement was the government's goal to extract income from the property once it was privatized. Since Haiti did not have a land tax, the government tried to capture income from tariffs on the export crop it would produce. But by trying to capture that income, the government hobbled the program in the rest of the country. While this might have been a well-intentioned mistake, we review some evidence that this could have been an intentional move by the Haitian government to resist the occupying Americans.

This paper contributes to our understanding of titling programs. While people have long advocated for titling property, the titles are frequently underutilized. Some of the common explanations for this are that the titles do not provide much of a benefit over the status quo (Dye & La Croix, 2013; Panman & Gracia, 2022) and that the potential beneficiaries do not trust the state to enforce the title (Albertus, 2021). Even though the Haitian homesteading program addresses these issues, the program was still underutilized due to restrictions on the title.

This paper also furthers our understanding of the barriers to resolving misallocation problems in agriculture in poor countries. Across the developing world, small farms have led to a misallocation of resources (Adamopoulos & Restuccia, 2014). These small farms are the result of poorly defined property rights and policies biased towards smaller plots. But when farmers receive clear rights to hold, transfer, or lease their land, land is reallocated to better uses and labor is freed for more productive activities (Agyei-Holmes et al., 2020; Bolhuis et al., 2021; Chari et al., 2020; Field, 2007). But when such titles come with restrictions, they can result in short- and long-run inefficiencies. For instance, the 1862 Homestead Act in the United States is often seen as a successful homestead law, yet Allen and Leonard (2021) have shown that the law imposed a sub-optimal land-use requirement on farmers that hurt long-run development. This paper complements theirs and shows that it is not sufficient to offer the opportunity to receive these rights if restrictions prevent them from receiving the title or using the land optimally. Regardless of whether the restrictions are imposed directly or accidentally by the government.

2 Land titling—theory and evidence

The evidence for the failure of titling programs around the world (Ali et al., 2014; Deininger et al., 2008; Honig, 2017; Kuntu-Mensah, 2006; Panman & Gracia, 2022) comes from one primary metric: the number of titles granted is small and often close to zero. In standard economic terminology, this means the market supply and demand has settled at a low equilibrium quantity. The main drivers of the supply and demand for land titles are the costs and benefits faced by market participants. Much research has focused on the benefits of a title to landowners. But a factor that receives less attention is the costs of the title to landowners. Additionally, the title is issued by a state facing its own costs and benefits of titling land. This results in four factors that may contribute to the failure of titling programs

around the world: costs and benefits to landowners, and costs and benefits to the state. We review how these factors contribute to the success and failure of titling programs.

We start with the well-researched benefits of titles to the landowner. There are two primary theoretical benefits of a title. First, titles increase property security, reducing the landowner's risk of expropriation. This security increases the marginal productivity of his effort, so he invests more in the land. The second benefit is a reduction in transaction costs when buying and selling land. When a title is clearly established, the land market is not encumbered with the costs of defining and enforcing property rights, and land can move to its most productive use. Several studies have confirmed that better security leads to more investment (Goldstein & Udry, 2008; Hornbeck, 2010) and that better security reallocates land to more productive farmers (Chari et al., 2020; De Janvry et al., 2015). This connection between property security and higher productivity has led some development theorists to advocate for titling land.²

But the owner choosing to title his land also faces costs. He could incur these costs immediately, such as paying fees for surveying and registering the property, or in the future by paying property taxes. But he also faces the opportunity cost of the next-best property rights arrangement. While many properties around the world are not formally titled, that does not mean they lack property rights protections. The owner can obtain informal rights by defending his property, or he can participate in a local community that governs rights. Thus, the landowner will weigh the title's benefits relative to the cost of guaranteeing rights through another mechanism.

There is a rich literature showing that the efficacy of titling programs depends on the landowner's benefits relative to his costs. One oft seen possibility is that the benefit of a title from the government is low when local customs sufficiently protect the property, such as in Tanzania (Panman & Gracia, 2022) and Afghanistan (Murtazashvili & Murtazashvili, 2015). Or they might be low because there are few threats to the property, such as in New South Wales (Dye & La Croix, 2013) and Cape Colony (Dye & La Croix, 2020). The benefits also might be low if credit market failures make it difficult to securitize a loan with the title (Bromley, 2009) or if creditors refuse to accept the title as collateral (Kerekes & Williamson, 2010). Even if the benefits are high, the title's costs might be higher. De Soto (2000) documents many countries that offer the opportunity to title land but where the administrative costs are so high that they deter applicants. In fact, one of the programs De Soto examined is the same titling program we examine here, but we examine it at its inception, before the problems he documents.

While the landowner is one factor in the success of titling programs, it is also important to consider that land titles come with both costs and benefits for the state. The state guarantees the rights in the title by investing in state capacity, such as establishing titling agencies and courts to resolve disputes (Besley & Persson, 2009; Palsson, 2023b). If the title privatizes public land, then the state incurs the opportunity cost of what it could have done with that land. The state must weigh these costs against the various benefits that come from titling land. For instance, the state will consider how titling affects tax revenues. If titles make the land more valuable, they can increase the value of property taxes, and if they induce owners to produce more valuable output, then the state can tax that too. But even if the titles do not raise the value of land, they formalize ownership, making property legible to the tax collector and enabling new properties to be taxed. Beyond tax revenues, the state

² Note that some development thinkers believe titling is the wrong prescription for poverty alleviation (Bromley, 2009).

can also use titles to capture political benefits, either by awarding titles to political insiders or by making property owners dependent on the state.

Several papers show that titling programs are guided by the cost and benefit calculus of the state. In Mexico, the government selectively enforced property rights so it could distribute rents to political insiders (Haber et al., 2003). Governments around Latin America historically withheld property rights protections to tie property owners' success to the government's (Albertus, 2021). On the other hand, with US homesteads, the state wanted to subsidize dense settlements because they lowered the cost of protecting property (Allen, 1991), however this eventually led to an oversupply of homesteads, eroding the land, and contributing to the Dust Bowl of the 1930s (Libecap & Hansen, 2004).

Of course, since the state is one side of the market, there is always the chance that public choice considerations will affect the success of the program. Special interest groups might oppose the state to protect rents. In Kenya, land reforms that would have led to a more fair and transparent land distribution process were vetoed by the collusion of various local elites (Boone et al., 2019). On the other hand, giving farmers more secure property rights could lead to greater political support (De Janvry et al., 2014).

In summary, the success of a titling program will depend on how the market participants view the costs and benefits of participating. We take these ideas to a homesteading program in Haiti during the 1930s.

3 Haiti's homesteading program

In the revolution that culminated in independence from France in 1804, the Haitian state became the country's largest landholder. Initially, the state tried to run the plantations to keep the economy running in what Ferrero (2021) describes as agrarian socialism. But the government soon realized this was unsustainable. In 1809, it began breaking up the colonial sugar plantations and redistributing land to the military, then it eventually sold properties to finance government operations (Murray, 1977, pp. 76–77, 102). At the same time, the freed people started migrating to the country's uninhabited interior, settling on the unused land (Gonzalez, 2019; Murray, 1977, pp. 18–20). These forces led to widespread land ownership, but the state still remained the largest landholder (Palsson, 2021).

Under the US occupation of Haiti (1915–34), a primary policy goal was to move state-owned land into agricultural production. The occupation began as a mission to establish political stability after a tumultuous four years of coups in a country with a strong German presence. Despite some stability in the occupation's early years, an American investigation concluded that ending the occupation early could lead to more instability, so the direction changed towards establishing stability through economic development (Palsson, 2023a). Since the primary economic activity of Haiti was agriculture, the officials assessed the sector and identified two barriers to development. First, the state was the country's largest land-owner, owning about 915,000 hectares, most of which sat idle (Millsbaugh, 1929; Palsson, 2021). Second, few farmers had property titles, preventing the development of land and discouraging foreign capital investments (Cumberland et al., 1927, p. 108). The Americans believed that by privatizing and titling the land, Haitian farmers would have greater incentive to cultivate it and that a larger class of small, titled proprietors would be a source of economic and social stability (De La Rue et al., 1931, p. 23).

Americans believed the solution was a homesteading program but that success hinged on getting the program design correct. As early as 1920, officials began recommending

Table 1 Comparison between the 1932 and 1934 homesteading acts

1932	1934
<i>Requirements to get title</i>	
Be at least 21 (either sex)	Be at least 21 (either sex)
Rent from state for 3 years	Rent from state for 2 years
File a form stating intent to homestead	File a form stating intent to homestead
Reside on or near property for 3 years	Reside on property for 2 years
Current on rental payments	Current on rental payments
Build a house on the property (could be fulfilled within 3 years of obtaining title)	Pass inspection that the land is cultivated
<i>Restrictions on title</i>	
Cannot be mortgaged, leased, or sold until 20 years after title granted	Government has option to require 50% of property planted in cash crop (with two years' notice)

Requirements listed in the Law of 5 September 1932 and the Law of 12 January 1934

a homesteading program that would put idle land into private hands (Republic of Haiti, 1920, pp. 10–11). American officials had implemented a similar, and largely successful, homesteading program in the occupation of the Dominican Republic (Turits, 2003, pp. 72–73). The officials in Haiti noticed that there had already been an attempt to implement a homesteading program in 1883, but that it was a “complete failure” (Millspaugh et al., 1928, pp. 76–78). They blamed the early failure on the program’s design. The 1883 program required farmers to cultivate a cash crop on three quarters of the land they received, but it had no residency requirement. The program was deemed a failure because it did not create a class of small, landed proprietors. Instead, homesteaders leased the land to tenants and became absentee landlords in the process. The American officials in 1928 said the experiment should be tried again, but this time the law should require homesteaders to personally live on and cultivate the land, and that the program should be restricted to “areas not appropriate for large-scale productive enterprises” (Millspaugh et al., 1928, p. 77). The program would be open to all, but a big opportunity was giving tenants renting state land a chance to own it (De La Rue et al., 1931, p. 22).

The first attempt at homesteading legislation was passed in September 1932, but it quickly failed because of, what the Americans considered, a major design flaw. In the law’s preamble, the legislation was motivated to encourage agricultural development by households through more secure titles and, interestingly, to prevent an exodus out of rural areas. The requirements to homestead are listed in Table 1. The law provided that anyone 21 years or older could homestead up to 5 hectares (12.4 acres) by fulfilling three main requirements: (1) the applicant had to rent the land from the government for three years; (2) he had to be current on rent payments; (3) he had to live on or near the property itself and cultivate it for three years. In exchange, the applicant would receive a title to the land, its buildings, and all output. This addressed the perceived problems of the 1883 program: it avoided large-scale farms by restricting the farms to only 5 hectares and it prevented the problem with tenancy by adding a residency requirement. But the title had a restriction. The property could not be sold, leased, or mortgaged in the first twenty years. The only transfer right bestowed on the title holder was the right to will the property to an heir at death. In the eyes of the American officials pushing

homesteading, this restriction undermined the entire point of the program. The restriction was not in the original legislation but was added by the legislators at the last minute. Such modifications seem to have been routine in the legislative process because the officials mention six other laws they helped design that were also modified by the Legislative Body (De La Rue et al., 1932, pp. 49–50). But this modification received more attention than any other because of its stark effect on the purpose of the law. “Unfortunately the law which was enacted does not offer advantages enough to encourage homesteading. Unless it is modified it will be found to be completely ineffectual” (De La Rue et al., 1932, pp. 27–29). In the same passage, the Americans lamented, “instead of coffee trees or cotton plantations [i.e. export commodities] there will be the usual ill-kept plots of corn and vegetables where peasant farmers, without the pride or incentive which comes with private ownership, will continue simply to eke out a bare living from the soil as tenants of the state.”

In 1934, the officials succeeded at passing a new homesteading law that they believed was designed to succeed. Table 1 compares the requirements and the restrictions on the title in the 1932 and 1934 laws. Most importantly, the law removed all restrictions on selling, leasing, or mortgaging the property. The officials called this reform “the outstanding accomplishment” of that year’s legislation, “thereby making really effective a law which had been rendered useless because of the excessive restrictions which it imposed upon prospective beneficiaries” (De La Rue et al., 1934, pp. 3, 83).

Most of the other changes in the 1934 homestead program’s design were minor, but there was one significant change that received little attention. Among the minor changes under the new law, the residency requirement was reduced from 3 years to 2, and it added a requirement that farms had to pass an inspection by the National Service of Agricultural Production. But the biggest change was the addition of a provision stipulating that 50% of the land had to be planted in cash crops. The cash crop could have been sugar cane, cotton, cacao, tobacco, indigo, or any other export commodity, but since coffee was 70–80% of Haiti’s exports, it would have been the most likely crop to consider. The title would state the crop the owner was committed to grow, and failure to keep this obligation could lead to the state revoking the homestead title. This was similar to the 1883 program’s requirement, though in the earlier program the requirement was three-quarters of the land. When discussing the cash crop requirement in the 1883 program, the Americans noted that few farmers cultivated the land “to the extent required by the law” (Millspaugh et al., 1928, p. 77). This concern might be why it was not included in the 1932 program. There is no discussion in the American records for why this was included in the 1934 program, and there is no evidence it was opposed.

To obtain a title, the 1934 law outlined a seven-step process for the homesteader. First, he must reside on the desired land for two years, cultivate it, and pay rent. Second, he needs to pass an inspection by the National Service of Agricultural Production that certifies the land has been improved and, if required, that a suitable cash crop is being cultivated on at least 50% of the land. Third, at the local tax authority, he must submit an application, signed in the presence of the tax director and two witnesses selected by the homesteader. At the signing, a government employee must certify that he read and explained the application to the homesteader, alleviating some concerns about literacy being a barrier to applying. Fourth, the form is sent to the Secretary of State of Finance for his approval. Fifth, if approved, the homesteader would then commission an official survey of the property. Sixth, the tax authority publishes an announcement in the government’s gazette, *Le Moniteur*, that the homesteader intends to homestead the property. The announcement lasts for three months, and any opposition would have to be legally resolved before advancing.

Finally, upon meeting all requirements and deadlines, a definitive property title was issued upon payment of a stamp duty, thus granting full ownership subject to some restrictions.

While the Americans in 1934 lauded the homesteading program as an outstanding achievement, by 1939 they were disappointed with its results. “This office is of the opinion that it would now be timely to reexamine the provisions of the homestead law passed in 1934, in the light of the experience thus far gained in its administration.... Certainly the results obtained under the present Act are far from those envisaged when the homestead law was proposed” (De La Rue et al., 1939, pp. 97–98). The Americans attributed the program’s failure to two factors: peasant illiteracy and restrictions on alienating the title. Peasant illiteracy was said to be a barrier because the farmer could not study the law and see the benefits himself but instead had to rely on others to explain it to him (De La Rue et al., 1939, p. 99). The Americans worried that the people who could tell the peasant about the homesteading law were land-owners themselves and would not want to lose a potential tenant. The solution was to increase awareness of the program by directly communicating with the peasants. This is consistent with the assessment of President Vincent, who felt recruitment was one of the biggest barriers to program expansion (Vincent, 1938, pp. 220–221). The claim that the alienation restrictions inhibited the homestead law are hard to reconcile. The Americans argue that the 1934 program failed because it prevented the title from being sold or mortgaged, but those restrictions were in the 1932 program and removed in the 1934 reform. There are two possible interpretations. First, the officials confused the two programs and mistakenly assigned blame to the problems of the first program. Second, the restrictions were not in the law’s text but were enforced in fact.

We get more insight into the program’s failure from a note from the administration in charge of inspecting the properties, the National Service of Agricultural Production. In a 1942 bulletin (*Rapport Annuel Du Service National: Bulletin No 21–31*, 1942, p. 116), they wrote:

Our agents have continued to assist in the application of the January 12, 1934 law on Homesteading by promoting its benefits to farmers, inspecting submitted lands to provide information on their state of cultivation, and recommending useful and economical plants that should be planted to enable applicants to obtain their definitive property titles. Unfortunately, those who are meant to benefit from the law are still in small numbers due to requirements that they cannot always meet, and only 14 plots have been inspected in the district of Jacmel, one in the district of Miragoâne, and seven in the district of Jérémie.

In contrast to the concerns that the program was not being promoted, the Service claimed it was recruiting potential homesteaders. But, according to the Service, the barrier was not promotion, it was that the number of beneficiaries was too small. The potential homesteaders could not satisfy the requirements of homesteading.

Thus, the historical record suggests several hypotheses for why the homesteading program failed. Our goal is to examine the strength of each hypothesis. The Haitian homesteading program is important to study in the context of the property rights literature. First, it follows a common titling pattern that was observed not just in the United States but in areas like the Dominican Republic (Turits, 2003) and Hawaii (La Croix, 2019). Second, it is the same program analyzed in De Soto’s (2000) seminal book on the importance of property titles. He gives this program as an example of the long administrative process that stymies most titling programs (p. 22). The benefit of this study is that we can go to the program’s inception and explore whether this has always been a problem or, as we argue, whether other factors harmed the program’s success.

4 Data on homesteads

We collect data on every homestead granted between 1932, when the first homestead law was passed, and 1950. According to the homesteading laws, before a homestead could be granted in full, a notification had to be published in the government's gazette, *Le Moniteur*. We collect the universe of notifications published in *Le Moniteur* from 1932 to 1950 and find 679 homesteads. All were granted under the 1934 program, none under the 1932 program. The homestead data contains the name of the homesteader and the province where the homestead was located. We also have data on tax receipts and literacy rates by province. But we do not have data on what the farmers did with the property—nothing on cultivation, transfer, or collateralization—or even how the farmers were using the property before receiving title.

We also collect data on homesteads from the memoirs of President Sténio Vincent (Vincent, 1938). In his memoir, Vincent describes the program's success and then lists the names and locations of homesteads granted during his presidency. His list contains 308 homesteads, all of which were also listed in *Le Moniteur*.

The data on homesteads do not include homesteads granted to refugees fleeing the Dominican Republic after the Trujillo Massacre. In October 1937, the Dominican president, Raphael Trujillo, sanctioned the massacre of thousands of Haitians living in the DR. The Haitian government settled the refugees in camps near the border and gave many of them homesteads (Palsson, 2023c), but these homesteads were neither listed in *Le Moniteur* nor in Vincent's memoirs. Since these homesteads were granted under unique circumstances, their omission does not affect the main question under investigation.

The number of homesteads granted by year are reported in Fig. 1. Homesteads began being granted in 1935 and peaked in 1937. There was a sharp drop during 1938 and 1939, just after refugees fleeing the massacre of Haitians in the Dominican Republic put a huge



Fig. 1 Titles granted by Year, 1930–1950. The graph shows the year the title was granted conditional on a title being approved between 1930 and 1950. The vertical dashed lines are the two years when the 1932 and 1934 homestead legislation were passed

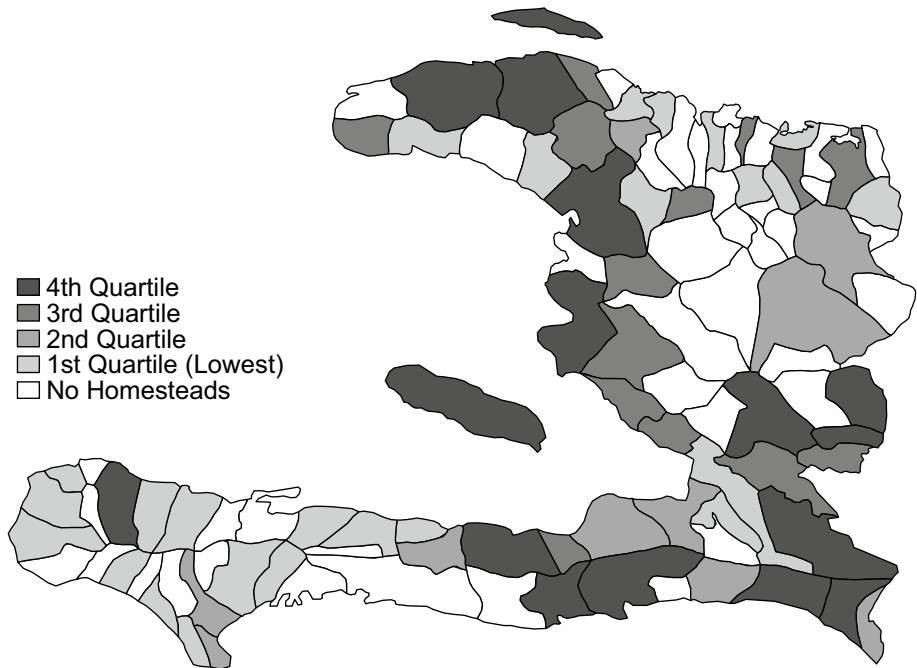


Fig. 2 Map of homestead take-up by district

burden on the rental program (Palsson, 2023b). After a brief recovery in 1940, there were no more titles granted from 1942 to 1950.

Figure 2 shows the spatial distribution of the plots. The homesteads were concentrated in a few districts, with 4 districts accounting for 43% of the total. There were also regions where homesteading is entirely absent. Neither the Southwest nor the Northeast participated much in the program.

The homestead notifications report the date the property was requested and the date it was approved, allowing us to calculate one aspect of application costs. The distribution of delays is reported in Fig. 3. There was significant variation in delays across homesteads, with some homesteaders waiting almost seven years to be approved. The median delay, however, was 18 months, and the modal delay was between 8 and 16 months. In general, delays were decreasing over time, as seen in Fig. 4. There is a spike in 1938, just after the massacre in the Dominican Republic drove ethnic Haitians to Haiti and put unexpected pressure on the titling offices (Palsson, 2023b). But delays were at their shortest by 1939.

In the empirical work, we want to use the delays to test whether they increased the cost of homesteading and, therefore, decreased the number of homesteads. But there is a problem. Since over 50% of districts do not have homesteads, we cannot observe delays in the homesteading process for most districts in the data. This is especially a problem if homesteaders know which districts will have long delays and then choose not to homestead there, meaning we do not see any homesteads nor do we see actual delays. We resolve this problem by using administrative delays for new rental contracts as collected in Palsson (2023b). Rental properties were more common than homesteads, so we have more data on their delays. Furthermore, the same office handled homesteads and rental properties, so potential homesteaders would have formed their expectations based on how rentals

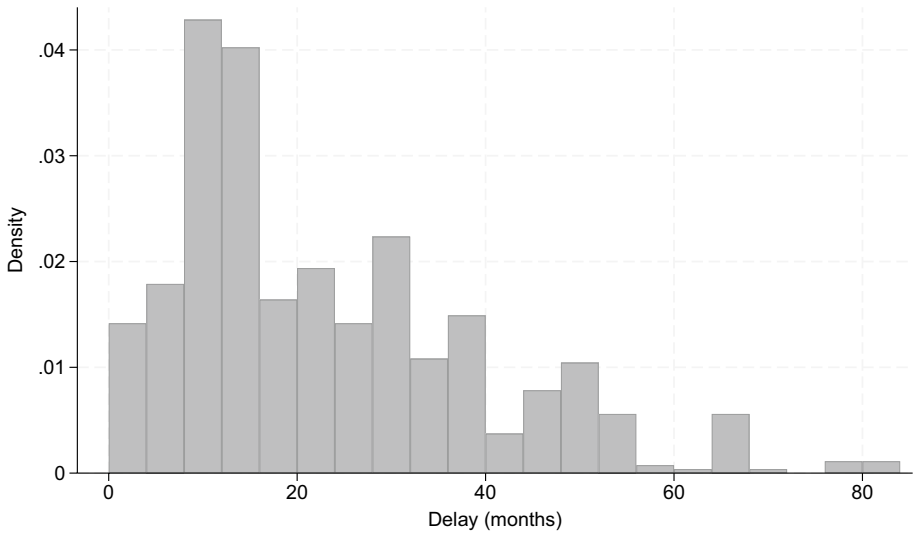


Fig. 3 Distribution of the delay between request and approval. The delays are for all homesteads granted between 1934 and 1950



Fig. 4 Median delay for a homestead by year requested, 1934–1941. Graph displays the median delay for the year that the property was requested conditional on having a title granted between 1934 and 1950

were handled. If a district did not have new rental contracts during our sample period, we assume these districts’ delays look like the closest district with new contracts and use that district’s data.

We also collect data on tax receipts by commune from 1925 to 1931. These receipts were reported in the annual reports of the financial adviser/general receiver as part of the US occupation. The three main categories were public land rentals, vital statistics fees, and

recording fees for transferring property. The rental receipts are a proxy for the popularity of the land rental program, which should predict the communes where the homesteading program was most likely to succeed. The other receipts allow us to control for local variation in state capacity.

Finally, we create a proxy for political connections using a directory of historical Haitian politicians. Using the homesteaders' names, we look for potential connections in Supplice's (2014) *Dictionnaire biographique des personnalités politiques de la République d'Haïti (1804–2014)*. This dictionary lists all office holders in Haiti from 1804 to 2014 as well as a short biography on where they lived. Using Supplice, we create three political connection proxies for individuals in the data. First, a variable for whether they share a surname with any politician in the book, another for whether they share a surname with a politician in the same district as the property, and a final variable for whether they have the same name as a politician in the same district as the property.

4.1 Other data

We also use data from two other sources. First, we use several variables from the 1950 census. Most importantly, we use the district-level literacy rates, but we also use the district's population and the proportion of the district employed in agriculture. Second, we use a 2008 community survey run by the Ministry of Agriculture (MARNDR). The survey includes a question on the principal economic activities in each district. We use the answers to create a dummy variable for whether coffee was important to the local economy. In the next section, we address the assumptions we make when using the data.

5 Empirical hypotheses

In examining the homesteading program, some of the officials in charge hypothesized about its failure. From a broader understanding of the political economy of titling, there are other natural hypotheses to consider. In this section, we outline the hypotheses that can be empirically tested. In our empirical tests, we do not claim causal relationships. We are outlining hypotheses and seeing if the data are consistent and potentially supportive of them. Later, we address the hypotheses that cannot be directly tested but for which we have some historical evidence to speak to their plausibility.

For the first four hypotheses, the empirical strategy is the same with variation in the variable of interest. We use a cross-sectional regression analysis where the dependent variable is the number of homesteads granted in a district. If every district had homesteads, we would use a logarithmic transformation of the number of homesteads to handle outliers and produce coefficients that could be interpreted as elasticities. But since there are districts with no homesteads, and since that is a significant margin to consider, we cannot use this approach. Instead, we use a Poisson regression. For each regression, we include controls for factors that might affect program efficiency. We include the district population in 1950, non-land rental tax revenues collected in the district (to control for state capacity), and the share of the district's population in agriculture in 1950.

The first hypothesis to address is whether literacy was a barrier to adoption. The American officials supposed that one reason the peasant farmers were not applying for homesteads was because they could not read the law for themselves "what the government had undertaken for their benefit" (De La Rue et al., 1939, p. 99). To test this hypothesis, we

regress the number of homesteads in the district against the district's literacy rate in 1950. If the officials were correct, we expect to see a positive coefficient.

Literacy, however, is a rough proxy for program awareness. While officials thought literate peasants would be more likely to see the benefits of the program, some benefits were easier to communicate. For example, even if the titles had inconvenient restrictions, state tenants would know that at least the law provided "the right to occupy the land rent free" (De La Rue et al., 1939, p. 98). The program did require applicants to pay a stamp tax of 1 Haitian Gourde (HTG) per hectare, plus another 2 HTG for registering the property. Since homesteads were capped at 5 hectares, the maximum taxes and fees for the application was 7 HTG. But this cost is small relative to rental rates. Since the average rent in 1933 was 19 HTG (De La Rue et al., 1933), the cost of applying was recovered in the first year. And since Haiti did not have a land tax, once the property was a homestead, the owner had no taxes or fees on the property. Thus, another form of testing the awareness hypothesis is to see whether participation in the rental program predicts homesteading. We measure participation in the rental program through the total amount of rent collected from tenants in the district from 1925 to 1931.

Next, we look at whether the restrictions on the title were important. The requirement to cultivate 50% of the property in a cash crop may have been the reason why the inspectors said few met the requirements to homestead (*Rapport Annuel Du Service National: Bulletin No 21-31*, 1942, p. 116). Furthermore, coffee is a good example of the higher expected benefits from more secure property rights. An extension survey conducted in Haiti in the early 1950s showed that coffee revenues were 1.5 to 4.0 times greater than subsistence crops like rice and corn. But that same survey showed that while many of the subsistence crops were grown on rental plots, coffee was grown only on private properties. There are a few reasons why it had to be grown on private farms. First, coffee trees take years to be productive, so farmers need to be sure they can reap the benefits of that investment. Second, because of the long time horizons, starting a coffee farm required credit. Credit came mostly from local moneylenders who would accept the land as collateral on loans (United Nations, 1949, p. 248). Coffee was unlikely to succeed without titled land. We test this hypothesis by regressing the number of homesteads on our dummy for whether coffee was considered an important feature of the district's economy.

One issue with testing this hypothesis is that our measure of coffee's importance comes from 2008, 75 years after the homesteading act passed. While we would prefer a measure from the homesteading period, the 2008 survey is the only source that was sufficiently disaggregated to identify local variation in coffee production. Thus, we must assume that local agricultural production is persistent: if coffee was important in 2008, it was also important in the 1930s. Since coffee trees are productive over several decades, we feel this assumption is safe. But another concern is that the homesteading program could influence our measure of coffee's importance. If homesteading encouraged coffee production, then areas with more homesteads in the 1930s might have become larger coffee producers by 2008. This would be a threat if the homesteading program had transformed Haitian agriculture. But this is unlikely given the program granted fewer than 700 farms. In a country where the 1950 census reported over 1.4 million people were employed in agriculture, a handful of homesteads were unlikely to shift local agricultural production.

Fourth, we move beyond the historical evidence and move to a more modern critique of the program. De Soto (2000) discusses the Haitian homesteading program's poor performance in the 1990s and blames it on the administrative burden of applying for a property. His work found that it took 12 years to get a title, much longer than the median of 18 months that we observe in the homesteading data. If administrative burdens were a

problem, then we expect to see fewer homesteads in districts with longer delays. We test this by regressing the number of homesteads on the average delay for rental contracts in each district.

Finally, we test for whether political connections were important to the homesteading process. As far as we know, this hypothesis has never been suggested about the Haitian homestead program in particular. Indeed, with such small plots of land, the program was not positioned to occur significant political spoils. But there are a few reasons to suspect it could be an issue. The government's monopoly over land and protection gave it an opportunity to use the program to extract rents. These rents could come from granting secure property rights to political insiders, as has been observed in Mexico (Haber et al., 2003). One could even argue that President Vincent's behavior supports this theory because he lists over 300 of the program's beneficiaries by name in his memoirs, suggesting there could be a political connection. Thus, the next hypothesis we want to test is whether the homesteaders were more likely to be politically connected. To create a control group, we use a sample of state tenants from Palsson (2023b). We then regress our proxy for political connection on a dummy for whether the individual is a homesteader rather than a renter. Note that the unit of observation has switched from the district to the individual and that the regression is now OLS. The sample includes all homesteads granted between 1934 and 1950 as well as all new rental properties issued before the homestead act was passed (1928–1934). The hypothesis is that homesteaders are more politically connected than tenants, so we anticipate that the coefficient on the homestead dummy to be greater than zero.

Again, in this regression we are not claiming a causal interpretation. This is a descriptive regression to test if homesteaders appear to be more politically connected than tenants. Sharing a surname with a politician does not mean the individual is related to a politician or politically connected. Furthermore, surnames are a noisy proxy since we assume political connections are only available to family members. Clearly someone unrelated to a politician could still be politically connected, such as later in Haiti's history when business connections predicted support for a coup (Naidu et al., 2021).

In summary, there are five hypotheses. The first four test whether there is a relationship between the number of homesteads in a district and each of the following district-level variables: (1) literacy rates, (2) rental program participation, (3) coffee production, and (4) administrative delays. The fifth hypothesis tests whether the homesteaders were more politically connected than the average tenant.

6 Results

The results from the first four hypothesis tests are in Table 2, all estimated with Poisson regressions using robust standard errors. The first column tests the relationship between homesteading and literacy rates. While the officials predicted higher literacy would result in more homesteading, the coefficient -0.91 , so higher literacy is associated with less homesteading. But the standard error is so large that we cannot rule out a positive correlation. The result cannot confirm the literacy rate hypothesis, but it cannot dismiss it either.

The second hypothesis is that participation in the rental program will predict homesteading. The result is reported in the second column of Table 2. Measuring participation through land rental revenues collected in the district, the coefficient is 0.59 and is statistically significant at the 5% level. This is strong evidence in support of the hypothesis: the farmers targeted by the program responded to it. But putting the coefficient in context

Table 2 Testing hypotheses for the number of homesteads in a district

	(1)	(2)	(3)	(4)	(5)	(6)
Literacy rate	-0.91 [8.10]				-9.04 [8.30]	-9.82 [9.16]
Log (land rental revenue)		0.59** [0.26]			0.61*** [0.23]	0.59*** [0.22]
1 (coffee is important)			0.83* [0.46]		0.65* [0.39]	0.84 [0.53]
Log (average delay)				-0.18 [0.21]	-0.19 [0.24]	-0.20 [0.26]
Exclude chief towns						X
Observations	90	90	90	90	90	80

Cells are coefficients from Poisson regressions (with robust standard errors reported in brackets) where the dependent variable is the number of homesteads in a district. The land rental revenues are total revenues collected on leased state properties from 1925 through 1931. The coffee-is-important indicator denotes whether coffee was listed as a principal or secondary crop to the area's economy in the 2008 community survey. The average delay variable indicates the average time between requesting a rental property and receiving approval. All regressions control for the district population in 1950, other tax revenues collected in the district, and the share of the district's population in agriculture in 1950. In column 5, the chief towns (or local administrative centers for tax collection) are excluded. *** $p < 0.01$ ** $p < 0.05$, * $p < 0.1$

shows it was a tepid response. A 10% increase in public land rental payments is associated with a 6% increase in homesteads. A 10% increase in total payments at the mean is an increase in 877 HTG, but since that is an increase over 6 years, that equates to an annual increase of 146 HTG. Above, we saw that the average tenant paid 18.8 HTG, so this is an increase in about 8 active tenants. On the other hand, a 6% increase in homesteads is 0.4 homesteads. Thus, for each 20 additional active tenants in a district, one decides to homestead.

The third hypothesis predicts that areas with higher levels of coffee production would be more inclined to homestead. This is tested in the third column of Table 2, using a dummy variable for whether coffee was an important factor in the local economy. The coefficient is 0.83 and is significant at the 10% level. The interpretation of the coefficient is that moving from an area where coffee is not important to one that is increases the number of homesteads by 129%. That is a much larger effect than any of the other hypotheses, especially considering that the error from measuring the production 75 years later will bias the estimate towards zero. This result supports the hypothesis that the cash crop restriction was an important barrier to homesteading, our favored hypothesis for the program's failure. But we recognize it also supports an alternative hypothesis that titles brought the largest benefits in coffee regions. This does not refute our main hypothesis, but since we are using only a proxy for coffee cultivation, we cannot dismiss that even if there were no requirement to farm a cash crop, these areas would still have more homesteads. While this possibility exists, in the Discussion section, we explore further evidence that the cash-crop restriction was important.

The final hypothesis tested in Table 2 is whether administrative delays deterred homesteading. Consistent with the prediction that there is a negative relationship between homesteading and delays, the point estimate shows a negative relationship between delays and homesteads, showing that a 10% increase in delays is associated with a 2% decline

in titles. This result is not statistically significant at conventional levels, but it is notable that the coefficient is negative given the potential confounding effect of reverse causality: high demand for government property leads to longer delay times (Palsson, 2023b). This coefficient lends some evidence to the administrative burden hypothesis, but, overall, the support is weak. Not only is it statistically insignificant, but it is also economically suspicious. The average delay for rental properties across districts was about 16 months, so a 10% increase is about 6 weeks. But 6 weeks is relatively small compared to the two-year residency requirement. Furthermore, the administrative burden hypothesis is refuted by the change in delays over time. Figure 4 shows that the average delay decreased over time. Yet, even as the delays for homesteads got shorter, there was no subsequent increase in demand for homesteads. Demand disappeared when the administrative burden was lowest.

Before moving to the fifth hypothesis, we do two analyses that combine all four hypotheses. The first, presented in the fifth column of Table 2, uses all of the treatment variables in the same regression in case there are interactions between the variables that are statistically important. The coefficients mostly stay the same. The coefficient on literacy rates becomes very large and negative, but the standard errors are too large to rule out the relationship being greater than or equal to zero. The coefficient for rental revenues increases from 0.59 to 0.61 and becomes significant at the 1% level. The coefficient for coffee falls from 0.83 to 0.65, but it remains statistically significant at the 10% level. And the administrative delay coefficient shifts from -0.18 to -0.19 , but it is still statistically insignificant. The second combination restricts the sample to the districts that were not local headquarters for the tax collection agency (what the records call “chief towns”). Since these districts collected more revenues and were more urban, they may not represent the typical district. The results in column 6, however, are mostly the same as the previous results. The most significant difference is that the coefficient on coffee is more similar to its standalone analysis (0.84) but is no longer statistically significant.

We reiterate that we are not attributing causal interpretations to our results. The rental program participation is a good example. The homesteading program targeted tenants, so clearly the government would expect that the same factors that created tenants would also create homesteaders. For instance, if land scarcity varies across districts, we might expect districts where land scarcity is high to create greater demand for rental properties and homesteads. We clearly cannot claim that the variables we consider are exogenous, but we do believe they are helpful for testing the hypotheses.

The fifth hypothesis predicts that homesteaders will be more politically connected than the average tenant. Since this changes the unit of observation from the district to the individual, the results are reported separately in Table 3. We look at the three proxies for political connections: sharing a surname with any politician, sharing a surname with a politician in the same district as the property, and sharing the full name as a politician in the same district as the property. In contrast to the prediction that homesteaders were more politically connected, homesteaders were 10% less likely than tenants to share a surname with a Haitian politician, and the difference is statistically significant at the 5% level. While the other two proxies also show homesteaders were 10% likely to be politically connected, neither is statistically significant.

One of the reasons why the political connection hypothesis seemed viable was that the President Vincent listed about 300 homesteaders in his memoirs. To see if these homesteaders were more politically connected, Table 3 also includes an interaction term for whether the individual was a homesteader mentioned in the memoir. Since a personal mention by the president could be an indicator of high political connections, we expect the coefficient on this interaction term to be positive. Yet none of the regressions show a

Table 3 Testing for political connections

	Same last name		Same last name		Exact match	
	Any politician	Local politician	Any politician	Local politician	Any politician	Local politician
Homestead	-0.0592** [0.0270]	-0.0457 [0.0314]	-0.0184 [0.0166]	-0.0232 [0.0193]	-0.00723 [0.00555]	-0.00434 [0.00647]
Homestead X memoir		-0.0311 [0.0373]		0.0112 [0.0229]		-0.00666 [0.00767]
Dep. var. mean	0.58	0.58	0.10	0.10	0.01	0.01
Observations	1345	1345	1345	1345	1345	1345

The dependent variable is a binary for how closely the name matches with a politician listed in *Dictionnaire biographique des personnalités politiques de la République d'Haïti, 1804–2001*. The first set of regressions looks at whether the surname matches any politician listed in the book; the second set looks at whether the surname matches a politician in the same district; the final regression looks at whether the full name is an exact match for a politician in the same district. The sample includes rental plots and homesteads. The Homestead X Memoir interaction is an indicator for whether the plot is a homestead and it is listed in President Stenio Vincent's memoir. ** $p < 0.05$

statistically significant difference in political connections for those mentioned in the memoir, and only one has a positive coefficient.

The evidence from these proxies does not support the hypothesis that the homestead program was restricting properties to just the politically connected. Of course, we repeat our caveat that these proxies are noisy and limited in their ability to measure political connections, so we do not rule out the hypothesis. And we cannot exclude the hypothesis that the program was politically motivated. But the potential to use the program for political gain among insiders was limited. Giving land to political allies is a popular way to gain support, yet those are usually large tracts of lands. The homesteads were limited to 5 ha, which is a large property relative to many Haitian properties, but small relative to what is needed to achieve economies of scale. Our failure to find a political connection could be because the program's political power was weak.

7 Alternative hypotheses

The empirical tests support hypotheses that the program did better when there was more awareness and when farmers could satisfy the cash crop requirement. But there are other relevant hypotheses that cannot be tested with the data. In this section, we explore these hypotheses and give our best resolution based on the historical evidence.

7.1 Other requirements acting as barriers

The National Service of Agricultural Production claimed that homesteading was low because there were few who met the program's requirements (*Rapport Annuel Du Service National: Bulletin No 21–31, 1942*, p. 116). Following their description of "recommending useful and economical plants that should be planted to enable applicants to obtain their definitive property titles," we tested the hypothesis that this meant there were few who could farm 50% of the land in coffee. But looking at the requirements in Table 1, there are three other candidates for requirements the tenants failed to meet: (1) the tenant must

be current on payments, (2) the tenant must reside on the property, and (3) the property must pass an inspection that it was actually cultivated. We examine each requirement and conclude that the most likely barrier was the requirement to cultivate 50% in an export commodity.

From the aggregate statistics, we are confident that there was a significant share of tenants current on payments. In the appendix, Fig. 5c shows that the fraction of rent recovered in 1933 was 52% and the fraction recovered the year before was 42%. Furthermore, Fig. 5d shows that backpay surged in 1933, amounting to 15% of the rents due that year. If we assume no overlap across the two years, but also assume the backpay was a subset of those who paid in 1933, there should still be over 4000 tenants who qualified for a homestead, more than five times the number of homesteads granted. But realistically, the people who pay rent in one year are likely the ones who pay in the next year too, so we can take the 42% as a rough lower-bound of the number of tenants who were current. This would push the number of qualifying tenants to over 12,000. Being current on payments was unlikely the requirement that was not being met.

One requirement that is hard to judge is the need to reside on the plot for two years. We have no data to inform us on these patterns. We do, however, have a statement after the 1932 law was passed that there were “thousands of hectares of fertile land belonging to the state and occupied by state tenants who have little or no prospect of ever owning the land they dwell upon...[in] make-shift huts” (De La Rue et al., 1932, p. 28). Since they said there were thousands of hectares in this condition, it seems like the residence requirement was not a problem either.

The requirement to pass an inspection is harder to dismiss. In the above excerpt, the National Service noted that it had only inspected 22 plots. Since the inspection was only the second step of the homesteading process, most potential homesteaders were not even making it past the first step. Something stopped homesteaders during the initial phase of cultivating the land. Maybe the inspection process was harsh and few were willing to attempt it. But a likely answer is that the inspection process was meant to see if the plot satisfied the cash crop requirement, and since most did not, the equilibrium outcome was few inspections. In fact, the National Service says it was recommending plants to acquire titles, which suggests that was the main concern during the inspection. This lends more evidence that the cash crop requirement was a barrier.

7.2 Limited enforcement of titles

Another factor that would diminish demand is if the renters expected the title protections to be weaker than the rental protections. This is a common hypothesis around the world since even in the presence or large potential benefits, if the government does not (or cannot) enforce the title, the title is worthless (Albertus, 2021, pp. 104–105). This may have been the case if potential homesteaders understood the push from the program came from the American occupation, which was already phasing out. It also could come from homesteaders understanding the government’s incentives. Since the Haitian government received revenue from the rental properties, it had an incentive to protect them. But once the properties were privatized, because there was no land tax, the government’s incentive weakened. While the state had the incentive to collect export tariffs on cash crops farmed on the land, the government employees protecting the land were paid through the rental revenues. Farmers may have been concerned that the homesteaded farm would be less protected than the rented one.

While it is hard to understand what the people at the time thought, with the benefit of hindsight we can say that the state appears to have provided sufficient protection. Our biggest case for continued protection is that the 2009 agricultural census tracked homesteads (Palsson, 2023c). While this obviously could not have been known in 1934, it still shows an interesting commitment by the government to continue to track these properties over 70 years later, especially given how few homesteaders were eventually awarded. Another piece of evidence is that the government of Haiti, under the direction of the American occupation, was investing in other ways to secure property rights, such as adjudicating claims between citizens and the state and investigating false titles (Palsson, 2023b). In fact, in 1929 the government had an American lawyer as a full-time employee examining titles and claims (De La Rue et al., 1929, p. 127). Perhaps farmers knew that the Americans would eventually leave and the property protections were not indefinite, but that did not seem to stop the Dominican homesteading program from succeeding (Turits, 2003, pp. 72–73). Finally, for this mistrust to deter homesteaders, it must be that the reduced protections were not only worse than the rental property, but so much worse that it swamped the gains of no longer paying rents.

7.3 Land quality

A natural hypothesis for the program's failure is that the state-owned land was poor and exhausted, making it unattractive to peasants. This hypothesis is difficult to test because we cannot measure the quality of private and state-owned land. Historical descriptions of the land are inadequate. For example, the state allegedly owned “immense areas of fertile land” (De La Rue et al., 1931, p. 22). But some American officials suggested that homesteading should be limited to “areas not appropriate for large-scale productive enterprises” (Millsbaugh et al., 1928, p. 77), and this could mean areas with worse land quality.

While we cannot address it with the available data, the biggest evidence against this hypothesis is that one of our strongest predictors of homesteading is the revenue from state tenants (Table 2). These tenants decided the land quality was good enough to justify paying rent, and homesteading gave them the land rent free. Since the tenants were already renting the land, homesteading dominated renting as long as it only privatized the plot and carried no other obligations. That thousands of tenants chose not to homestead but continued to rent their land suggests that homesteading had trade-offs unrelated to land quality, such as the requirement to cultivate cash crops.

7.4 Strategic titling

Although there is no discussion of this in the reports, another hypothesis is that the titles were granted to secure territory for Haiti. This was a key piece of the American homesteading program (Allen, 1991, 2019), and its successes could have been imported to Haiti, who was itself facing threats to its border. In fact, when looking at Fig. 2, the areas with the most homesteads were along the Southern border, which may be because this was the most contested part of the border. On the Dominican side, this was where Trujillo established agricultural colonies in 1931 to strengthen his country's claim to the territory (Turits, 2003, p. 157). It is also where, in the Spring of 1938, Trujillo evicted thousands of Haitians and pushed them over the border in an event called *el desalojo*. If homesteading was a part of establishing the border, then this region would have been key.

The argument that weakens this hypothesis is that the Northern border is nearly devoid of homesteads even though that was the site of the 1937 massacre. The lack of homesteads might be because the government established agricultural colonies to accept refugees from the Dominican Republic (Palsson, 2023c), and this might have been perceived as sufficient protection. But the homesteads along the Southern border were established before the massacre, and if border security was key then the government should have prioritized the Northern border at the same time. Since the only basis for this hypothesis comes from observing the US experience, we conclude that this could be a possibility, but it is mostly speculative.

7.5 Principal-agent problem

One issue that might inhibit awareness of the program is that the government agents in the best position to promote it were the ones who had the most to lose. In the 1939 assessment of the program, the officials worried that there were landlords who might oppose the program because it would compete with them for tenants. But government agents administering the state rental program were some of the direct beneficiaries of state tenants. Government appropriations treated customs revenues separate from internal taxes, and these agents were paid out of local taxes (Palsson, 2023b). That meant that even if the revenues to the government were higher with more coffee farms producing taxable crops, the revenues to support the local agents would have been lower. And local taxes were already struggling to sustain these workers. “Due to the fact that there are many districts in which receipts are so sparse that it is not possible to pay local agents adequate salaries for their collection, the Internal Revenue Service is still considerably handicapped in getting honest and efficient local officers” (De La Rue et al., 1933, p. 129).

While a principal-agent problem is a possibility, the data do not directly support it. One testable implication of this hypothesis is that for two districts with the same level of rental revenues, the district with more non-rental local revenues should be more likely to homestead because there are other revenue sources to pay the agents. But we already test this when we control for non-rental revenues in the Table 2 regressions. In results not reported, the coefficient on non-rental revenues is less than 1% of the magnitude of the rental revenue coefficient and is not statistically significant.

7.6 Access to banking

Another factor that might have decreased the value of the homestead title was Haiti’s practically non-existent banking sector. It may seem this would be a major deterrent given the outcry over the restriction implemented in the 1932 law, but the ineffectual banking sector already acted as an implicit restriction on mortgaging land. When the law was passed in January 1934, there were only two banking institutions in Haiti, and both were subsidiaries of foreign-owned banks. While this meant Haiti’s banks were monitored by foreign management (possibly minimizing corruption), it also meant that they were beholden to policies that were ill-adapted to local conditions. The banking sector was small. Half of all deposits were from the government, and the half that were not amounted to \$1.03 per capita (De La Rue et al., 1934). For comparison, at the same time in the US, the government accounted for less than 5% of total deposits, and non-government deposits equaled \$284 per capita (Board of Governors of the Federal Reserve System, 1959). Of course, the formal banking sector was not the only avenue to credit. Farmers could get credit from

private money lenders, who were frequently the middlemen who graded the coffee and sold to wholesalers, but these lenders charged high interest rates and allegedly engaged in nefarious practices to get the farmer to default and forfeit his property (United Nations, 1949, p. 248).

While the limited market for credit does reduce the potential benefits of homesteading, the program should have been attractive enough for renters to still convert. Since the title eliminated the annual rent and gave the owner the right to sell the land, it should have dominated the rental arrangement even without the opportunity to collateralize the property.

8 Discussion

Why did Haiti's homesteading program fail? While the ultimate reason is hard to discern, we have learned two factors that contributed to its limited success. First, the program performed better in areas with more state tenants. Second, there were more homesteads in areas that could more easily satisfy the requirement to cultivate a cash crop. But of these two, the cash crop requirement seems the most significant. In 1933, the state had over 28,000 tenants, yet it granted fewer than 700 homestead titles. The number of tenants does not appear to have been a binding constraint. So, it seems that the biggest constraint on the program was the farmer's ability to cultivate a cash crop.

While the relationship studied here is not causal, it provides ample evidence that requiring a farmer to cultivate a cash crop before receiving title was a significant barrier. Coffee, the most important cash crop at the time, was an investment that required capital and a long commitment to bear fruit. The marginal coffee farmer, however, might not have even known how to start a coffee farm. Many farmers supplied coffee not by actively cultivating it but by harvesting pre-existing bushes (United Nations, 1949, p. 94), a simple practice that dates back to independence in 1804 (Gonzalez, 2019, pp. 222–223). Without a title, these farmers might not be willing to invest in those skills. Even if the farmer made these investments and got the title, tying the title to a specific crop meant the farmer risked losing it if market conditions changed. Coffee prices and output varied significantly from year to year, enough so that some officials worried that planters would tear down trees and switch to subsistence crops (De La Rue et al., 1931, p. 12). Coffee was also taxed heavily and policed for quality, leading some farmers to cut down their coffee and replace it with food crops to avoid the burden (United Nations, 1949, p. 96). But tearing down trees would cause the farmer to forfeit the title. Thus, the government and the tenant might have been stuck in a perverse equilibrium: the government did not want to give a title without the tenant planting coffee, but the tenant did not want to invest in coffee without a title.

If the cash crop requirement was such an impediment to the program, why did the government include it? This requirement was in the failed 1883 program, but it was not included in the 1932 law. We hypothesize that there are two reasons that this requirement was included. First, it could be that this was a way to retain the revenues produced by the land. Second, it could have been included to intentionally handicap the program.

In the theory section, we discussed how the government will grant titles based on its own cost and benefit calculation. When the state land was leased, it returned, on average, 19 HTG per year. Privatizing that land in a regime without land taxes would mean sacrificing that revenue. The benefit to the state, though, could come from collecting tariff revenue on the cash crops it produced. Assuming similar production from an early 1950s extension survey and the duty rate in 1934 of 0.30675 HTG/kg (De La Rue et al., 1934,

p. 56), the coffee produced on 2.5 ha would have generated 147 HTG in tariffs in 1934, nearly 10× what the rental price was bringing. Thus, requiring homesteads to produce cash crops allowed the government to sacrifice one revenue stream for another. This could be an example of wealth-destroying private property rights (Leeson & Harris, 2018). Since the government is only the residual claimant on some uses of the land, it destroys the opportunity to create higher social welfare by preventing homesteaders from deciding the optimal use of their land.

The other possibility is that the Haitian government intentionally handicapped the program. The push from the program clearly came from the Americans, and Haitians resisted the occupying power, both overtly and subtly (Alexis, 2021). Most importantly, land was a central issue in resisting foreign interference in the country's economy since independence in 1804 (Palsson, 2021). The difficulties with the homesteading program could have been the Haitian government preventing the American officials from eroding their land-holdings and sovereignty. It is clear from the 1932 law that the government was reluctant to transfer complete property rights to homesteaders. While the American officials might have thought the 1934 reform had resolved this problem, it is noteworthy that the cash crop requirement was introduced in this same law. The Americans did not oppose the new requirement, but that might be because the goal was to encourage cash crops and the law left some ambiguity about how much the requirement would be enforced. But if the Haitian government understood the challenges facing farmers, then the cash crop requirement could have been a way to retain control of the land while pacifying the Americans pushing for the program. This would make the homesteading program an example of a property rights gap, where governments grant property with incomplete rights to retain control over the population (Albertus, 2021).

9 Conclusion

In this paper, we examine a titling program in Haiti. The program failed to achieve any significant progress, granting fewer than 700 titles over the first 16 years. We argue that farmers were aware of the costs and benefits of the program but that the cash crop provision likely deterred individuals from homesteading and as such handicapped the program. The direct cause of such a provision is unclear, it may have been intentional on the part of the government to create onerous restrictions requiring homesteaders to cultivate cash crops before receiving the title, and thus retain control of the land. Alternatively, it may have been accidental as the government sought to offset lost rental revenue by incentivizing the cultivation of cash crops. If this was the governments intended use of the program, then clearly it backfired. Of course, it is possible that there is some hidden reason for the program's failure, however we have presented several of the likeliest options for the reform's failure and of those the cash crop provision seems most likely.

Future research in this area could examine how titling programs succeed and whether the failures are intentional or because of poor implementation. There are many programs that have failed to produce a significant number of titles (Ali et al., 2014; Deininger et al., 2008), but there are also numerous examples of titling programs that succeeded (Deininger et al., 2011; Do & Iyer, 2008; Galiani & Scharfrodsky, 2010). While we see a lot of research on how titling can improve productivity and mobility, we need a better understanding of why some succeed and others fail. If failure comes from poor implementation, then this suggests countries could unlock large productivity gains with just a little technical

assistance. But if the failure comes from sabotage, such as when key players block programs that will dissipate their rents (Boone et al., 2019), then a different solution would be required. Exploring this line of research could be beneficial to our understanding of development policy.

One lesson from this program is that the success of titling programs is sensitive to program design. Property rights programs are social decisions meant to engineer certain outcomes (Heller & Salzman, 2021). Program design frequently focuses on the incentives for receiving a title, ensuring the property rights guaranteed by the title are better than informal rights. But programs should also consider whether the restrictions on titles will inhibit the program's success. Some restrictions can benefit the titles. For example, America's homesteading program restricted settlers to surveyed areas that had been selected to minimize the costs of enforcing property rights (Allen, 1991). On the other side of the world, despite all of the failed programs throughout Sub-Saharan Africa, Ethiopia managed to succeed through intelligent program design (Deininger et al., 2008). In this paper, the requirement to cultivate cash crops seems like it should not cause problems since cash crops generated high revenues, but the barriers to growing these crops before having a title were enough to render the program ineffective. Future research should explore the trade-offs behind program design and which features help or harm titling.

As mentioned previously, the government did track homesteads until at least 2009. With this information one final avenue of future research could be examining the long-term productivity effects of homesteading. Allen and Leonard (2021) found that land purchased under the 1862 Homestead Act was sub-optimally used in the long-run, and there are several other instances of land titling having negative long-term effects (Albertus et al. 2020; Boberg-Fazlić et al. 2022, Bianchi-Vimercati et al., 2023). Future research could build on the literature attempting to understand the long-term horizons of land reform and homesteading in particular.

Appendix

How large was the rental program?

Since the rental program was the gateway to homesteading, this appendix provides a brief analysis of the rental program in the years around homesteading. From 1928 to 1933, the fiscal adviser reported aggregate statistics about the rental program that might show the homesteading program sparked some interest. These statistics are summarized in Fig. 5. In 1928, the state had 22,000 rental contracts worth 232,000 Haitian Gourdes (HTG). Figure 5a shows that the number of tenants stayed constant through 1931, though Fig. 5b shows the amount of rent due increased during this period, suggesting that new contracts replaced old contracts. But starting in 1932, when the first homesteading law was passed, there was a significant jump in the number of tenants—resulting in over 28,800 tenants by 1933. More importantly, recovery rates for rent significantly increased at the same time, as shown in Fig. 5c. At its nadir in 1931, the program was only recovering 38% of rent due, but by 1933 it was collecting 52% of rent. Furthermore, Fig. 5d shows it significantly increased its collection of overdue rents. These observations are consistent with interest in the homesteading program: the opportunity to privatize the land should have increased the number of people interested in renting land and, since the title was conditional on being current on payments, the number of tenants paying their rent.

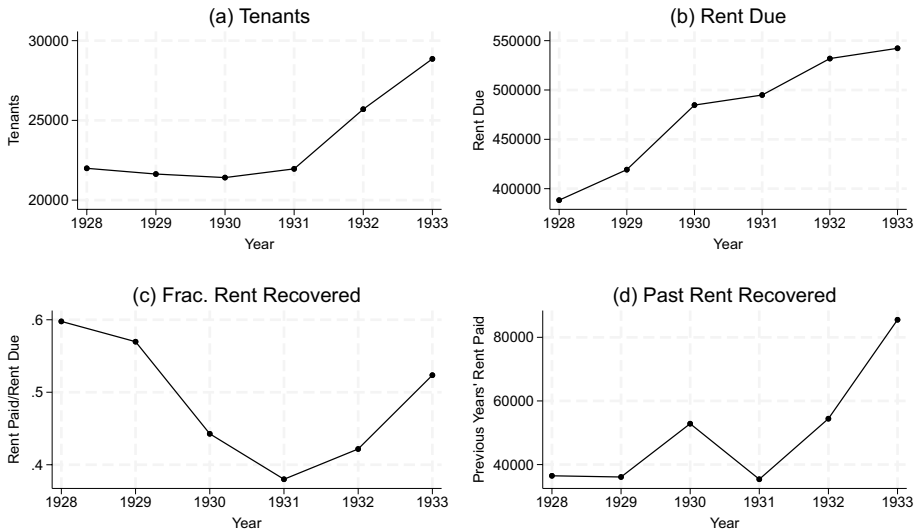


Fig. 5 Rental payments and recovery rates, 1928—1933. Figures were reported by the fiscal representative in his annual reports

But even though the data are consistent with interest in the homesteading program, we cannot conclude that the homesteading program caused this increase. The biggest point against a causal effect is that these changes happened after the first homesteading act of 1932, but we have no evidence for anyone receiving a homestead under this program. This lack of evidence might be because the 1934 homestead law took precedence before anyone could fulfill the requirement to be on the homestead for three years. Instead, effects to the rental program may be a result of the administration putting a greater emphasis on tracking land and recovering rents once there was a chance to homestead. For example, at this same time the administration was employing an American lawyer to “organize a section of this office to supervise the search for land belonging to the state not at present on its rolls, and to examine titles of occupants of land claimed by the state with a view to determining whether or not such land is a part of the private domain of the state” (De La Rue et al., 1929, p. 127).

Even without addressing causality, the rental program provides a good start for where to look for interest in the homesteading program. When the 1934 act passed, there was a pool of 28,800 tenants. But since the program required tenants to be current on rent, and since the government collected only 52% of rent in 1933, this pool was likely closer to 15,100 tenants. The increase in backpay seen in 1932 and 1933 would have made this pool slightly larger, but an upper-bound estimate of tenants who were current on rent is 19,500.³

³ The total payments collected, both current rent and backpay, was 68% of rent due. Assuming all payments were from individual tenants, this would be 19,500 tenants. But this double counts some tenants since the payments include backpay, which means 19,500 is an upper bound estimate of tenants who were current on rent.

Acknowledgements We would like to thank Kara Dimitruk, Burke Evans, Sumner La Croix, Naomi Lamoreaux, Louis Rouanet, and Ariell Zimran for helpful comments, as well as participants in the Public Choice Society annual conference.

Data availability The datasets are available in the OpenICPSR repository, <https://doi.org/https://doi.org/10.3886/E208208V1>.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

References

- Adamopoulos, T., & Restuccia, D. (2014). The size distribution of farms and international productivity differences. *American Economic Review*, *104*(6), 1667–1697.
- Agyei-Holmes, A., Buehren, N., Goldstein, M., Osei, R., Osei-Akoto, I., & Udry, C. (2020). The effects of land title registration on tenure security, investment and the allocation of productive resources: Evidence from Ghana. *Policy research working paper; no. 9376*. World Bank.
- Albertus, M., Espinoza, M., & Fort, R. (2020) Land reform and human capital development: Evidence from Peru. *Journal of Development Economics*, *147*, 102540.
- Albertus, M. (2021). *Property without rights: Origins and consequences of the property rights gap*. Cambridge: Cambridge University Press.
- Alexis, Y. (2021). *Haiti fights back: The life and legacy of charlemagne péralte*. Rutgers University Press.
- Ali, D. A., Collin, M., Deininger, K., Dercon, S., Sandefur, J., & Zeitlin, A. (2014). The price of empowerment: experimental evidence on land titling in Tanzania. *Policy research working paper; no. 6908*. World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/18770>.
- Allen, D. (1991). Homesteading and property rights; or, “how the west was really won.” *Journal of Law and Economics*, *34*(1), 1–23.
- Allen, D.W., & Leonard, B. (2021). Property right acquisition and path dependence: Nineteenth-century land policy and modern economic outcomes. *The Economic Journal*, *131*(640), 3073–3102. <https://doi.org/10.1093/ej/ueab030>
- Allen, D. (2019). Giving away an empire: Establishing property rights through coordinated land grants. *Journal of Law and Economics*, *62*, 251–279.
- Besley, T., & Persson, T. (2009). The origins of state capacity: Property rights, taxation, and politics. *American Economic Review*, *99*(4), 1218–1244.
- Bianchi-Vimercati, R., Lecce, G., & Magnaricotte, M. (2023). DP18464 persistent specialization and growth: The Italian land reform. CEPR Discussion Paper No. 18464. CEPR Press, Paris & London. <https://cepr.org/publications/dp18464>
- Board of Governors of the Federal Reserve System. (1959). *All-bank statistics, United States, 1896–1955*. <https://fraser.stlouisfed.org/title/bank-statistics-united-states-1896-1955-39>.
- Boberg-Fazlić, Nina, et al. (2022). Winners and losers from agrarian reform: Evidence from Danish land inequality 1682–1895. *Journal of Development Economics*, *155*, 102813.
- Bolhuis, M., Rachapalli, S., & Restuccia, D. (2021). Misallocation in Indian agriculture (w29363; p. w29363). *National Bureau of Economic Research*. <https://doi.org/10.3386/w29363>
- Boone, C., Dyzenhaus, A., Manji, A., Gateri, C. W., Ouma, S., Owino, J. K., Gargule, A., & Klopp, J. M. (2019). Land law reform in Kenya: Devolution, veto players, and the limits of an institutional fix. *African Affairs*, *118*(471), 215–237. <https://doi.org/10.1093/afraf/ady053>
- Bromley, D. W. (2009). Formalising property relations in the developing world: The wrong prescription for the wrong malady. *Land Use Policy*, *26*(1), 20–27. <https://doi.org/10.1016/j.landusepol.2008.02.003>
- Chari, A., Liu, E. M., Wang, S.-Y., & Wang, Y. (2020). Property rights, land misallocation, and agricultural efficiency in China. *The Review of Economic Studies*, *88*(4), 1831–1862. <https://doi.org/10.1093/res-tud/rdaa072>
- Chernina, E., Dower, P. C., & Markevich, A. (2014). Property rights, land liquidity, and internal migration. *Journal of Development Economics*, *110*, 191–215.
- Cumberland, W. W., Colson, E. A., & Stanley, J. S. (1927). *Annual report of the financial adviser-general receiver for the fiscal year October 1926–September 1927*. Port-au-Prince, Haiti: Imprimerie du service technique.

- De Janvry, A., Emerick, K., Gonzalez-Navarro, M., & Sadoulet, E. (2015). Delinking land rights from land use: Certification and migration in Mexico. *American Economic Review*, 105(10), 3125–3149.
- De Janvry, A., Gonzalez-Navarro, M., & Sadoulet, E. (2014). Are land reforms granting complete property rights politically risky? Electoral outcomes of Mexico's certification program. *Journal of Development Economics*, 110, 216–225.
- De La Rue, S., Colson, E. A., & Pixley, R. A. (1929). *Annual report of the financial adviser-general receiver for the fiscal year October 1928–September 1929*. Port-au-Prince, Haiti: Imprimerie du service technique.
- De La Rue, S., Pixley, R. A., & Craddock, J. C. (1931). *Annual report of the financial adviser-general receiver for the fiscal year October 1930–September 1931*. Port-au-Prince, Haiti: Imprimerie du service technique.
- De La Rue, S., Pixley, R. A., & Craddock, J. C. (1932). *Annual report of the financial adviser-general receiver for the fiscal year October 1931–September 1932*. Port-au-Prince, Haiti: Imprimerie du service technique.
- De La Rue, S., Pixley, R. A., & Craddock, J. C. (1933). *Annual report of the financial adviser-general receiver for the fiscal year October 1932–September 1933*. Port-au-Prince, Haiti: Imprimerie du service technique.
- De La Rue, S., Pixley, R. A., & Craddock, J. C. (1934). *Annual report of the fiscal representative for the fiscal year October 1933–September 1934*. Port-au-Prince, Haiti: Imprimerie du service technique.
- De La Rue, S., Pixley, R. A., & Craddock, J. C. (1939). *Annual report of the fiscal representative for the fiscal year October 1938–September 1939*. Port-au-Prince, Haiti: Imprimerie du service technique.
- De Soto, H. (2000). *The mystery of capital: Why capitalism triumphs in the west and fails everywhere else*. New York: Basic Books.
- Deininger, K., Ali, D. A., & Alemu, T. (2011). Impacts of land certification on tenure security, investment, and land market participation: Evidence from Ethiopia. *Land Economics*, 87(2), 312–334. <https://doi.org/10.3368/le.87.2.312>
- Deininger, K., Ali, D. A., Holden, S., & Zevenbergen, J. (2008). Rural land certification in Ethiopia: Process, initial impact, and implications for other African Countries. *World Development*, 36(10), 1786–1812. <https://doi.org/10.1016/j.worlddev.2007.09.012>
- Do, Q., & Iyer, L. (2008). Land titling and rural transition in Vietnam. *Economic Development and Cultural Change*, 56(3), 531–579. <https://doi.org/10.1086/533549>
- Dye, A., & La Croix, S. (2013). The political economy of land privatization in Argentina and Australia, 1810–1850: A puzzle. *Journal of Economic History*, 73(4), 901–936.
- Dye, A., & La Croix, S. (2020). Institutions for the taking: Property rights and the settlement of the Cape Colony, 1652–1750. *The Economic History Review*, 73(1), 33–58. <https://doi.org/10.1111/ehr.12817>
- Ferrero, M. (2021). Accidental socialism: A natural experiment in Haiti 1796–1820. *Journal of Institutional Economics*, 17(3), 393–409. <https://doi.org/10.1017/S1744137420000491>
- Field, E. (2007). Entitled to work: Urban tenure security and labor supply in Peru. *Quarterly Journal of Economics*, 122(4), 1561–1602.
- Galiani, S., & Scharrodsky, E. (2010). Property rights for the poor: Effects of land titling. *Journal of Public Economics*, 94, 700–729.
- Goldstein, M., & Udry, C. (2008). The profits of power: land rights and agricultural investment in Ghana. *Journal of Political Economy*, 116(6), 981–1022.
- Gonzalez, J. (2019). *Maroon nation: A history of revolutionary Haiti*. Yale University Press.
- Haber, S., Razo, A., & Maurer, N. (2003). *The politics of property rights: Political instability, credible commitments, and economic growth in Mexico, 1876–1929*. Cambridge University Press.
- Heller, M., & Salzman, J. (2021). *Mine!: how the hidden rules of ownership control our lives*. New York: Doubleday.
- Honig, L. (2017). Selecting the state or choosing the chief? The political determinants of smallholder land titling. *World Development*, 100, 94–107.
- Hornbeck, R. (2010). Barbed wire: Property rights and agricultural development. *Quarterly Journal of Economics*, 125(2), 767–810.
- Kerekes, C. B., & Williamson, C. R. (2010). Propertyless in Peru, even with a government land title. *The American Journal of Economics and Sociology*, 69(3), 1011–1033. <https://doi.org/10.1111/j.1536-7150.2010.00734.x>
- Kuntu-Mensah, P. (2006). On the implementation of land title registration in Ghana. 5th FIG Regional Conference on promoting land administration and good governance. Accra, Ghana.
- La Croix, S. (2019). *Hawai'i: Eight hundred years of political and economic change*. Chicago: University of Chicago Press.

- Leeson, P. T., & Harris, C. (2018). Wealth-destroying private property rights. *World Development*, 107, 1–9. <https://doi.org/10.1016/j.worlddev.2018.02.013>
- Libecap, G. D., & Hansen, Z. K. (2004). Small farms, externalities, and the dust bowl of the 1930s. *Journal of Political Economy*, 112(3), 665–694.
- Millspough, A. C., Colson, E. A., & Pixley, R. A. (1928). *Annual report of the financial adviser-general receiver for the fiscal year October 1927–September 1928*. Port-au-Prince, Haiti: Imprimerie du Service Technique.
- Millspough, A. C. (1929). Our Haitian problem. *Foreign Affairs*, 7(4), 556–570.
- Murray, G. (1977). *The evolution of haitian peasant land tenure: A case study in agrarian adaptation to population growth* [PhD Thesis]. Columbia University.
- Murtazashvili, I., & Murtazashvili, J. (2015). Anarchy, self-governance, and legal titling. *Public Choice*, 162(3–4), 287–305. <https://doi.org/10.1007/s11127-014-0222-y>
- Naidu, S., Robinson, J. A., & Young, L. E. (2021). social origins of dictatorships: Elite networks and political transitions in Haiti. *American Political Science Review*, 115(3), 900–916. <https://doi.org/10.1017/S0003055421000289>
- Palsson, C. (2021). Small farms, large transaction costs: Haiti’s missing sugar. *Journal of Economic History*, 81(2), 513–548.
- Palsson, C. (2023a). “A whirligig of revolutionary presidents”: state capacity, political stability, and foreign business in Haiti, 1910–1920. *European Review of Economic History*. <https://doi.org/10.1093/ereh/head025>
- Palsson, C. (2023b). State capacity, property rights, and external revenues: Haiti, 1932–1949. *Journal of Economic History*, 83, 709.
- Palsson, C. (2023c). The forces of path dependence: Haiti’s refugee camps, 1937–2009. *Explorations in Economic History*, 89, 101528.
- Panman, A., & Gracia, N. L. (2022). Titling and beyond: Evidence from Dar es Salaam, Tanzania. *Land Use Policy*, 117, 105905.
- Rapport annuel du service national: Bulletin no 21–31*. (1942).
- Republic of Haiti. (1920). *Report of the Fourth Fiscal Period Haitian Customs Receivership Fiscal Year 1920*. Government Printing Office.
- Supplice, D. (2014). *Dictionnaire biographique des personnalités politiques de la République d’Haïti (1804–2014)*.
- Turits, R. L. (2003). *Foundations of despotism: Peasants, the Trujillo regime, and modernity in Dominican history*. Stanford University Press.
- United Nations. (1949). *Mission to Haiti: United Nations mission of technical assistance to the republic of Haiti*. New York: United Nations Publications.
- Vincent, S. (1938). *Efforts et Resultats*. Imprimerie de L’Etat.
- Williamson, J. (2005). The Washington consensus as policy prescription for development. In T. Besley & R. Zagha (Eds.), *Development challenges in the 1990s: Leading policymakers speak from experience*. Oxford: Oxford University Press.

Publisher’s Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.