

Colonial Rule, Property Rights and Economic Development in the Philippines*

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1. Introduction

Can institutional change be imposed from the outside? The question is of obvious relevance. In recent years, foreign countries — sometimes through the United Nations, sometimes alone — have tried to reform institutions in Afghanistan, Bosnia, East Timor, Haiti, Iraq, Kosovo, Liberia, Sierra Leone, and the Solomon Islands. Less dramatically, but as importantly, national and multilateral development agencies routinely recommend legal and institutional changes to national governments, often attached to very concrete inducements. The U.S. demands changes in the institutions governing investment and investor protections as a condition for free trade agreements, and the European Union requires accession countries to adopt tens of thousands of pages of laws and regulations. Many authors have argued, however, that externally-imposed systems are extremely difficult to “transplant” successfully. They need to be adapted to local conditions, require very long times to take root, and are not as effective as locally developed institutions.¹

We examine the feasibility of externally-imposed institutional reforms, using property rights reforms in the Philippines during the first two decades of American colonial rule as a test case. We examine the implementation of three separate but interrelated property rights reforms: the purchase and redistribution of the friar lands purchased from the Catholic Church (which would convert tenants into owners), an extensive land-titling program using the Torrens system, and a homestead act designed to promote the settlement of the archipelago’s extensive public lands.

In each case, we find that the implementation of the reform proceeded extremely slowly. In fifteen years, only 3.6% of the land parcels had been issued Torrens land titles, and less than 12% of public lands had been issued with free patents or homestead rights. The U.S. managed to redistribute two-thirds of the friar lands by 1918, but 25% of the purchasers had fallen behind on their payments for the land they received. As a

¹ Daniel Berkowitz, Katharina Pistor, and Jean-Francois Richard, “Economic Development, Legality, and the Transplant Effect,” *European Economic Review* 47 (2003): 165-195; Berkowitz, Daniel, and Karen Clay. 2004. “Initial conditions, institutional dynamics and economic performance: Evidence from the American states.” Unpublished.

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consequence, the fraction of cultivated area occupied by squatters (who had neither ownership nor tenancy rights) increased from 2.4% in 1903 to 7.5% in 1918, and the overall level of land inequality, measured by the Gini coefficient, remained at the extremely high value of 0.75, *despite a large increase in the overall area under cultivation*. In other words, the Philippines' new American managers, with all the administrative and legal resources of the United States and full sovereignty over the country, not only failed to improve the de jure security of property rights or the distribution of wealth, but may have made them worse.

Why did the American territorial government fail to implement these reforms, despite a strong commitment to fostering economic growth and improving conditions in the Philippines? We find evidence of constraints on both the supply-side and the demand-side. On the supply side, a relative lack of trained surveyors and technical difficulties of obtaining accurate maps raised the cost of issuing secure land titles. Even in the presence of indirect subsidies from the U.S. federal government, the territorial administration failed to generate enough revenue to subsidize this cost for Filipino farmers.

On the demand-side, the relatively low levels of property crime and the political unwillingness of the government to evict squatters on public land reduced the benefits that legal title provided Filipino peasants. Further, our data show no correlation between the possession of land titles and the progress of irrigation or access to credit, mainly because both these factors were publicly subsidized and provided regardless of property title. Philippine smallholders therefore had little incentive to pay the large costs associated with formal landownership. In effect, one part of American development strategy undercut the other.

The U.S. administration of the Philippines is a particularly useful setting to investigate these issues. First, U.S. policies in the Philippines aimed at promoting economic growth, for reasons documented in detail below. In this sense, there is less concern that our results are driven by the presence of an extractive or oppressive colonial regime. If the Americans failed to reform property rights after 15 years in the Philippines, it is unlikely that contemporary interventions will accomplish more in less time. Second, similar property rights reforms have been or are currently being undertaken by several developing nations. For instance, Vietnam, Thailand and Indonesia have all undertaken land titling programs, India has legislated several land reform measures designed to improve the status of tenants, and many Eastern European countries have initiated extensive land redistributions.² Our research highlights the costs of undertaking such reforms, which must be weighed against the potential benefits.

² Vietnam issued nearly 11 million land titles to rural households in the 1990s (Do and Iyer, 2008); Thailand distributed 8.7 million land titles since the early 1980s; Indonesia issued 1.87 million titles between 1996 and 2000 (SMERU, 2002); Peru distributed 1.2 million titles to squatters in several cities (Field, 2003). Besley and Burgess (2000) analyze land reforms in India, and find that greater tenant rights leads to substantial reductions in poverty, but no significant increase in output.

The rest of the paper is structured as follows: Section 2 describes U.S. colonial rule in the Philippines and documents the strong incentives of the colonial government to promote growth. Section 3 focuses on the details of the property rights reforms announced by the colonial government and their implementation. Section 4 provides details on the cost of ensuring secure property rights, Section 5 investigates the determinants of the incidence of squatting, and Section 6 concludes.

2. “Fifty Years of Hollywood”: U.S. Colonial Rule in the Philippines

The U.S. occupation lasted 48 years from 1898 to 1946 (with a brief interregnum in 1942-45). The United States annexed the Philippines after its victory over Spain in the Spanish-American war of 1898. The legacy of Spanish rule and the circumstances of the annexation shaped American policy in the islands.

“Four Centuries in a Convent”: Spanish Colonial Rule

The first European to arrive in the Philippines was the Portuguese explorer Ferdinand Magellan in 1521. Formal Spanish rule began in 1565, when Spain’s force defeated the king of Cebu. Spanish colonists established the city of Manila in 1571. Spain administered the islands as part of the Viceroyalty of New Spain, from Mexico City. After Mexico achieved independence in 1821, the Spanish government transferred Philippine administration to direct rule from Madrid.

Spanish rule brought Catholicism to the islands, though substantial Muslim populations remained in Mindanao and the Sulu Archipelago. A combination of the disease environment and a lack of economic opportunities, however, dissuaded Spaniards from moving to the islands in any substantial numbers. In the place of a significant settler or mercantile presence, the Catholic Church became the dominant Spanish presence in the archipelago. More specifically, the monastic orders of the Dominicans, the Franciscans, the Augustinians, and the Augustinian Recollects (Recoletos) established themselves as the primary face of both the Church’s and the Crown’s presence.³

With Spanish merchants, settlers, and bureaucrats thin on the ground, the friars eventually became the *de facto* administrators of the Philippines. A series of early abuses led the Crown to ban Spaniards (save the clergy) from entering native villages for purposes other than tax collection. As a result, in most areas, the local friar (in his role of parish priest) soon became the sole representative of Spanish rule, as well as the only educated person with knowledge of both Spanish and the native language. In his secular capacity, the parish priest inspected schools, administered labor drafts, oversaw elections to municipal offices and the police force, and signed off on the municipal budget.

³ *Reports of the Taft Philippine Commission*, p 23. The Jesuits, Capuchins, Benedictines and the Paulists had a much smaller presence on the islands. By 1903, there were 746 regular parishes, 105 mission parishes and 116 missions.

He was the president of the health board, the president of the prison board and the chief advisor for the municipal council. Eventually even tax collection soon devolved to the friars, who took over responsibility for levying and collecting head taxes.⁴ By 1768, the chief prosecutor of Manila reported that 87% of all internal taxes went to subsidize the fraternal orders.⁵

The fraternal orders soon became the largest landowners on the islands. They acquired land over time by purchase, legal battles, ecclesiastical privileges, and, at times, outright usurpation. To their credit, the friars brought innovations (such as irrigation) to the lands under their control. They also introduced cash crops such as sugarcane, tobacco and coffee. Other innovations were less savory. The friars regularly used public labor drafts for private purposes. High fees for baptisms, weddings, funerals and other sacraments further increased tensions with the local population, and became the subject of several Spanish imperial investigations.⁶ Another major grievance against the friars was the barriers raised to the advancement of Filipino clergy — often because the friars reserved clerical positions for their own illegitimate children.

Friar land usurpations produced major revolts in 1743, 1872, and 1896. The Cavite uprising of 1872, in particular, galvanized organized resistance against the “friarocracy” and set the stage for the far more serious 1896 rebellion. After 1872, a group of overseas Filipino students emerged to agitate for reforms. The arrest of the group’s leader José Rizal in 1892 prompted the formation of armed groups like the Katipunan, which prepared for revolt against Spanish rule. (Ironically, Rizal opposed armed revolt and formal separation from Spain.)

In 1896, an armed rebellion broke out in several provinces around Manila, with the primary goal being the expulsion of the friars.⁷ After many months of fighting, the rebels concluded a peace treaty with the Spanish in December 1897, in which the Spanish granted none of the rebel aims. Emilio Aguinaldo, the leader of the rebel movement, was exiled to Hong Kong. Low-level fighting continued in various parts of Luzon.

⁴ *Reports of the Taft Philippine Commission* (p 25-26), based on conversation with the provincial of the Franciscan order. The head tax was called the “cédula,” after the identity document that recorded whether it had been paid. The head tax could also be paid in kind, with fifteen days of labor to the Crown. See Vicente Pilapil, “Nineteenth-Century Philippines and the Friar-Problem,” *The Americas*, Vol. 18, No. 2. (Oct., 1961), pp. 127-148, p. 132.

⁵ Peter Stanley, *The Philippines and the United States, 1898-1921*, Harvard University Press 1974, p. 11.

⁶ LeRoy, 1903, p. 664, 666.

⁷ An 1896 Tagalog circular set out the rebellion’s eight aims, in order: (1) The expulsion of the friars and the restitution of their lands; (2) The recognition of Filipino priests in filling the subsequent clerical vacancies; (3) Religious toleration; (4) Equality of Filipinos and Spaniards before the law; (5) Freedom of the press; (6) Guaranteed representation in Madrid; (7) Home rule; (8) The abolition of deportation as a punishment. *Report of the Philippine Commission* (The Schurman Commission), part 4, chapter 2, “Governmental Reforms Desired by Filipinos,” Washington, GPO, 1900. On November 1, 1897, remaining rebels under Emilio Aguinaldo declared independence in the town of Biak-na-Bato, but surrendered to Spanish troops less than two months later.

American Annexation

On April 19th, 1898, the U.S. Congress authorized President McKinley to “to use the entire land and naval forces of the United States” in order to secure Cuban independence from Spain. Over the next four days, President McKinley ordered the U.S. Navy to blockade Cuba and called for 125,000 volunteers. On April 23rd, the Spanish government declared that a “state of war” existed between the two countries. On April 25th, the U.S. Congress reciprocated with a formal declaration of war that did not mention the Philippines.

When Congress declared war on Spain, the Navy Department in Washington, D.C., sent the Asiatic Squadron (which was stationed in Hong Kong at the time) the following terse order: “Proceed at once to the Philippine Islands. Commence operations at once, particularly against the Spanish fleet. You must capture vessels or destroy. Use utmost endeavors.”⁸ On May 1st, Admiral George Dewey sailed into Manila Bay and destroyed the Spanish fleet. Lacking instructions to the contrary, Dewey supplied arms to the Philippine guerrillas operating in nearby Cavite and sent a cruiser to fetch Aguinaldo from Hong Kong.

Washington, however, soon ordered Dewey to avoid “political alliances with the insurgents.”⁹ The Philippines had not figured into the American decision to go to war, and President McKinley and his cabinet dithered for some time over American policy for the archipelago. The Navy argued that the U.S.—dependent at the time on British goodwill—needed a naval base near China in order to defend its interests. The Navy also feared, however, that a base in Manila or Subic Bay would be indefensible without control of Luzon, since it doubted Aguinaldo’s ability to establish a stable government.

The Treaty of Paris, signed on December 10th, 1898, transferred Cuba, Guam, the Philippines, and Puerto Rico to the United States. After ten days of dithering, President McKinley declared that U.S. policy in the Philippines was one of “benevolent assimilation, substituting the mild sway of justice and right for arbitrary rule.”¹⁰ Unlike Cuba, which was promised a rapid transition to independence, the U.S. made no intimation that it would be leaving the Philippines anytime soon.

Aguinaldo and the other Philippine rebel leaders violently opposed McKinley’s decision. They established a government at Malolos in 1899 and launched an armed insurgency against the Americans. The Philippine War became the signature issue of the 1900 presidential elections, with the Democrats declaring their opposition to the war and the Republicans supporting it. (The Philippine insurgents paid close attention to American politics and designed their strategy around the election.) When the Democratic candi-

⁸ *Annual Reports of the Navy Department for the Year 1898* (Washington: Government Printing Office, 1898).

⁹ Kramer, *Blood of Government*, p. 94.

¹⁰ Kramer, *Blood of Government*, p. 110.

date, Williams Jennings Bryan, lost the 1900 election, insurgent morale collapsed and surrenders multiplied. Emilio Aguinaldo accepted an amnesty in March 1901, and subsequently called on his followers to accept U.S. administration. In April 1902, with the surrender of General Miguel Malvar, the U.S. government pronounced the conflict over, although sporadic violence continued in outlying areas. Aguinaldo and other prominent rebel leaders received large tracts of land and, later, political offices.

In 1900 the U.S. sent the Second Philippine Commission, headed by William Howard Taft to assess the situation.¹¹ The Taft Commission arrived with full legislative powers and a mandate to establish local government, develop a career-oriented civil service, implement tax measures and pass needed laws. The most immediately pressing task of the Commission, however, was to resolve the “burning political question, discussion of which strongly agitates the people of the Philippines,” of whether the friars should return to the parishes they occupied before the revolution. During the 1896-97 and 1899-1901 upheavals, 40 priests had been killed and 403 imprisoned. Of the 1124 priests still present in 1898, only 472 remained in 1903, almost all of them in Manila.¹²

The Political Economy of the Policy of Attraction

The desire to avoid future insurgencies, as well as Democratic opposition to Philippine annexation, led the U.S. to adopt a “policy of attraction” in the Philippines. This included the establishment of a public school system staffed initially by 1500 American teachers, irrigation works, a road program, railroad expansion, the transfer of U.S. tariff revenue to the island until 1909 and free trade thereafter, and a gradual process of “Filipinizing” the local administration that began in 1907 and culminated with the Philippine Autonomy Act of 1916.¹³

Uniquely among colonial powers, the U.S. government restricted its own citizens from investing in its new possession. The reason was strong domestic opposition to the annexation. Opponents — chiefly Democrats — wanted to prevent the emergence of domestic interest groups with a vested interest in the retention of the Philippines. In order to get the Philippine Organic Act of 1902 past these opponents, the Roosevelt Administration had to agree to clauses which restricted American individuals and corporations from owning more than 1024 hectares (2500 acres) of land, prevented the national banking system from extending to the islands, and restricted the ability of the insular government to grant mining claims or other franchises. These restrictions served

¹¹ William Howard Taft was a prominent federal judge who later served as President (1909-13) and Chief Justice (1921-30) of the United States.

¹² *Reports of the Taft Philippine Commission*, p 23.

¹³ The official government policy was usually called “benevolent assimilation.” The phrase “policy of attraction” was often used by revolutionaries opposed to U.S. occupation; the phrase originated in a telegram from the U.S. secretaries of war and interior to Emilio Aguinaldo (Philippine Insurgent Records, 1896-1901, National Archives, Washington, D.C., no. 849).

to insure that the U.S. administration was not subject to capture by private American economic interests.

In the absence of strong domestic interests in favor of retention, the policy of attraction served a double purpose. First, it reduced Filipino support for severing their ties with the United States. In 1916, Manuel Quezon, one of the two Philippine nonvoting representatives in Congress, declared that he *opposed* independence unless the Philippines could obtain a defense guarantee, access to the U.S. market, and other things in the “national interest.” The head of the Philippine legislature, Sergio Osmeña, worried about rebellion if an independence bill *passed*, and a prominent Filipino legislator drafted a bill rejecting independence if the U.S. failed to retain defense and trade links.¹⁴

The policy of attraction also served to undercut American opponents of the U.S. occupation. With American policy clearly serving to benefit the Filipino population, and without any clear American beneficiaries of U.S. rule, it became increasingly difficult for anti-imperialists to assemble a winning Congressional coalition. For instance, 28 Democrats (26 of whom were from largely Catholic urban constituencies) defected to the Republicans to defeat a 1916 independence bill by seven votes. The defectors did not want to be accused of abandoning their constituents’ co-religionists. Had American rule not been at least perceived as benefiting the Filipinos, such a position would have been much harder to sustain.¹⁵

The historical circumstances of Philippine annexation therefore led to a “benevolent” colonial administration with a long-term horizon, which was not captured by narrow interest groups and had the well-being of the population as its top priority. This combination was unusual in the history of imperial rule, and the Philippine experience can be said to be close to the best-case scenario for the success of externally imposed institutional change.

3. Property Rights Reforms

The Friar Lands Policy

The Taft Commission had to resolve the immediate question of the friars’ future in the Philippines. Were they to be allowed to return to their parishes? After conducting detailed interviews with the friars, local elites and American military officers, Taft became “convinced that a return of the friars to their parishes will lead to lawless violence and

¹⁴ Peter Stanley, *A Nation in the Making*, p. 223.

¹⁵ Peter Stanley, *A Nation in the Making*, p. 223.

murder, and the people will charge the course taken to the American government, thus turning against it the resentment felt towards the friars.”¹⁶

Given that the friars were not to go back to their parishes, what was to be done with their lands? Here the Taft Commission had to keep in mind the principle of just compensation and the provisions of the Treaty of Paris, which promised to protect the property rights of the Spanish, specifically including “ecclesiastical bodies.”¹⁷ Taft concluded that the best solution would be for the insular government to “buy these large haciendas of the friars and sell them out in small holdings to the present tenants.”¹⁸

Protracted negotiations with the friars over the sale of these lands ensued. Most of the disagreement centered on the valuation of the friar lands. The friars wanted full compensation for all improvements made on their estates, and the Dominicans went so far as to sell the sugar mills and the railroads on their haciendas to third parties. On December 22, 1903, the United States agreed to buy 170,916 hectares (403,000 acres) for a price of just above US\$6 million.¹⁹ After some more negotiation, and a Supreme Court decision that Friar Lands Act covered land improvements, including railroads and sugar mills, the ultimate price paid for the friar lands came to US\$6.9 million.²⁰

The insular government issued special bonds to raise this money. The bonds offered a 4% interest rate and were payable between ten and thirty years, at the option of the government. They were not officially backed by the U.S. Treasury, but by the revenues of the government of the Philippine Islands.

Did the American administrators pay too much for the friar lands? This has been a subject of considerable debate. Governor Taft had initially estimated the annual income from the friar lands at not more than US\$225,000, implying that the sale price represented more than 26 times the annual income. Taft justified the price as follows: “It is to be noted, however, that the insular government has not entered upon the purchase of these lands with a view to a profitable investment, but that it is knowingly paying a con-

¹⁶ *Report of the Taft Commission*, p 31. The danger faced by the friars if they went back was summarized pithily by the grandson of a Franciscan friar: ““All the friars have to do is to go back to their parishes and sleep one night, and the chances are that they would never awaken.” (“Testimony of Don Felipe Calderon,” *Senate Document* 190, p 140.)

¹⁷ Article VIII of the Treaty of Paris reads: “In conformity with the provisions of Articles I, II, and III of this treaty, Spain relinquishes in Cuba, and cedes in Porto Rico and other islands in the West Indies, in the island of Guam, and in the Philippine Archipelago, all the buildings, wharves, barracks, forts, structures, public highways and other immovable property which, in conformity with law, belong to the public domain, and as such belong to the Crown of Spain. And it is hereby declared that the relinquishment or cession, as the case may be, to which the preceding paragraph refers, can not in any respect impair the property or rights which by law belong to the peaceful possession of property of all kinds, of provinces, municipalities, public or private establishments, ecclesiastical or civic bodies, or any other associations having legal capacity to acquire and possess property in the aforesaid territories renounced or ceded, or of private individuals, of whatsoever nationality such individuals may be.”

¹⁸ *Report of the Taft Commission*, p 32.

¹⁹ In 1903, one U.S. dollar was worth two pesos.

²⁰ O.D. Corruz, *An Economic History of the Philippines*, U.P. Press (Manila: 1997): pp. 267-69.

siderable sum of money merely for the purpose of ridding the administration of the government in the islands of an issue dangerous to the peace and prosperity of the people of the islands.”²¹ In other words, the U.S. was willing to pay a premium to get the friars out of the Philippines. In this goal, they largely succeeded: by the end of 1904, the remaining Spanish bishops in the Philippines had been replaced by American bishops.

In the process of redistributing the friar lands, current occupants were given the first preference to lease, purchase or acquire their holdings. Since legislation precluded any sales larger than 16 hectares, this process involved surveying the land, subdividing it into parcels and determining an appropriate sale price for each parcel.²² This process took a number of years, and was not completed before 1908 for any estate.²³ The current occupant of the land was then given the option to purchase this land. The government chose not to subsidize the administrative costs of this program, with the result that the purchaser had to pay for the cost of the surveys and any administrative expenses including attorney’s and registration fees. Furthermore, in order to recoup the interest expense on the bonds, the government raised the price of the lands as time went on. For instance, the original purchase price of the Guiguinto estate was 155,567 pesos, but its final selling price was determined in June 1908 to be 200,276 pesos, an increase of nearly 28%.²⁴ While this process was ongoing, the current tenants of the land continued to pay rent to the government.

Land Titling

Taft also reformed the laws governing land titles. “A very large percentage of the lands are occupied and claimed by individuals without any record title whatever,” observed the Taft Commission. Many of the titles had been destroyed during the wars and political instability of the preceding years. Despite the lack of formal record title, most landholders had a “title of possession.” That is to say, their neighbors conceded that they had a right to the land. However, the government feared that the disadvantages of this informal system would grow over time, inhibiting investment, preventing the development of a credit system, and potentially leading to violence.

In order to improve the chaotic state of land rights, the Commission passed the Land Registration Act of 1903, which provided for the Torrens system of land registration in the Philippines. The government set up a centralized land registry. No document (such as a sales registry or a mortgage) would be considered effective unless and until it was

²¹ *Report of the Philippine Commission 1903*, p 44.

²² Governor Taft strongly felt that this low limit would discourage large-scale plantation agriculture, and recommended several times that the limit be raised considerably. In fact, this provision was violated in many instances, with some American officials and local elites managing to acquire large estates. For instance, Emilio Aguinaldo received 1055 hectares from the Imus estate.

²³ Rene Escalante, *The American Friar Lands Policy*, Table 14, p 129.

²⁴ Rene Escalante, *The American Friar Lands Policy*, Table 15, p 130.

recorded at the centralized registry. Registration under the Torrens system, therefore, required an investigation of the title and all possible liens on the property in order to work. The Land Registration Act therefore created an “assurance fund” for landowners to draw upon in case they lost their land by reason of a title investigation. In addition, the Land Registration Act created a Court of Land Registration with nationwide jurisdiction to administer the new system. Once the Court approved a Torrens title, it would legally unassailable, completely transparent, and fully transferable.

The new system, however, did not replace the old system. Landowners with a title of possession could retain their rights, but they would in theory remain vulnerable to legal disputes if they could document a “chain of ownership” back to royal titles issued by the Spanish Crown, and their titles could be overturned if someone could produce a better claim or show that the land had been usurped from them.

The Policy on Public Lands

The U.S. received title to the expansive vacant lands owned by the Spanish government. The Philippines in 1903 better resembled a frontier economy than today’s overcrowded archipelago. The country’s overall population density was only 66 people per square mile in 1903, compared with 108 for Vietnam, 312 for Japan, and 615 for Java. In fact, the Philippines’ population density was 13 percent lower than the state of Indiana in 1903. New lands had come under cultivation during the Spanish period, although the Spanish government had attempted to control the expansion of the islands’ cultivated area through draconian anti-squatting laws.

Table 1: Population densities, circa 1900

	Area (km ²)	Population (1000s)	People per hectare
Philippines	115,094	7,635	0.66
Cebu	5,088	651	1.28
Leyte	7,448	386	0.52
Luzon	40,410	3,405	0.84
Mindoro	10,245	39	0.04
Negros	13,328	507	0.38
Panay	11,693	771	0.66
Samar	13,429	265	0.20
Indiana	35,866	2,700	0.75
Vietnam	127,210	13,765	1.08
Japan	145,844	45,437	3.12
Java	48,906	30,098	6.15

Source: Land areas from the CIA World Fact Book. Populations from the *Encyclopedia Britannica* of 1911. Philippine provinces figures from census of 1903.

The U.S. preferred to open the public lands to settlement. The obvious model was the Homestead Act, adjusted for Philippine conditions. Under the Philippine Homestead

Act, potential homesteaders would apply for a plot of land up to a maximum of 16 hectares. The government would survey the plot, and if approved, the family would receive a “non-patented approval.” After five years’ residence, the family would receive title.

Despite the draconian nature of Spanish law, many families lived on public land without title. The Commission government needed, of course, to deal with these families. The Philippine Homestead Act, therefore, granted the residents of public lands several years to produce documents or witnesses that could attest that they had occupied their plot before 1898. Once verified, the Commission would grant the family a “free patent.”

4. The Progress of Property Rights Reforms 1903-1918

The implementation of each of the property rights reforms was flawed, and very little progress was made in the first 15 years of U.S. colonial rule. There were two main reasons for this. First, the cost of obtaining secure property rights was too high, mainly because of technical constraints, and the government did not subsidize the process. Second, the cost of not having secure property rights was not very high for individual Filipino families: the Philippines did not experience high rates of property crime, and the government was reluctant to enforce property rights too strictly for political reasons.

The Redistribution of Friar Lands

On the surface, the government disposed of the friar lands relatively rapidly. By 1910, the government had sold 34 percent of the available land area.²⁵ By 1913, that number had increased to 61 percent.²⁶ However, it should be noted that the government had to take special measures in order to achieve this goal. The average sale price for a hectare of friar land was US\$131, considerably higher than the average value of US\$114 per hectare in the rest of Luzon.²⁷ This difference was almost certainly due to the high purchase price paid to the friars initially, which the government wanted to recoup. (We address the question of the relative productivity of friar lands later — the evidence is that they were no more productive.) In order to help the purchasers, the government agreed to loan the purchase price to the tenants at 6 percent interest. The government also created an additional fund that would make loans at a fixed-rate of 12 percent for seedling, machines, livestock, and the construction of warehouses, rice mills, and other improvements.²⁸

²⁵ Calculated from figures in Rene Escalante, *The Friar Lands Policy*, pp. 130 and 134.

²⁶ 1913 *Philippine Commission*, p. 148.

²⁷ 1915 *Philippine Commission*, pp. 81-83. We have converted all prices from pesos to dollars at the fixed exchange rate of 2:1.

²⁸ Rene Escalante, p. 132.

Despite these measures to help the peasants to purchase friar lands, they were too expensive to purchase. Many of the new owners rapidly became delinquent on their loans. Delinquencies hovered around 25 percent of contracted income. (See Table 2.) However, the government, fearing unrest, tended to be very lenient towards delinquent farmers, be they owners or tenants. Very few were ever evicted from their lands. For instance, a severe drought in 1912 caused delinquencies to spike the next year, yet evictions did not increase substantially until 1915.

The Philippine Commission estimated that one hectare of good rice land could generate (at 1915 prices) approximately US\$60 worth of rice every year. After taking into account expenditures on inputs, the Commission estimated that this would result in an effective annual income of US\$52 per hectare. Given an eight-year amortization schedule and 6 percent interest, the Commission estimated that loan repayments would amount to 22 percent of the typical family's annual income, a not inconsiderable burden in a country where few families enjoyed incomes much beyond the subsistence level.²⁹

Table 2: Progress of friar land distribution

Year	Contracted income	Amount in	# delinquency		
		Delinquency	Percent	cases filed	# evictions
1906	205,885	98,661	48%		
1907	241,833				
1908	265,441				
1909	365,324	2,790	1%		
1910	517,716	75,935	15%	418	185
1911	1,068,706	185,984	17%	627	24
1912	1,124,477	417,399	37%	634	42
1913	1,183,029	124,985	11%	1,333	122
1914	1,185,188	284,747	24%	5,472	160
1915	1,148,686	284,492	25%	5,649	1,005

Sources: 1906 Philippine Commission report, part 2, p. 3; 1916 Philippine Commission report, p. 81; 1915 Philippine Commission report, p. 81-83.

Land Titling

The American land court got off to a good start, but very little of the Philippines' land area received Torrens titles before the newly autonomous Philippine legislature disbanded the court in 1917. As Table 3 shows, about 88,257 farms (accounting for about 900,000 hectares) had been issued Torrens titles by 1918. This represented 4.5% of all farms and 19.6% of all farm area.³⁰ Overall, the majority of farms (58.4%) had no title of any kind. The remainder either possessed Spanish royal titles (3.1%), possessory titles

²⁹ 1915 Philippine Commission, pp. 81-83.

³⁰ We should note that the 1918 census figures are somewhat different than those shown in this table. The 1918 census records 70,685 farms as having been issued Torrens titles, or only 3.6% of the total number of farms.

(7.0%), judicial decrees (1.5%) or private deeds (22%).³¹ The problem was not slowness in processing claims for Torrens titles, but a lack of applications.

Table 3: Progress of Torrens titling

Year	# decrees	# Parcels	Area (hectares)
1903	126	140	35
1904	294	312	34,685
1905	561	681	15,776
1906	655	880	49,156
1907	678	825	20,299
1908	898	1,232	23,724
1909	635	899	28,765
1910	625	1,023	82,551
1911	2,274	3,938	43,362
1912	3,580	4,776	64,594
1913	4,402	5,408	85,050
1914	3,962	5,881	75,493
1915	1,242	2,770	55,218
1916	5,825	7,168	82,314
1917	37,811	40,817	180,597
1918	10,197	11,507	53,255
1919	13,446	15,313	65,251
1920	14,287	16,058	73,011
1921	16,475	19,529	67,139
1922	13,996	15,893	59,622
1923	14,238	16,817	82,349
1924	22,465	24,841	74,438
1925	32,372	34,239	105,092
1926	37,916	40,708	73,100
1927	76,743	83,440	173,819
1928	32,460	35,316	103,615
1929	23,143	27,180	78,879
1930	45,975	53,314	118,970
1931	50,066	55,630	103,759
1932	32,863	35,460	59,006
1933	21,809	24,788	53,276
1934	26,011	29,700	81,150
1935	31,203	34,551	78,947
1936	40,019	46,863	101,060

Source: *The Philippine Statistical Review*, Vol 4, Nos. 1-2, First and Second Quarters, 1937, p 210.

The reason for the slow progress appears to have been the high cost of the Torrens system. First, there was the overhead cost of setting up the land court and land registry. Then there was the cost of sending professional surveyors out to create new titles —

³¹ In theory, private deeds had to trace a chain of ownership back to a Spanish royal title, even if that title was not in the hands of the landowner.

surveyors were not common in the Philippines (most were, in fact, foreign, either American or Japanese) and their services were very expensive. In addition, a good-faith search needed to be undertaken to insure that there were no conflicting liens or titles: this involved sending a government official to interview the neighbors and canvass local notaries. Finally, the assurance fund needed to be fully funded. The Philippine territorial government charged a flat rate of \$10 per parcel to cover surveying and titling costs. In addition, the government charged a premium of 1.0 percent of the property's assessed value for the assurance fund and an additional fee worth 0.1% to pay for the examination of title. The total cost of a Torrens title, then, came to 9.9 percent of the value of the average hectare of Philippine rice land. Given that the average daily wage of an agricultural laborer was about 32.5 cents (U.S.), this meant that a land title cost about a month's wages.

Why didn't the government subsidize land titling? The simple answer is that it could not afford to without finding a new source of revenue. Using data from the 1918 census, we calculated what a universal titling program would have cost the government. (See Table 4.) In 1918, there were 1.95 million farms in the Philippines. Of these, 1.88 million lacked a Torrens title, and 1.14 million had no title at all. Using the government's cost of \$10 per farm, the fixed cost of titling only completely untitled lands would have amounted to \$11.4 million in 1918; the fixed cost of titling *all* lands would have been \$18.8 million. In addition to titling fees, the government would have needed to pay the premiums on the assurance fund. These costs turn out to be much lower than the fixed costs of the titling program: a high estimate of the assurance premiums needed to title all lands comes to about \$738,000.

These estimates are a large fraction of government revenue: the lowest estimate of the cost of providing Torrens titles to farms with no title at all comes to 64 percent of annual central government revenue. Given that much of the central government's revenue was already used to subsidize municipal and province governments or pay the operating costs of government-owned enterprises like the post office, turnpikes and railroads, the government would have needed to borrow between 1.5 and 2.5 times its annual revenue in order to finance a comprehensive land titling program.

The Philippines' fiscal situation was further complicated by the Revenue Act of 1913, which eliminated export taxes and all remaining tariffs on goods imported from the United States. The insular government compensated for this revenue loss by dramatically raising internal taxes (including an income tax), but it did not leave a lot of room for subsidizing land titling.³²

³² The income tax exempted the Chinese residents of the Philippines, since it applied only to citizens of the United States or the Philippine Islands, and the Chinese were officially neither at that time. "The Income Tax," *New York Times*, 10 May 1913. In 1915, the income tax brought in US\$240,505, which came to only 1.7% of all government revenue. By 1921, however, income tax collections peaked at US\$1,646,735 from individuals and US\$1,119,344 from corporations. In 1925, the Philippines collected US\$1,668,462 from the income tax.

Table 4: The cost of formality

Total number of farms		1,955,276
Total farm acreage		4,563,723
Number of untitled farms		1,141,353
Number of non-Torrens title farms		1,884,591
Total farm assessed value	\$	464,268,700
High estimate of untitled farm value	\$	271,007,507
Low estimate of untitled farm value	\$	40,651,126
High estimate of non-Torrens farm value	\$	447,484,966
Low estimate of non-Torrens farm value	\$	67,122,745
Cost of titling, untitled farms only, low estimate	\$	11,860,692
Flat registration fees	\$	11,413,530
Proportional-to-value charges	\$	447,162
% of central government revenue		64%
% of central government revenue, after direct subsidies to provinces		87%
% of central government revenue, after direct and indirect subsidies to provinces		98%
% of central government revenue, net of direct and indirect subsidies to provinces and the operating costs of commercial and industrial units		147%
Cost of titling, all non-Torrens farms, high estimate	\$	19,584,260
Registration fees	\$	18,845,910
Proportional-to-value charges	\$	738,350
% of central government revenue		106%
% of central government revenue, net of direct subsidies to provinces		143%
% of central government revenue, net of direct and indirect subsidies to provinces		143%
% of central government revenue, net of direct and indirect subsidies to provinces and the operating costs of commercial and industrial units		242%

Source: 1918 census, Volume IV-2, p. 82, and Budget of the Central Government of the Philippine Islands for the Fiscal Year 1918, Manila, Bureau of Printing, 1917, pp. 11 and 12.

Securing Tenure on Public Lands

What about the homestead act? Progress was slow in both issuing free-patents to existing squatters and new homesteaders. In fact, the Commission did not begin to clear the backlog of applications until 1910, by which point more than 15,000 families had placed claims that they had occupied public land before 1898. By 1918, about 11,000 applications had been processed by the Director of Public Lands, but an equal number were still pending.

The government was more efficient in processing homestead claims. Between 1904 and 1914, the homestead bureaucracy cleared an average of 48 percent of all new applications. This rate was not enough to prevent the accumulation of a substantial backlog of applications, of course, but it was much better than the rate for free-patenting. It should

be noted that the number of homestead applications rejected was in fact higher than the number approved.

As in the case of friar land redistribution, a major reason for the slow speed of processing homestead and free-patent applications was the expense and difficulty of conducting proper surveys. None of the public lands had been surveyed under the Spanish. Rather than survey first and then distribute, the U.S. decided to survey only as applications came in as an economy measure. This drove up the cost of the program in both time and money, and greatly slowed its application. The costs of such surveys were compounded by the fact that many of the applicants for free-patents were not currently occupying the land, having been displaced by the violence of the Philippine Revolution (against the Spanish) of 1896-98 or the Philippine War (against the Americans) of 1899-1901. By 1918, 60 percent of all the farms that the census recorded on public lands still lacked a title, and only 2.2 percent of public land had been settled through homesteads or free-patenting.³³

5. The Evolution of Land Ownership and Land Distribution 1903-1918

We use data from the comprehensive censuses carried out by the U.S. administrators in the Philippines in 1903 and 1918 to document the trends in land use, tenure security and the distribution of farm sizes. We will also consider other outcomes variables, such as the choice to grow commercial crops and agricultural productivity (output per hectare). The censuses contain detailed province-level data on geographic characteristics, demographic variables (population, gender, age and racial composition), agriculture and industry. Table 5 documents the province-level summary statistics for the important variables in our analysis. We drop the province of Manila City from all our regressions, mainly because it had less than 1000 hectares of farm area in 1918.

Table 5: Summary statistics

	Observations	Mean	Standard deviation	Minimum	Maximum
Province area 1903 (million hectares)	41	0.72	0.61	0.09	2.49
Population 1903 (millions)	41	0.18	0.12	0.04	0.65
Population 1918 (millions)	41	0.24	0.16	0.04	0.86
Fraction farm area 1903	41	0.17	0.14	0.00	0.48
Fraction farm area 1918	41	0.26	0.20	0.01	0.73
Fraction cultivated area 1903	41	0.09	0.09	0.00	0.35
Fraction cultivated area 1918	41	0.15	0.13	0.00	0.50
Friar land dummy	41	0.20	0.40	0.00	1.00
Fraction of farms on public land	41	0.08	0.13	0.00	0.64
Fraction of farms with any title 1918	41	0.38	0.20	0.00	0.77
Property tax per hectare of cultivated area	41	1.09	0.81	0.23	5.44
Growth in fraction farm area	41	0.09	0.08	-0.03	0.25

³³ Area calculated from figures in Hugo Miller, *Economic Conditions in the Philippines*, Ginn & Co., New York, 1920, p. 263.

	Observations	Mean	Standard deviation	Minimum	Maximum
Growth in fraction cultivated area	41	0.06	0.05	0.00	0.19
pcash~ca1918	41	0.05	0.06	0.00	0.27
Change in % cultivated area under squatters	40	0.07	0.09	-0.10	0.35
Daily agricultural wage 1918	38	0.64	0.18	0.30	1.15

Source: Authors' calculations based on province-level data from the censuses of 1903 and 1918.

The Expansion of the Frontier

As mentioned earlier, the Philippines was a frontier economy in this period (see Table 1). Land in the Philippines was relatively underutilized: only 17% of the total land area had been claimed as farm land in 1903, and only 47% of the farm land was under cultivation.

Between 1903 and 1918, land utilization increased on both the extensive and the intensive margins. By 1918, 26% of total area was claimed by farms, and 56% of this increased area was under cultivation. The net effect was a 67% increase in total cultivated area. Over this same period, the population of the Philippines expanded by only 32%, which meant that the country's effective population density declined.³⁴

What relationship should we expect between the expansion of the frontier and the trends in property rights? Several factors come into play here. Providing secure property rights to farmers might encourage them to cultivate new lands in the hope of greater returns. On the other hand, with the farming population on the move towards new areas, it might become logistically difficult to verify land claims and issue land titles or approve homestead claims. In empirical analysis using province level data, we do not find any differences in the expansion of cultivated area across friar and non-friar provinces, or across provinces with a greater or lesser extent of Torrens titles or other types of titles. The only robust results are that larger provinces saw a greater expansion in the fraction of farm area and the fraction of cultivated area. (see Table 6.)

³⁴ Authors' calculations from the Censuses of 1903 and 1918.

Table 6: What affected the expansion of the agricultural frontier?

	Growth in fraction farm area		Growth in fraction cultivated area	
	(1)	(2)	(3)	(4)
Province area (million hectares)	-0.038** (0.018)	-0.038** (0.018)	-0.018 (0.011)	-0.018 (0.011)
Fraction farm area 1903	0.129 (0.134)	0.144 (0.131)		
Population 1903 (millions)	0.189** (0.088)	0.062 (0.125)	0.164*** (0.034)	0.134* (0.066)
Fraction of farms with Torrens title 1918	0.023 (0.173)	0.007 (0.182)	0.001 (0.110)	-0.004 (0.111)
Fraction of farms with any title 1918	0.029 (0.083)	0.063 (0.095)	0.036 (0.037)	0.044 (0.042)
Province with friar lands	-0.005 (0.033)	-0.026 (0.040)	-0.003 (0.016)	-0.008 (0.020)
Fraction cultivated area 1903			0.237** (0.095)	0.242** (0.093)
Constant	0.051 (0.032)	0.061* (0.034)	0.011 (0.017)	0.013 (0.018)
Observations	41	40	41	40
R-squared	0.42	0.39	0.62	0.60

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

All regressions exclude the province of Manila City.

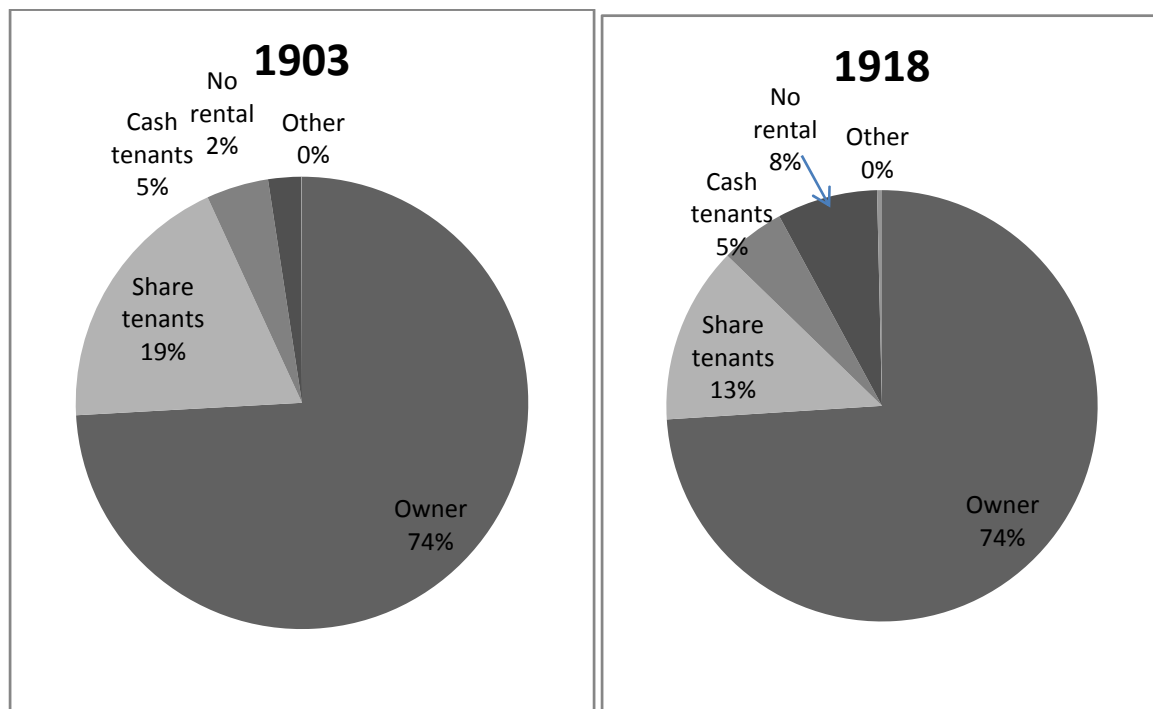
Columns (2) and (4) exclude the province of Cebu, which is an outlier in terms of population.

The Rise in Informal Tenure

What about the distribution of ownership types? The census data reveals a startling fact: there was a *deterioration* in the share of the population possessing formal property rights between 1903 and 1918. Figure 1 shows that the share of cultivated area held by people who have a “no rental” status (i.e. are neither owners nor tenants) increased over the period 1903-1918.³⁵ We use the term “squatters” to refer to this category of landholders. The fraction of farms occupied by squatters increased from 1.1% in 1903 to 5.6% in 1918; the fraction of cultivated area under squatters increased from 2% to 8% (see Figure 1). We should note that squatting and lacking a formal title are not the same thing: 58 percent of farms lacked a formal title, but only 6 percent were occupied by families with *no* ownership rights or tenancy contracts whatsoever.

³⁵ These are people who indicated to the census-taker that they did not own their land, but that they also paid no rent either in cash or in kind.

Figure 1: Fraction of cultivated area in each ownership category



Source: Authors' calculations from the censuses of 1903 and 1918, excluding Manila City.

What might explain the increase in the incidence of squatting? There are several possible costs to registration. The first is the time that it takes to register a title. The second is the cost of registration. The third is a relatively low risk of dispossession. The fourth is the avoidance of land taxes.

If time was the main constraint holding up land titling, then we would expect to see a correlation between the pace of expansion of cultivated land and the increase in squatting. The logic is that in areas of rapid expansion, the new occupants of the land would be more likely to occupied their land recently, and therefore have lacked time to properly register their land with the authorities. In such cases, the census would record as “no rental,” since they would be unable to produce ownership documents, but they would also not be paying rent. (The census counted sharecropping as a subset of rent.) Similarly, if the monetary cost of land registration was simply too high, then we should expect more squatting in poorer provinces. (This is not true for the time cost — time cost should go down with the income of the person who needs to wait.)

If a falling risk of land usurpation by another private party was the main reason Philippine peasant farmers chose to squat, then we would expect squatting to be *negatively*

correlated with a rapid increase in the amount of land under cultivation. In provinces with an open frontier, there would be plenty of unoccupied land available, and less reason to run the risk of trying to seize existing farms. More strongly, we should expect to find the squatting is negatively correlated with an increase in the population *density* on cultivated land: as the area fills up (or empties out), the return to dispossessing existing squatters will rise (or fall) as land becomes relatively scarce (or plentiful). We should also expect to find that property crime is negatively correlated with squatting.

Similarly, if the government abetted squatting on public lands (in order to reduce the possibility of disorder) then squatting should be positively-associated with the proportion of public land in a province. Finally, if the taxes were the main barrier to land registration, then we should see more squatting in provinces with a higher incidence of property taxes.

We test these hypotheses using province-level data from the censuses of 1903 and 1918 on the variables identified above. We compute two measures of the extent of informal tenure: the fraction of farms occupied by squatters and the fraction of cultivated area occupied by squatters in each province. The signs on most of our coefficients are in line with our hypotheses listed above: more public land, high levels of property tax, a wider distribution of any kind of land titles, lower agricultural wages and decreases in population density serve to increase the extent of squatting; the relationship with the extent of property crime is opposite to what we expected. However, the only coefficient which is statistically significant on a consistent basis is the relationship with the extent of public lands. A 10 percentage point increase in the fraction of public land in the province is associated with a 0.56-0.66 standard deviation decline in the incidence of squatting.³⁶ (See Table 7.)

The U.S. thus appears to have been effective at enforcing property rights in the settled areas. Squatters did not move onto private property. The U.S. also appears to have been effective in preventing violent conflicts over land from spiraling out of control — although the large amount of unoccupied land certainly helped. The U.S. allowed peasants to fan out onto public land (or, in the case of the friar lands, cease to make payments yet retain *de facto* possession) in a disorganized frontier expansion.

³⁶ We should note that this is not simply the effect of poverty: adding the average daily agricultural wage rate as an additional regressor yields insignificant coefficients (results not shown).

Table 7: What determined squatting?

	Change in % cul- tivated area under squatters	Change in % farms under squatters
	(1)	(2)
Growth in fraction cultivated area	0.014 (0.244)	0.246 (0.366)
Change in Population density	-0.032 (0.113)	-0.050 (0.132)
Value of land stolen/total property value (*100,000)	0.001 (0.001)	0.001 (0.001)
Property tax per hectare of cultivated area	0.048 (0.032)	0.083 (0.078)
Fraction of farms on public land	0.559*** (0.083)	0.704*** (0.154)
Fraction of farms with any title 1918	-0.116** (0.055)	-0.073 (0.081)
Average daily agricultural wage	-0.031 (0.067)	-0.065 (0.089)
Observations	34	35
R-squared	0.69	0.59

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

All regressions exclude the province of Manila City.

Regressions exclude the province of Rizal, which is an outlier

Trends in Land Inequality

The distribution of farm sizes is likely to be an important determinant of agricultural investments and productivity.³⁷ In addition, one of the desired outcomes of the American land reforms was to insure an equitable distribution of land. The Americans intended to break up the friar estates and insure that new haciendas did not emerge on the archipelago's frontier.

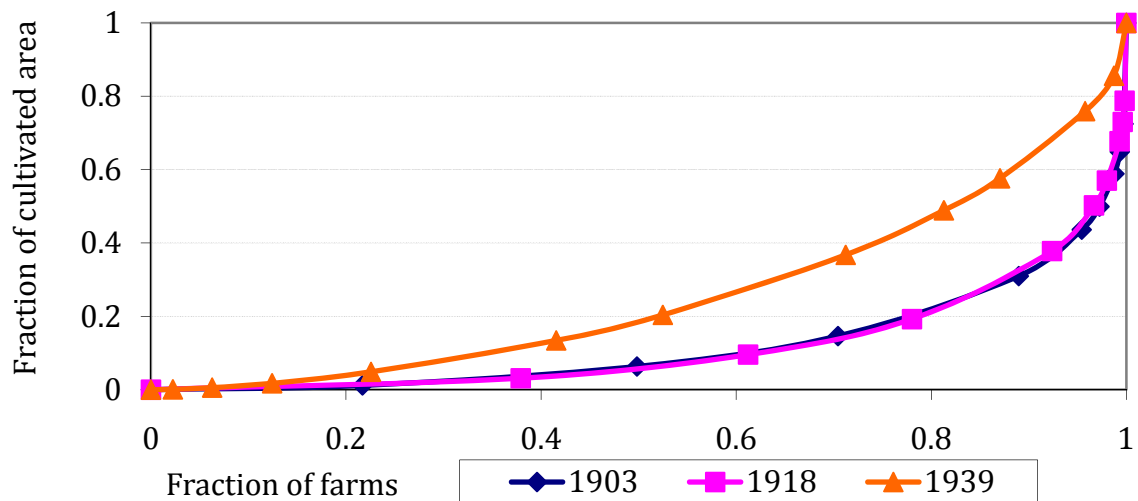
The census data reveals that both the number of smaller farms and the share of land occupied by such farms rose during the first 15 years of American rule. In 1903, 440,000 farms smaller than one hectare occupied 7.2% of farm area and 10.5% of cultivated land. By 1918, the total number of such small farms had almost tripled to 1.2 million, and they occupied 11.4% of farm area and 14.6% of lands under cultivation. Over this same period, there was a drop in the number and share of area held farms of more

³⁷ See Binswanger et al (1995) for an overview of the theoretical and empirical literature on the determinants of farm size, as well as the impact of farm size on productivity.

than 15 hectares. In 1903, nearly 49% of farm area and 34% of cultivated area was inside large farms. In 1918 those numbers had fallen to 40% and 27%.

These changes, however, were not very large in terms of changing the overall land distribution.³⁸ (See Figure 2.) The nationwide Gini coefficient remained almost the same across these two years, at 0.75. However, this varied quite considerably across provinces: for instance, the province of Abra saw the Gini coefficient decrease from 0.56 in 1903 to 0.48 in 1918, while the Gini coefficient increased from 0.45 to 0.68 in the province of Nueva Ejica.

Figure 2: Lorenz curves for cultivated land



What are the factors which might affect the evolution of the land distribution? First, the redistribution of friar lands means that we expect to see lower inequality in the friar land provinces. Second, the impact of the expansion of the frontier is ambiguous since we do not know whether it was done primarily by small farmers or larger farmers. Third, provinces where more farms were titled are likely to have a greater expansion by small farmers, since they might expect their property rights to be protected in the future as well. Finally, if squatting increases in the province, we expect that it is mainly due to small farmers and that the proportion of small farms would rise.

We test the validity of these hypotheses by running regressions based on province level data. We computed the Gini coefficients for each province, as well the fraction of cultivated land in farms of less than 2 hectares (small farms) and the fraction of cultivated land in farms greater than 15 hectares (large farms). Some of our regressions are sum-

³⁸ The Lorenz curve graphs the cumulative fraction of farm area in different size categories against the cumulative fraction of total farms in that size category. A 45 degree line would represent a perfectly equal distribution of land i.e. small farms which constitute 31% of all farms would also control 31% of cultivated area and so on.

marized in Table 8, but the data on land distribution were too noisy for us to obtain statistically significant coefficient estimates.

Table 8: What determined changes in inequality?

	Change in Cultivated area Gini	Change in % cultivated area in large farms	Change in % cultivated area in small farms
	(1)	(2)	(3)
Friar land province	0.039 (0.03)	-0.031 (0.060)	0.010 (0.037)
Growth in fraction cultivated area	0.424 (0.58)	0.76 (0.629)	-0.055 (0.522)
Fraction of farms with any title 1918	0.028 (0.11)	0.055 (0.148)	-0.146 (0.155)
Change in % cult area under squatters	0.382 (0.24)	0.53 (0.318)	-0.490 (0.395)
Change in Population density	0.112 (0.33)	-0.281 (0.24)	-0.042 (0.237)
Observations	38	38	38
R-squared	0.13	0.12	0.09

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

All regressions exclude the province of Manila City.

6. Trends in Agricultural Productivity

Despite the lackluster progress of land reforms, agricultural output and productivity increased significantly between 1903 and 1918. The per-hectare yield of rice increased from 14.5 kilograms in 1903 to 28.9 kilograms in 1918. Other crops, such as corn, hemp and sugarcane exhibited similarly large increases in yield. It could be that the output in 1903 was especially low, and that the subsequent increase merely reflects a return to output in peace-time conditions, but the agricultural import and export figures are not consistent with that hypothesis.

How much do the trends in land tenure insecurity and land distribution matter for the trends in yields? We regressed the province-level increase in rice yields on the increase in tenure security, the increase in cultivated area, and the increase in the Gini coefficient. None of these factors were significantly related to the increase in rice yields, except for slightly negative coefficient on the increase in the proportion of large farms. Overall, these results suggest that the slow progress of property rights was not a major constraint on the expansion of cultivated area or the increase in productivity. It could be that having established peace conditions as well as access to a major export market were bigger factors in Philippine economic growth than the progress of land rights. The

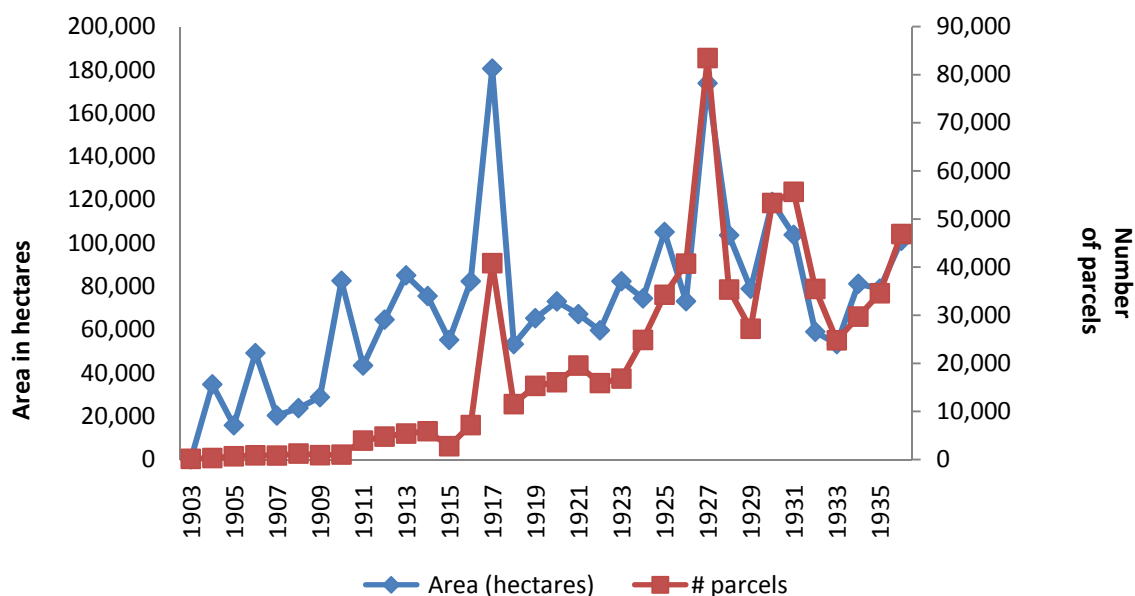
evidence supports Philippine peasants in their skepticism about the benefits of formal titling.

7. Did Philippine Autonomy Accelerate Property Rights Reforms?

The Philippines Autonomy Act of 1916 transferred legislative powers to an elected Filipino legislature, though the American Governor-General retained veto power. In addition, it sped the Filipinization of the territorial bureaucracy, which began in 1912 and was essentially complete by 1919. By the 1920s, therefore, all aspects of land administration were now in the hands of Filipino administrators governed by (mostly) Filipino-written law. One of the first acts of the new legislature, in fact, was to abolish the separate court of land registration. Matters dealing with land titles and land disputes were now to be handled by the usual courts of first instance.

Philippine autonomy appears to have greatly altered the trends in Philippine property rights. The pace of Torrens title issuance (perhaps surprisingly) increased after autonomy was transferred to the Filipinos. (Figure 3.) By 1936, nearly 700,000 farms and 2.5 million hectares had been issued Torrens titles. This represented 43% of all farms and 36.5% of farm area, compared to 4.5% of farms and 19.5% of farm area in 1918. These figures suggest that small farms were more likely to be issued Torrens titles after 1918, while it was mainly the large landowners who were able to obtain the costly Torrens titles in the initial period.

Figure 3: Progress of Torrens Titles



On the other hand, the disposition of public lands through homesteads and free patents slowed considerably. By 1935, 36, 168 applications for homesteads and 19, 643 applications for free patents had been approved, accounting for only 2.7% of the agricultural area in the public domain.³⁹ Only 17% of homestead applications and 33% of free patent applications were approved over the period 1904-1935.

Paradoxically, despite the progress the Torrens program, the data from the 1939 census shows a continued decline in the security of tenure for Filipino cultivators. In 1939, only 65% of farms were owner-cultivated, down from 78% in 1918. Share tenancy increased from 13% to 27% of all farms, and the fraction of farms occupied by people of “no rental” status (i.e. squatters) increased further from 5.6% in 1918 to 6.8% in 1939.

The distribution of farm sizes changed quite considerably over these two decades, with the relative weight of small farms increasing considerably (see the Lorenz curve for 1939 in Figure 3). The Gini coefficient decreased from 0.75 in 1918 to 0.48 in 1939. We are in the process of putting together more information from the 1939 censuses and other data sources to explain these trends.

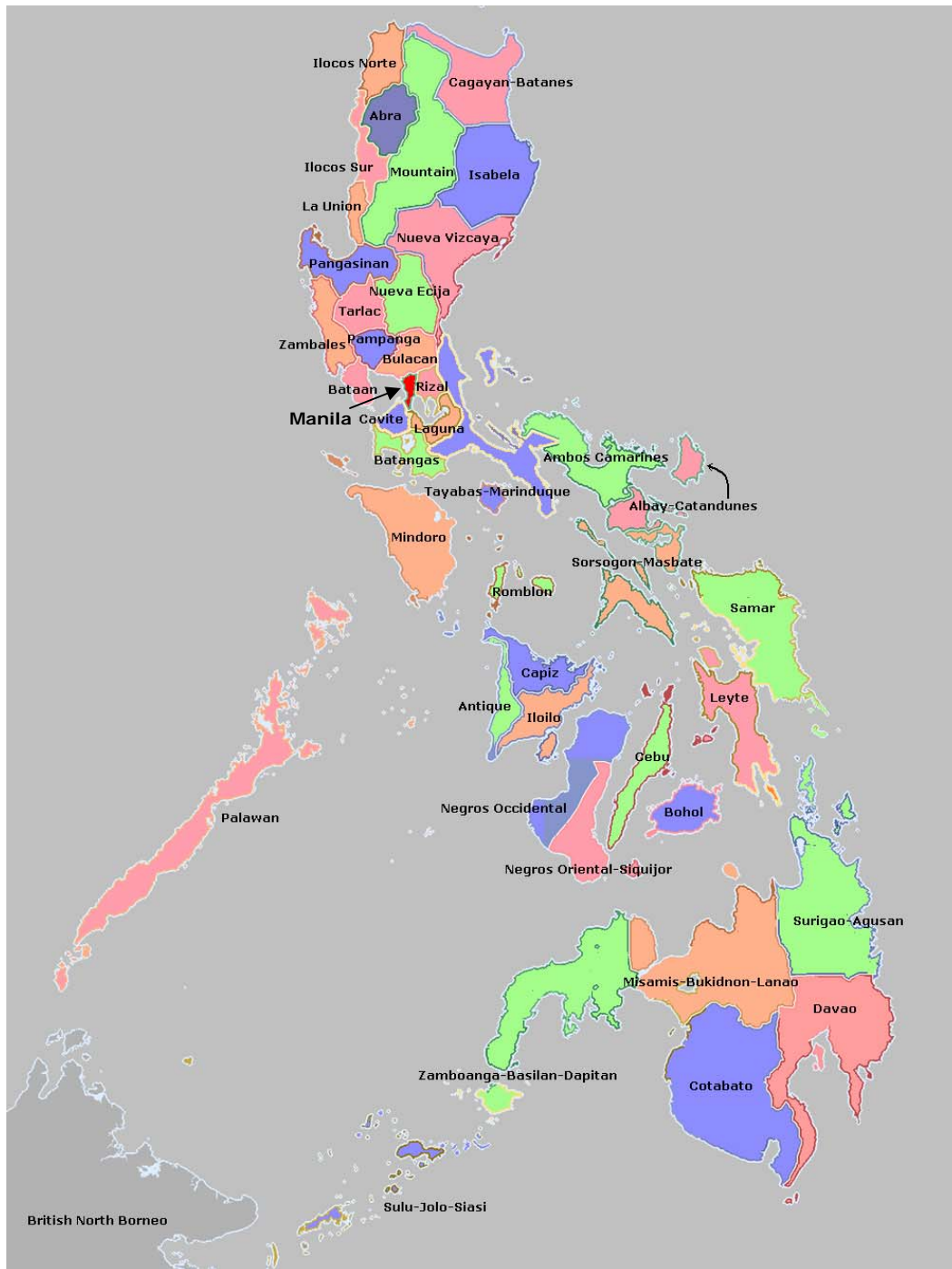
8. Conclusions

We documented the trends in the progress of property rights reforms, tenure security, land distribution and agricultural outcomes during the first phase of American occupation of the Philippines from 1903 to 1916. We find that the progress of property rights reforms was very slow in these initial years. For two of these reforms, the friar lands redistribution and the Torrens titling program, we find that the high cost of implementing these programs, combined with the lack of subsidy from the government, was a major factor in reducing take-up. On the other hand, the objective of preventing further rebellion made the costs of tenure insecurity fairly low in this period: the government was reluctant to evict delinquent or informal cultivators, especially on public lands. This hypothesis is supported by the fact that the incidence of squatting increases much more in provinces that had a lot of public land. Perhaps as a result of this, we do not find much evidence that the slow progress of property rights was a deterrent to the increase in cultivated area and agricultural productivity.

In future work, we plan to conduct a deeper analysis of the data in the post-1916 period to see to what extent the earlier constraints on property rights reforms were relaxed, and whether property rights have a bigger impact on agricultural outcomes in the later period.

³⁹ Philippine Statistical Review Vol 3, No 2, Second Quarter 1936, p 143-144.

Philippine provincial map



The Philippine Islands in the Pacific

