

Multiple Margins in Labor Contracts in the Henequen Industry: Yucatán, Mexico, 1870-1915.

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While most contemporary historians agree that the use of debt peonage as a coercive labor contract in Mexico was not widespread, scholars still concur that it was an important and pervasive institution in Yucatán state during the henequen boom of the late 19th and early 20th centuries. The henequen boom concurred with the long rule of Porfirio Diaz (1876-1910), under whose watch property rights were reallocated through liberalized land laws and Mexico's economy became much more closely tied to the United States. In the Yucatán, the accumulation of debts by peons rose as *hacendados* sought to attract and bond workers to match the rising U.S. demand for twine. We examine the institutional setting in which debt operated and analyze the specific functions of debt: who got it, what form it took, and why it varied across workers.

Debt and contract slavery is the prevailing system of production all over the south of Mexico...Under this system the laborer is compelled to give service to the farmer, or *hacendado*, to accept what he wishes to pay, and even to receive such beatings as he cares to deliver. Debt, real or imaginary, is the nexus that binds the peon to his master. Though the constitution does not recognize the right of the creditor to take and hold the body of the debtor, the rural authorities everywhere recognize such a right and the result is that probably 5,000,000 people, or one-third of the entire population, are today living in a state of helpless peonage. John Kenneth Turner, 1910, 92-93.

Introduction

Turner's account of debt peonage in Yucatan – first published in the muckracking journal the *American Magazine* – not only made an immediate impact on Americans' perceptions of their southerly neighbors, but also became the text to which all future scholars of Yucatán's labor conditions must first turn. Turner built a compelling narrative of slavery and oppression on Yucatecan haciendas and argued that these conditions were due to the policies of Mexico's long-time president, Porfirio Díaz, whose overthrow he advocated. Subsequent scholars have modified Turner's account, carefully detailing the institutional and cultural context of labor conditions on Porfirian henequen haciendas. However, a paucity of data has made it difficult to heavily revise Turner's initial findings, and no one has directly tied together the broader setting with the specific timing and function of debts.

Almost all labor contracts have multiple margins in addition to a wage.¹ When monitoring costs loom large, as they always did in pre-mechanized agriculture, employers negotiated contracts that reduced monitoring costs and turnover. On henequen haciendas in Yucatán, the most striking aspect of labor contracts is that workers accumulated large debts “on the books” that *hacendados* never expected to be repaid. While large upfront transfers with no chance of repayment may at first glance seem to be an inefficient means of attracting and motivating labor, we argue that within Yucatán's institutional and cultural setting debt served both of these functions. We find that higher debts were granted to more valued employees for location-specific social

¹ We stress that social norms influence the margins in labor contracts. For example, two hundred years ago the British navy specified clearly the number of whippings a seaman would receive for various infractions.

rituals such as marriages and baptisms, and speculate – building on the work of historians and anthropologists in the field – that higher debts may well have engendered more loyalty and greater work effort through a variety of mechanisms.² We also argue that the mere existence of debt is not per se evidence of coercion, and that the institutional setting was much more important in shifting bargaining power into the hands of the *hacendados*.³

The henequen boom begins with the invention of the mechanical reaper in the U.S. and the mechanical rasper in the Yucatan. Our study ends when the revolution “came to Yucatan,” leading to the cancellation of workers’ debts and the establishment of a minimum wage.⁴ Our study therefore roughly coincides with the rule of Porfirio Diaz, who ruled Mexico from 1876 to 1910. While the revolution swept the rest of Mexico beginning in 1910, elites in Yucatan held off its arrival until 1915, when General Carranza sent in his “constitutionalist” troops. The revolution brought to an end the institutional setting within which labor contracting took place during the Porfiriato.

Because of its importance in shaping contracts, we begin in Section II with discussions of the institutional context at the federal level and then the institutional specifics of the Yucatan region. In Section III we discuss how the climatic characteristics of the Yucatan and the cultivation of henequen in particular influenced the use of labor. In Section IV we provide a narrative account of the use of debt and overall labor conditions on henequen haciendas. In Section V we present a case study of a henequen hacienda along with hypotheses and tests of the use of debt as a “paternalistic” mechanism embedded in the legal and social institutions to bond workers to a hacienda and induce greater worker effort with less monitoring.

² The general mechanism that we have in mind is very similar to the paternalistic agricultural labor contracts used in the U.S. South from the late 19th century until cotton was mechanized in the 1960s (Alston and Ferrie, 1999). Our debt is most strong to Wells and Joseph (1996) for their understanding of the institutional setting, Peniche (1998, 1994) for her work on the importance of Maya rituals and debt, and Nickel (1997a, 1996) for his research on the use and size of debts.

³ See Steinfeld and Engerman (1997) for a discussion of the various meanings of the words “coercion” and “free.”

⁴ Debt peonage was officially outlawed in Mexico in 1914. The number of debt peons has been estimated at 20,767 in 1880; 80,216 in 1900; and 125,000 in 1910 (Joseph, 1986, 55).

Ila. Institutional context: federal

After decades of almost constant struggle between conservatives and liberals, Porfirio Díaz came to power in 1876 determined to bring stability to a fractured nation. While consistently maintaining his opposition to re-election, he served several consecutive terms in office until he was overthrown by revolutionary forces and sent into exile in 1910.⁵ A political liberal, Díaz sought to modernize Mexico and brooked little dissent from those who opposed his vision of progress. Díaz sought to unify Mexico's different regions to create a strong centralized nation, and he did this by greatly concentrating control in the office of the Presidency.

For Díaz, progress and modernization could be measured by miles of railroad tracks laid or percentage of land dedicated to export crops (e.g., henequen, chicle, sugar, and cotton). On these measures, the country progressed greatly. Much of the capital for Mexico's economic expansion came from foreign investors, mainly U.S., although Díaz sought investment from Europe to counter-balance U.S. influence. U.S. investors, for example, built the railroad system and by the end of the Porfiriato owned some 20% of all Mexican land.

The law of the land during the Porfiriato was the 1857 constitution. Despite violating its provisions when necessary, Díaz did not seek to abrogate it; liberals viewed this Constitution as the quintessential symbol of Mexican nationalism (Guerra, 1988, 29). Indeed, a bloody civil war had been fought over it and liberals had triumphed. The enumeration of individual rights in this Constitution was, as one prominent Mexican historian put it, "practically exhaustive" (Guerra, 1988, 33). In terms of labor, individuals have the right to choose the work they do, and the rendering of personal service without just compensation and full consent is prohibited.⁶ The 1856 Reform Laws of the previous year had abolished all corporate forms of land ownership; the 1857 Constitution reiterated this prohibition, which was primarily aimed at the Church: "no civil or ecclesiastical corporation, whatever its character, denomination or object, shall have

⁵ From 1880-84 Díaz stepped down as president and was replaced by Manuel González, a general and Díaz loyalist. Given Díaz's extensive power behind the scenes, these four years are typically not placed outside the "Porfiriato."

⁶ Slavery was outlawed in Mexico at Independence in 1825.

legal rights to acquire property or administer real estate” (Article 27, section 2, cited in Guerra, 1988, 34). The stripping of corporate property rights also greatly facilitated the expropriation of communal lands from indigenous communities, many of whom had previously owned lands as pueblos, or villages. According to the Reform Laws, village *ejido* land was to be divided among heads of families, each receiving a small parcel (Wells and Joseph, 1996, 151). In effect, the 1857 Constitution substituted group rights and privileges with individual rights. Despite its lofty rhetoric, however, average citizens had little recourse to defend themselves when abuses occurred. Political parties and elections were elite affairs and not expressions of popular will. During the Porfiriato, official candidates were chosen for all regional and local elections, with the President himself often intervening in elections of national importance (Guerra, 1988, 39). Elections were solemnly observed in strict accordance with the law, serving mainly to legitimize and strengthen the power of the central government as arbitrator of disputes among the political elite. Supreme Court justices were also elected, for six year terms, and were similarly indebted to the president for their position.

If the Díaz administration privileged foreign investors, at the other end of the spectrum were workers and peasants, who protested more openly and with greater frequency after the turn of the century. Díaz did not hesitate in using the army to put down strikers and rebel Indians. In 1901 he sent the army north, brutally suppressing a long-simmering rebellion by the Yaqui, a largely nomadic people who lived in relative autonomy from the state.⁷ In the same year, Díaz dispatched General Ignacio Bravo to the Yucatán peninsula to put an end to the decades-old Caste War that had begun in 1847 but was still very much alive in the eastern region of the state. After the most intense years of fighting, from 1847-1849, rebel Maya Indians fled to the forested jungles of southeastern Yucatán, where they lived in autonomous communities outside the state’s reach. In May of 1901 Bravo and his troops captured and occupied the rebels’ most important town, declaring the end of a conflict that had been long and bloody. Between deaths and displacement, the conflict claimed between one-third to

⁷ In 1908 Yaqui Indians from the north were imported to the Yucatán as henequen workers. Federal authorities believed that the best way to subdue the Yaqui was to separate them from their homelands, the Mayo and Yaqui river valleys in Sonora (Wells, 1985, 68).

one-half of Yucatán's population of 600,000 (Joseph, 1982; Reed, 1964, 122; Rugeley, 1996, xii).⁸

IIb. Institutional context: Yucatán state

The Díaz years brought more than a measure of political stability to Yucatán, which, like much of the rest of Mexico during the early to mid-nineteenth century, was characterized by frequent changes of government. Between 1848 and 1873, for example, the state had 26 governors and was wracked by political factionalism (Eiss, 2007, 6). Díaz installed military governors, set up a political machine, and stabilized the rules of the game by which elites in Yucatán interacted. Succession of power in Yucatán during these years was “without bloodshed or unnecessary emotions,” not something that could be taken for granted before 1876 (Reed, 1964, 230).

Political and economic power overlapped, and in Yucatán, economic power increasingly became tied to one single export crop: henequen. The state during the henequen boom was described as “one vast cleared plantation” (Reed, 220). Exports of henequen rose from less than 6 million kilos in 1875 to 43 million in 1885 and 81 million in 1900. The political power of *hacendados* increased concomitantly. Perhaps the most blatant example of the relationship between economic and political power was the 1902 election of Olegario Molina as governor of Yucatán. Molina was the owner of the state's largest henequen export house whose power to control production increased when his company signed a pact with International Harvester in 1902. In effect, this “secret” pact guaranteed lower prices for henequen in exchange for being the sole supplier to International Harvester (Joseph, 1982, 45).⁹

As a result of the “green gold,” Yucatán went from being one of the poorest states in the republic to one of the richest. The transformation of the northwestern

⁸ In 1902 Díaz called for the creation of a new territory, Quintana Roo, to be carved out of eastern Yucatán. Reed (1964) argues that Díaz sought closer federal control over expected profits from developing the forest region, namely chicle production.

⁹ The pact between International Harvester and Molina and Co. channeled loan capital through the governor's son-in-law Montes and friends (some thirty inter-connected planter families; aka “The Divine Caste”) to the planters, securing liens on future fiber production and often mortgages on the plantations themselves, which enabled the trust to dictate the future price at which the producers would be forced to sell to them (Joseph, 1982, 56).

region of the state into a mono-crop economy happened relatively quickly and was moved along significantly by the Caste War.¹⁰ In effect, the War shifted the bulk of the state's population westward toward Mérida and away from the rebels in the southeast, making additional laborers available for work on the expanding lands dedicated to henequen production. Additionally, the heaviest fighting and casualties of the War occurred in the sugar-producing region, around Valladolid and Tekax, destroying many sugar plantations in its wake (Reed, 1964, 147).¹¹

From 1750 to 1850, cattle and corn haciendas dominated the rural landscape of Yucatán. As these corn and cattle haciendas expanded, owners used their political power to appropriate communal lands from nearby villages. Some of these displaced peasants were pushed onto these haciendas when communal lands were broken up; others were pressured through the accumulation of debt. Eiss (2007) notes that by 1841 in the town of Hunucmá, a district on the western edge of the henequen zone, some 24% of the total population resided on haciendas and ranches (9). However, over the course of the second half of the nineteenth century in the same town of Hunucmá, the percentage of peasants living on the haciendas rose to approximately 50%. In contrast to corn and cattle haciendas, sugar and henequen production was much more labor intensive. In the case of sugar, full-time workers were needed only at harvest time, while harvesting of henequen was year-round, as was the clearing, planting, and weeding.

Given the tight connection between economic and political power, Yucatecan *henequeneros* could count on the law to support them in their efforts to secure land and labor. Liberal land laws facilitated the acquisition of additional land as production increased. Betancourt (1953) reports an estimate that in the three decades after 1878, 134,000 hectares of *ejido* land were expropriated by haciendas (52). At the state level, laws were passed in 1843 and 1882 that legitimized the use of debt peonage as a

¹⁰ The henequen zone ringed the city of Mérida and it was here where we see mono-crop production. Henequen grows best in the rocky, relatively drier northwest region of the state. Batt (1991, 205) argues that haciendas outside the henequen zone maintained a more diversified productive base: in the eastern region, both henequen and cane were cultivated and processed for regional and international markets while in the south and east of the state, maize, cattle, and yucca were raised for sale and for local consumption.

¹¹ Brannon and Baklanoff (1987, 30) argue that the Caste War "basically destroyed the sugar industry" and seriously reduced cattle grazing.

bonding mechanism. While peonage had been outlawed by the 1857 Constitution, the use of debts to tie labor to *hacendados* was legal in Yucatan. According to Wells and Joseph (1996), “An 1882 state law, *Ley Agrícola Industrial del Estado de Yucatan*, reiterated earlier peonage laws, stipulating that the peon who left work without paying the sums he owed might be legally prosecuted...If an indebted servant escaped and took refuge on another estate, the landowner who hid the servant could be arrested” (157-8).

The law further restricted worker mobility by granting an exemption from military service to all permanent laborers attached to haciendas.¹² State law obliged all males between the ages of 15 and 60 to serve in the militia (Wells and Joseph, 1996, 154). The easiest and least expensive way that peasants could avoid the *leva*, which was widely feared and hated, was to attach themselves to a hacienda as a full-time, indebted worker (Wells, 1985, 160). Being a peon on a hacienda also exempted peasants from labor drafts for road-building or public works, which though illegal according to Mexican law, was common-practice in the Yucatán.

While the 1857 Constitution guaranteed citizens’ the right to vote and be voted into public office, in practice, poll-taxes and other barriers prevented many individuals, and most Maya peasants, from exercising their rights. Writing about Hunucmá, Eiss (2007) argues that local notables and landowners “rotated in power in local government positions, using political office to support the enforcement of forced labor, indebted servitude, and their expropriation of land and labor more generally” (27). Close ties between local justices of the peace and district-level *jefes políticos* made it very difficult for poor people to find relief in the court system. Wells and Joseph (1996) assert that “in many cases, collaboration was cemented by kinship ties between *hacendados* and state officials” (158).

IIla. Ecological Context: Yucatán

Besides the political forces that kept workers tied to the haciendas, ecological factors also played a crucial role in immobilizing labor. The Yucatán peninsula consists

¹² These laws bear a striking resemblance to the agricultural deferments from the draft during World War II. Alston and Ferrie (1999) argue that Southern plantation owners through their political agents were instrumental in establishing the deferments.

of a large block of limestone covered by a very thin layer of topsoil, making slash and burn—with a twelve year cycle of land rotation—the standard method of agriculture. There are no lakes or rivers in the henequen zone. The default vegetation is a low-lying tropical forest. During the Porfiriato, water was pumped from wells using windmills or accessed through *cenotes*, water-filled sinkholes that dot the landscape. Control of these *cenotes* lay in the hands of haciendas, whose central houses often were located near or on top of them. Weather also played a crucial role in the life of the hacienda. The high temperatures average above 90 degrees Fahrenheit from March through September, making travel and work difficult. Droughts –such as the one from 1903 to 1904 – increased the variance of agricultural output (Hartmann, 1966, 193). Finally, the peninsula is prone to locust plagues. These hit the peninsula from 1881 to 1886 and led to widespread destruction of the maize crops. Gill (1991, 41) notes that the plagues of the 1880s contributed to an increase in the population on haciendas from 21,000 to 26,000 in those years. Locust plagues from 1907 to 1911 increased the bargaining power of *henequeneros* and led to increased violence between workers and bosses (Wells and Joseph, 1996, 174-175). The droughts and locust plagues left peasants with the unfortunate choice of starvation or moving to a hacienda (Eiss, 2007, 16; Gill, 1991, 43-45; Wells, 1985, 94).

IIIb. Henequen

The henequen plant is a member of the agave family (*Agave fourcroydes*), and is well-suited to Yucatán's climate, particularly the relatively drier, rockier northwestern region of the state. Henequen has been grown since pre-Columbian times for the long, tough fibers that can be harvested from its leaves. For centuries, Maya manually harvested, rasped, and treated these fibers to make rope and baskets. Prior to the henequen boom, the most time consuming segment of the production process was the removal of the fibers from the henequen leaf. Cultivation, mostly for domestic use, continued through the Colonial period; any surplus was made into ropes and shipped to Veracruz or Cuba through the Yucatecan port of Sisal (Millet Cámara, 2006, 85). It was not until the invention of mechanical rasper machine (*desfibradora*) in the late 1850s

that production of the crop became commercially viable.¹³ Demand for (largely unskilled) labor rose dramatically as production levels increased. Due to the invention of the mechanical rasper, the bottleneck in production switched to weeding the henequen fields and cutting the leaves, which needed to be done year-round. Daily, a typical worker weeded 1-2 mecates or cut roughly 2000 leaves.¹⁴ These leaves needed to be processed within a couple of days or they became dry and unusable. Therefore the henequen plantation took on some aspects of industrial production, with the machine room and rasping machines centered at the heart of production.

Henequen plants take five to seven years to reach maturity and produce their first harvest. After that, 12 leaves (*pencas*) are cut four times a year. Since plants mature at differing times, workers are kept busy harvesting almost the entire year. Harvesting involves six distinct operations: 1) cutting the leaf itself; 2) removing the end spine; 3) shearing off the side spines; 4) gathering the leaves; 5) tying the leaves in bundles of 50; and 6) transporting the bundles to the tramway (Peniche, 1994, 77). In addition to periodic harvesting, over the course of its 25-year life span henequen plants require continuous weeding. Given the long lead time before plants can be harvested, the need for plants to grow between harvests, and the continuous need for firewood to fuel the machinery, henequen production required that workers were dispersed throughout the hacienda, raising monitoring costs.

Compared to its counterparts in other regions of Mexico during the Porfiriato, Yucatecan haciendas were small in terms of hectares. Indeed, the vast majority of haciendas in the state were between 2,000 and 3,000 hectares. Many, if not most, were between 1000 and 2000 hectares in size (Chardón, 1960, 64). Even Yucatán's most extensive plantation was about 6,000 hectares, which pales in comparison to the largest haciendas in the north of Mexico.¹⁵

The henequen boom, or *auge*, was made possible by the invention in 1878 of the twine-binding harvester in the United States (McCormick reaper). The reaper required a

¹³ The rasping machine was invented by a Yucatecan, José Esteban Solís, in a competition sponsored by the state government.

¹⁴ Roughly 25 mecates are in a hectare.

¹⁵ Joseph (1986, 57) notes that the extended Terrazas-Creel family in Chihuahua owned more than 5 million acres!

biodegradable twine whose supply was certain. Henequen's three to four foot long fibers and general imperviousness to disease and pestilence fulfilled that need perfectly. Throughout the *auge*, Yucatan exported virtually all of the henequen it produced to the United States, largely for use as twine.

IVa. Debt Peonage in Mexico

The scholarly interpretation of debt peonage in Mexico has changed over the past 50 years. Knight (1986) provides an overview of the scholarship on pre-Revolutionary debt peonage and categorizes the use of debt into three types: (1) free labor with cash advances; (2) "traditional" peonage in which a worker voluntarily ties himself to a hacienda; and (3) "classic" debt servitude, i.e. coerced wage slavery (46-47). Revisionist scholars have reinterpreted labor relations for a number of periods and in a number of regions of Mexico, arguing that types 1 and 2 were much more common than previously thought and that type 3 was only prevalent in the south and in the northeastern region of Oaxaca state (the Valle Nacional). For instance, Tutino (1979) argues in his study of haciendas in northern Mexico during the colonial era that "indebtedness was often a privilege allowed to those in the higher ranks of the labour hierarchy" (363). Cross (1979) similarly argues that on a hacienda in central Mexico during the period 1820-1880, "of those employees in debt, it was the administrative staff rather than common laborers who were substantially indebted to the landlord" (474). Knight (1986) summarizes the colonial and early 19th century Mexican experience by stating that in general "peonage rested upon non-coercive foundations" (45).

The restructuring of property rights and the economic boom that accompanied Porfirio Díaz's rule changed labor relations throughout Mexico. Knight argues that cash advances continued to be used in the north, but while debts-as-advances increased in relative importance in central Mexico, both "debts-as-bonds (never as strong as supposed) *and* debts-as-perks (once a key item of hacienda negotiations) declined in [absolute] importance" (48). Knight's study of a pulque hacienda, San Antonio Tochatlaco in the state of Hidalgo, finds that debts were not used to tie workers. "They were minutely recorded; they usually rose over time (i.e. they did not figure as initial

advances, designed to tie a worker); they sometimes fell (as a labourer cleared his debt); and they correlated with the senior, better-paid workers” (1986, 49).

On the Yucatán, Knight notes that historians are virtually unanimous in viewing southern Mexican plantations as “great bastions of servile debt-peonage” (42). Knight (1986, 53) sketches out Evsey Domar’s (1970) classic scenario for servile labor, which involves i) strong market demand, ii) scarce labor, iii) virgin land, and iv) a powerful landlord class enjoying political back-up. While agreeing, in general terms, with Domar’s framework, Knight argues that these four conditions also apply to northern Mexico, where there was no servile debt-peonage. Domar has some similar concerns with regard to the different patterns of development between the northern and southern United States, and Knight notes that these explanations are relevant to the Mexican case.

Domar puts forward two reasons why the northern and southern United States exhibit different patterns of development. His first explanation is path development, arguing that the U.S. north was wedded to a ‘liberal’ free wage labor system.¹⁶ Second, Domar posits that different crops (requiring different climates and seasonal cycles) placed different demands on labor. Knight calls this a technological argument. Knight adds a third explanation, specific to the Mexican case. Southern Mexican planters of the late nineteenth century, in contrast to their southern U.S. counterparts, could not count on slave labor; this option was not open to them. There were a lot of bodies available in southern Mexico as potential labor, but unfortunately for the planters, these potential laborers were recalcitrant. They preferred to stay on their own lands and plant subsistence crops. Southern planters, Knight says, had to coax or coerce labor from the subsistence sector. These planters found that coaxing labor resulted in a more stable labor force than coercing it. Knight’s argument, then, is a modification of Domar. For Knight, peonage developed where strong demand, virgin land and a powerful landed class existed, juxtaposed to a recalcitrant local (or peri-local) peasantry (55).

¹⁶ Knight says that this is not sufficient as an explanation and argues that these differing conditions came about because of hard economic practice in a specific period.

With regard to the mechanisms southern Mexican planters used to coax labor, Knight argues that debt was part of a complex system of paternalism on the haciendas; peons were bound to estates by much more than coercion. Knight (1986) claims that “the tenacity of the system, especially after the Revolution broke out in 1910, attests to the strength of non-coercive ties as well” (64). Since Yucatecan peonage did not depend on simple coercion, in Knight’s view, it “could not be terminated by a simple act of counter-coercion (e.g., the military triumph of the Constitutionalists in 1915)” (66).

To return to his three-fold characterization of debt peonage, Knight argues that ‘traditional’ peonage (type 2) was more prevalent in southern Mexico than most historians have claimed. While classic debt peonage did exist in some places (e.g., in the timber camps on the Tabasco/Yucatán border and on northeastern Oaxaca tobacco farms), most landlords relied on a mix of economic and extra-economic means of recruitment and retention of workers.

IVb. Labor Conditions in Yucatán

Six sources of data concerning debt peonage on henequen haciendas are available to scholars of labor relations. These are travelers’ diaries, interviews with workers and *hacendados* or their descendants, either after the revolution or more recently, government and church censuses, court and notary documents, contemporary newspaper reports, and hacienda records. The data are generally scattered, and finding a detailed set of information concerning a particular region or a particular hacienda is quite difficult.¹⁷ Several factors have led to the scarcity of data in the Yucatán. First, the climate makes preserving paper records a difficult task. The papers are often brittle and have been eaten by a variety of vermin. Second, the revolution may have induced many owners to destroy any records of debt peonage.¹⁸ Finally, those data that still exist are often in private collections and are difficult for researchers to access.

¹⁷ The difficulty in accessing systematic data on wages is not new. Weyl (1902, 82-83) complains about the lack of consistent wage data in Mexico.

¹⁸ Destruction of papers also may have been due to space constraints. Kirk (1975) reports that his search for Henequenero documents ended with a report that they “had been stored in a warehouse for a time but were finally burned” (141).

A range of contractual options were available to managers of henequen haciendas in the Yucatán. According to Cámara Zavala (1936), four general categories of workers existed in the pre-boom era, but there was substantial mixing and innovation.¹⁹ Renters and sharecroppers lived either on the hacienda or in a nearby pueblo. They either paid a fixed quantity or a share of output to the landowner. Indebted resident workers, or *peones*, worked and lived on the estate. They were tied to the estate via the debt they owed the *hacendado*. *Luneros* were an intermediate class. They worked one day a week (Monday) for the *hacendado*, either in compensation for a debt or for housing and water.²⁰ Finally, wage earners lived in the pueblo and worked on a casual basis for employers.

During the henequen boom, the *lunero* contract was largely abandoned in the central henequen zone as the workers operating under this contract became more indebted to the hacienda and became full-time employees.²¹ Peones were the permanent, indebted work force of the hacienda. Three other types of workers continued to work on the haciendas. Salaried workers such as foremen and machinists earned a flat weekly or monthly salary. Casual laborers worked intermittently on the hacienda for a piece rate wage during periods of high labor demand. Less commonly, debt-free sharecroppers continued to exist in some areas (Meyers and Carlson, 2002, 230, fn 5)

Haciendas drew their labor from a variety of sources: local, national, and international. The most obvious labor source was the local pueblo. The Maya were tied to their ancestral lands and had a preference for staying put (Baerlein, 1914, 155). This preference gave *henequeneros* a bargaining advantage and affected the types of

¹⁹ Cámara Zavala was a member of the same Cámara family who owned Hacienda Itzincab-Cámara (1898-1996), which is our principal case study in this paper.

²⁰ The *lunero* system had its historical roots in the colonial era, when *hacendados* advanced Maya money so that they could pay their tributes and taxes. In exchange, the Maya would work one day a week on the hacienda (Chardon, 1960, 36).

²¹ Indeed, the term *lunero* became synonymous with a full-time employee. Some vestiges of the old *lunero* system still existed. On Hacienda Tabi, workers who owed between 100 and 200 pesos worked for a short, specified period of time; workers who owed between 200 and 300 pesos worked every other week; and workers who owed more than 300 pesos were full-time employees (Rejón Patrón, 1993, 83; Meyers and Carlson, 2002, 229). This subtlety in the debt structure may have been due to Tabi's location on the periphery of the henequen zone and the relatively greater options available to workers.

arrangements between workers and bosses. Maya laborers also were imported from other regions of Yucatán, for instance in regions hit by locust plagues or droughts. Laborers were drawn from other regions of Mexico, most notably from the north – the Yaquis – and from the central highlands – generically known as Mexicanos.²² Finally, experiments in drawing workers from abroad included Koreans, Cubans, Chinese, and Italians.

Peones were recorded in the accounting books of the hacienda in several ways. First, they were in the *cuentas corrientes*, the running account books of the hacienda. These books listed the reason for, the amount of, and the date of the debt. The *nómina* was a list of employees that included titles and job descriptions. The *semanarios*, or the weekly work ledger, generally listed the name, the daily activity and output of the worker, the daily wage, and the weekly wage. Some also listed the rations given to the workers. A *carta cuenta* was recorded if a worker's debt was bought from or sold to another hacienda. Finally, workers could be listed in the probate records of a *hacendado*. Their debts were listed either individually or more commonly as a group.

The exact terms of the labor contracts between *peones* and *hacendados* varied widely and are difficult to generalize. Travelers' accounts generally agree that the workday began quite early in the morning, probably around 3 a.m. Turner (1910, 20) reports that *peones* worked from 3:45 until dark and required the help of family members to fulfill their daily tasks. Baerlein (1914, 155) reports that *hacendados* transformed the traditional communal labor, the *fajina*, into several "unpaid" hours of work per day. Batt (1991) reports that in the eastern Espita region, the *fajina* lasted for 4-5 hours and the workday ended at 7 p.m. Narvèz Ek (1992), however, reports from a personal interview with an ex-peón that the workday started at 3 a.m. and ended at noon for the majority of the workers. Only those workers assigned to rasping or drying worked through the afternoon. Hartmann (1966, 115-116) generalizes that the workday commenced at 4 a.m., began with from 20 minutes to two hours worth of *fajina*, and generally ended at 2 to 3 p.m.

²² Since the Yaquis were sent to Yucatán essentially as prisoners of war, working conditions could be expected to be very harsh for them.

Most peones were paid on a task rate system. A *semanario* from Hacienda San José Kuché in August 1897 lists the payment of 25 centavos for weeding 1 mecate of land and or cutting 1000 leaves (Wells, 1985, 168).²³ A typical worker cut between 1000 and 2500 leaves per day. Weyl (1902) makes the general observation that workers were paid “by the day” on larger haciendas, but “by the task” on smaller ones. Other workers were paid a salary for skilled jobs such as machinist, carpenter, and overseer, and tasks such as working the rasping machine and running the Decauville rail system.

While it is clear that working conditions were harsh during the boom, the lack of clear evidence on the structure of the workday and the duties of the workers makes quantifying that harshness difficult. For instance, while *semanarios* indicate that workers during the boom typically cut between 1000 and 2500 leaves per day or cleared between one and two mecate of land, Chardon (1960, 104) reports that workers on haciendas and *ejidos* in 1950 harvested between 2000 and 2500 leaves per day or weeded between three and four mecate of land, more if they were assisted by their sons. The lower level of measured productivity in the earlier period is most likely due to the other “unpaid” duties that workers needed to perform during the course of the day. Hartman (1966), who describes the labor conditions as “benevolent serfdom,” states, “the average daily task was three thousand leaves, an effort that could be performed without strain in six to eight hours” (123-24).

The record of the role of women and children on the hacienda also varied. In her work on sugar haciendas in eastern Espita, Batt (1991) reports that older and younger male workers had shorter workdays. According to reports by ex-peones on Hacienda Tabi, another (mostly) sugar hacienda in southern Yucatán, children worked from a very young age, helping their parents. These reports indicate that the daily pay was only half of what a peon earned. Several accounts note that on the haciendas, women’s and children’s work was considered to be supplemental to that of the men (Peniche, 1994; Rejón Patrón, 1993; Gill, 1991). Accounts vary as to whether women were paid for their

²³ Reflecting inflationary or other market pressures, wages were increased to 37 centavos for weeding 1 mecate in November of that same year. AGEY, Ramo Justicia, “Movimiento Semanal de la Hacienda “San José Kuché” y su anexa “San Francisco. Semana número 301 del 29 de noviembre al 4 de diciembre de 1897.”

labor. For example, Peniche argues that when temporary workers were needed to cut leaves in the harvesting process, married cutters often employed their wives and children. Women never went to work in the fields alone, but rather accompanied their husbands. In her case study of Hacienda Tabi, Rejón Patrón (1993) describes the June sugar harvest (which coincided with planting season) as so busy that even the women and the children of the *peones* helped in the planting, hoeing, and harvesting of corn and achiote (75). According to Don Nicolás Villarreal, an ex-peón on Hacienda Tabi, women's work in the *campo* (countryside) consisted of caring for the pigs and small birds, cutting achiote, and planting and harvesting chiles and tomatoes. On Hacienda Tabi Don Nicolás reported eight hectares of vegetables cultivated with female labor, for which the women were paid a salary of 50-70 cents/day. Finally, Peniche (1994) and Gill (1991) both note that within Maya families, women's labor was considered part of the unpaid informal household economy and that the hacienda system exploited this practice. In addition to these unpaid agricultural chores, women performed unpaid domestic services in the houses of the *hacendados*.

Payment for work took a variety of forms. Peones were paid for their weekly work either in cash or in *fichas*, hacienda-issued coins.²⁴ Some haciendas gave a ration of corn to each worker. Haciendas provided some food and water during the workday. Tying themselves to a hacienda also gave many workers *milpa*, a plot of land used for subsistence agriculture.²⁵ This *milpa* was quite important to the Maya since many lost their property rights to land after the liberalization of land laws in 1856. Haciendas offered resident peons housing, medical care, and in some cases education for the young. The *tienda de raya* (company store) sold staples such as corn and clothing.

²⁴ See Leslie and Pradeau (1972) for a description and illustrations of these coins from a large sample of haciendas.

²⁵ Baerlein (1914, 166) reports that the continued granting of milpa in the late boom era was more common in areas further from Merida, but had nearly disappeared in the henequen zone by the time of his writing. Describing the importance of the milpa, he relays that, "In his gun and in his milpa lies the Indian's happiness." Consistent with Baerlein's observations, Wells and Joseph (1999, 163) argue that workers on haciendas in the henequen zone lost their right to milpa over time, and Batt (1991) argues that in Espita, an outlying region, access to milpa continued to be an important form of compensation. Hacienda Tabi, also on the periphery, continued to supply milpa (Rejón Patrón). The continued granting of milpa on the periphery may have been due either to the greater bargaining power of the workers or the lower opportunity cost of leaving land in non-henequen production. Contradicting this view of declining milpa in the henequen zone, Gill (2001, 342-354) argues that sufficient land was available for milpa on most haciendas, even in the central henequen zone.

There is mixed evidence as to whether prices at the *tiendas de raya* were much higher than prevailing elsewhere (Arnold and Frost, 1909, 325; Turner, 1910, 18; Joseph, 1986, 68) or if prices were actually subsidized during certain periods in order to maintain social stability on the hacienda (Gill, 1991, 142; Peniche, 1994, 84). As noted earlier, classification as a resident of a hacienda exempted workers from conscription, either into the army or into road *corvées*. Finally, owners provided two types of loans to workers: the *nohoch cuenta*, or large debt, and the *chichán cuenta*, or small debt. The *nohoch cuenta* was used to finance large purchases, while the *chichán cuenta* was used to finance short term loans from the *tienda de raya*.²⁶

The exact contractual role that debt played is often vaguely described in the literature. Travelers' accounts generally note that debt existed and that laborers became enslaved once in debt. Weyl (1902) provides one of the earlier and clearer descriptions of the debt mechanism:

Upon reaching early manhood, at 18 or 20, the young Yucatecan, in order to be enabled to marry, borrows from \$100 to \$200 from his patron. It is not expected that he will ever repay this debt, and no effort is made either to repay or reduce it. On the contrary, it is usually increased from time to time through occasional misfortunes which befall the peon or his family, or through additional advances made by the planter. The amount of debt thus represents the cost of emancipation, which is not desired or attempted, especially as it may represent the gross wages of several years. ...

The system of labor enforced by indebtedness seems to work in Yucatan to the satisfaction of the planter. The peon is compelled to work unless he is able to pay off his constantly increasing debt, and any attempt at flight or evasion is followed by penal retribution. The peon rarely, if ever, achieves independence, and a transference of a workman from one employer to another is only effected by means of the new employer paying to the former one the amount of the debt contracted. The system thus resembles slavery, not only in the compulsion under which the peon works, but in the large initial expense required of the planter when making his first investment in labor (43).

²⁶ The *chichán cuenta* is similar to the year to year debts that agricultural workers accumulated in the U.S. South in the postbellum period. Peniche (1994) for instance argues that these small debts were "no different from the debts one might incur with merchants, and they required only additional work or some minor hardship to pay off" (83). Fishback (1989) showed that the debts in the postbellum South were not perpetual but workers tended to not be able to pay off loans during years of poor prices or yields but subsequently most paid off the debt during good crop years.

Arnold and Frost (1909) claim that debt was used to tie workers and that the books were cooked in the favor of the *hacendado* if the worker tried to leave:

a farm labourer is legally bound to work for the land-owner, if in debt to him, until that debt is paid. Nothing could sound fairer: nothing could lend itself to the blackest abuse. In Yucatan every Indian peon is in debt to his Yucatecan master. ... The plantation-slave must buy the necessities of his humble life at the plantation store, where care is take to charge such prices as are beyond his humble earnings of sixpence a day. Thus he is always in debt to the farm; and if an Indian is discovered to be scraping together the few dollars he owes, the books of the hacienda are "cooked," – yes, deliberately "cooked," ... The word of an Indian cannot prevail against the Señor's books, it [the court] murmurs sweetly, and back to his slave-work the miserable peon must go, first to be cruelly flogged to teach him that freedom is not for such as he (324-325).

Wells and Joseph corroborate a thread that runs though many of these travel accounts: the role of the state in backing up *hacendados'* debt records. They argue that, "Local legal statutes, moreover, accepted the valuation of workers' debts as a legitimate expense, thereby granting the practice further legitimacy, not to mention a financial advantage. Specifically, Article 2030 of the state civil code stipulated that peons' debts should be included in a property's inventory" (Wells and Joseph, 1996, 157-8).

Peniche (1994) argues that acquiring debt was a way for workers both to meet their physical needs as well as to fulfill social obligations. Workers borrowed money to pay for smaller purchases in the company store. This small debt, the *chichán cuenta*, were loans that never amounted to more than fifty pesos, and which were paid back slowly (82-83). She argues that "they were no different from the debts one might incur with merchants, and they required only additional work or some other minor hardship to pay off" (83). The small debts from the *tienda de raya* were not recorded, or perhaps were recorded in the record books of the *tienda*. Peniche argues that workers used the big debt, or *nohoch cuenta*, to fulfill social and religious obligations – such as baptisms, marriages, and fiestas – medical care, or large purchases from the *tienda de raya*. These large debts were recorded in the accounting books of the hacienda. According to Peniche, the *nohoch cuenta* was not repayable.²⁷ Peniche describes the *chichán*

²⁷ There is some evidence that the large debts were paid off. Peniche (1993) finds that of the 102 *peones* on the haciendas of José María Peon, 19 paid off their debts and 15 transferred to another hacienda not owned by Peon, most likely after the debt was paid by the new *hacendado*.

cuenta as having an economic function, while the *nohoch cuenta* was social. Our case study of Hacienda Itzincab-Cámara expands on and provides additional evidence for Peniche's findings.

Hacienda owners saw the *nohoch cuenta* as a way of maintaining stability and relative peace on their haciendas. The servants viewed it as part of the *hacendado's* responsibilities: labor in exchange for debt (Peniche 1999 and 1994, 84). Peniche argues that this social pact was based on a shared sense of social obligations between *hacendados* and their servants, which was rooted in the Catholic Church and its religious celebrations and sacraments. The mechanism described by Peniche is very much akin to the functioning of paternalism in the U.S. post-slavery South and prior to the mechanization of cotton. In the U.S. South, landlords and workers implicitly exchanged goods in-kind for loyal labor services (Alston and Ferrie, 1999). The goods in kind valued most by workers in the South were those that could not be purchased in the market, for example protection from civil rights abuses. Marriages on haciendas were similar because the workers did not have sufficient funds to pay for a lavish wedding. The result was that debt bonded workers to a hacienda but that under the circumstances this was a preferred outcome given the importance of weddings and baptism in the society of Mayan culture. We will argue later that there was an additional similarity between paternalism in the South and the use of the *nohoch cuenta* on haciendas. The benefits varied across workers, with more valued workers in the South receiving more goods and services in kind, and more valued workers in Yucatán being allowed to accrue higher debts.

Nickel (1996) has been most critical of the standard interpretation of debt peonage in Yucatán, arguing that the eyewitness accounts of Turner, Arnold and Frost, and Baerlein, combined with the revolutionary narratives seeking justification for Díaz's overthrow, are the primary sources for critiques of the hacienda system. While not denying that conditions could be harsh on the haciendas, he finds that for the period 1893 to 1912, for which he has generated a sample of 1542 observations on individual's debts, workers held a median of 133.40 pesos worth of debt, equivalent, according to Nickel, to the debt held by workers in other regions of Mexico when adjusted for higher salaries in Yucatán.

IVc. Peasant Actors

The choice to become a *peon acasillado* was made within an institutional context that gave Maya peasants very little power. Their communal lands had been restricted, their rights to vote were limited, and their recourse to the court system was minimal. As was noted previously, a list of ecological factors can be added to the environmental ones. The climate was a hard one in which to travel, water was restricted to wells or cenotes, and plague or drought often reduced agricultural output. Given this setting, being tied to a hacienda was often the best of a set of bad choices.

This choice was not made by all. As late as 1900, some pueblos continued to resist the dissolution of ejido lands.²⁸ This created a dual system, with *hacendados* continually complaining about a “labor shortage” while at the same time seeing the solution in unwilling pueblo residents. They continued to use a mix of market and institutional innovations to draw workers to haciendas.

Broadly speaking, once tied to a hacienda through debt, Maya peasants had three paths they could take, depending on their tolerance for their living conditions. First, they could accept their circumstances and continue to work on the hacienda within the general framework created by the *hacendado*. Second, they could stay on the hacienda, but attempt to resist the *hacendado*’s power using what Scott (1985) famously has dubbed the “weapons of the weak.” Third, they could attempt to exit the hacienda, either by fleeing or by demanding their *carta cuenta* and seeking another *hacendado* to purchase their debt.

A great deal of variability has been documented in the management styles of haciendas. Given their position as the de facto government, *hacendados* and their administrators had tremendous leeway in how they treated their workers. While some were more liberal in their policies, others used physical coercion on a regular basis as a form of motivation. Certainly some administrators were very cruel, leading to workers being beaten for personal reasons and occasionally beaten to death. Oral histories, eyewitness accounts, newspaper reports, and a surprisingly rich judicial record all

²⁸ Evidence concerning the percentage tied to an hacienda varied greatly. Add citations.

provide consistent evidence on the use of physical coercion. While the court records provide evidence of particularly cruel or sensational violence, other sources of evidence indicate that beatings were administered mainly for drunkenness, theft, adultery, or failure to meet a specified level of productivity. Beatings for these purposes seem to have been tolerated by the Maya, or at least did not lead to widespread social unrest. Rejón Patrón (1993) provides a transcript of an interview with José Cruz Tun, who was born in 1886 and lived on a sugar hacienda on the fringe of the henequen zone. Asked whether he was ever beaten, Cruz responded: "Never, because my family and I always followed the rules, we never fought" (92-93). In another oral history, Nicolás Dzul reports beatings for unexcused absences from work, drunkenness, stealing, and adultery. His main recollections though were the beatings for drunkenness (Narvèz Ek, 1992).

Wells and Joseph (1996) report many instances of peasant uprisings against hacienda authority, both from within the hacienda and from the neighboring pueblos. Documented cases of protest include peasant demonstrations against wage cuts, arson, and rustling. On Hacienda Catmís, whose administration had a reputation for being "notoriously brutal," the "peons destroyed machinery and carved up the *hacendado* and members of his family and staff" (Wells and Joseph, 1996, 175). These documented cases of peasant protest were most likely only the tip of the iceberg of informal peasant bargaining power. Henequen is a long lived asset, with a lifespan of about 25 years. Gill (1991, 66, 74) reports the destruction by arson of Hacienda Chablé's henequen fields in 1890 and of Hacienda Sinkehuel's dyewood stands in 1892. With long-lived assets of these sorts, peasant unrest had a target that was both valuable and easily accessed. Indeed, the Merida paper *La Revista*, in an 1890 defense of the hacienda system, argued that it "made very little sense to mistreat men upon whom the harvesting of very expensive crops depended" (quoted in Hartman, 121).

The final path down which indebted peasants could travel was exit. On some haciendas, evidence exists of the sale and purchase of peasants' debt through the *carta cuenta*. Legally, any peon could approach the *hacendado* and demand his *carta cuenta*. This *carta cuenta* could then be taken to another hacienda. If the new *hacendado*

wanted the worker, he could pay off the original debt. The ability to find another *hacendado* to purchase the *carta cuenta* was greater in the central henequen zone where haciendas were closely located. Workers could also flee. This option seemed to be more viable earlier during the henequen boom and on the eastern and southern periphery of the henequen zone, from where indebted workers had a greater ability to flee to the forests controlled by rebel Maya. By the latter part of the henequen boom, transportation (railroad) and communication (telegraph) had improved the ability of authorities to apprehend fugitives (Gill, 1991).

Labor relations on a hacienda fell between two endpoints on a spectrum. The first, and relatively more humane, was one in which market based incentives continued to be used as the primary means of motivating workers, with beatings used for punishment of *hacendado*-defined “crimes” or unacceptable work effort. The other is one in which *hacendado* violence and worker protest fed on one another and led to working conditions spiraling down to a highly oppressive state. Evidence of the former type are most likely to be found in the existing records of the haciendas, the accounts by “apologists” and the general lack of mention in the court records, while evidence of the latter is to be found in the eyewitness reports, opposition newspapers, and the court records.

While the literature provides several hypotheses concerning the role of debt in Yucatán, several patterns of debt require further analysis. First, why did outside contract workers often have little or no debt provided to them? Second, why did the level of debt vary considerably across Maya workers. If debt were a simple binding mechanism that kept workers on the hacienda, why did some workers continue to accrue greater amounts of debt while others stayed at a lower level? Third, what types of purchases were funded through debt; what types did workers fund themselves; and to what extent did the types of debt obligations tie into a broader social Mayan culture of religion and marriage? Finally, what was the relationship between debt and wages?

V. Case Study: Hacienda Itzincab-Cámara

Itzincab-Cámara was a cattle-corn hacienda until 1898 when Camilo G. Cámara purchased it for the commercial production of henequen.²⁹ Cámara was a businessman who came from a family of henequen *hacendados*. Indeed, in 1890 Cámara had been elected Manager-Director of Yucatán's Union of Henequen *Hacendados* (based in Mérida). While Itzincab-Cámara served as a place of rest and relaxation for the Cámara family, its principal purpose was commercial. Itzincab-Cámara is located in the municipality of Tecoh, roughly 35 kilometers from Mérida. At its height, hacienda lands encompassed 3,903 hectares, of which 1,300 was dedicated to henequen.³⁰

Based on her access to the original hacienda books, primarily *la nómina*, the list of workers, from 1897-1920, Paredes (1997) argues a high level of specialization as well as a substantial range in salaries among salaried workers existed.³¹ Among the salaried workers, the first and highest ranking is the *Mayordomo* or administrator, who represented the owner in his absence. (This was not as much of an issue at Itzincab-Cámara as the owners kept a close watch on the place.) The central function of the *mayordomo* was to manage the work force, to maintain strict control of the accounts and production, and to procure and administer all the material resources of the hacienda. Under the *mayordomo* was the *personero*, in charge of human resources on the hacienda, followed by the *maquinista*, who was in charge of all matters related to the operation of the rasping machine. Two additional *mayordomos*, of campo (agriculture) and of rasping, appeared on the list and were responsible for all workers in their area. Finally, the list includes the *mayocoles*, who supervised the workforce.³² The weekly ledger from 1914 lists the salaries (but not the names) of the hacienda's

²⁹ Much of the descriptive information from this section is drawn from Paredes Guerrero (1997).

³⁰ The ownership of Itzincab-Cámara stayed in the Cámara family until 1996, when it was sold to a group of private investors (Grupo Plan). However, even by the 1930s, the lands owned by the family had been drastically reduced, owing mostly to the agrarian reform policies of post-revolutionary governments. In 1934 the hacienda was reduced to 211 hectares, by 1981 14 hectares and by 1996 four.

³¹ Paredes (1997) notes that over time the books indicate growing specialization of workers. Other authors argue that the workforce on haciendas was mostly unskilled and interchangeable.

³² Another layer of workers, listed according to their income, were artisans or specialists such as the carpenter, mason, blacksmith, diligenciero, electrician, telephone operator, and on occasion a doctor. Later on, other specialists appeared, such as the Priest of Tecoh, who was paid to say mass, the maestro of music who conducted the sung masses, and two police who kept order on Sundays. Beginning in 1910 there was a teacher on the list of salaried workers as well as a nurse (Paredes, 1997, 6).

administrators. The *personero* made about 25 pesos, while the *mayordomos*, blacksmith and teacher made about half that. This compares to a salary of about 7.50 pesos for the senior *mayocol* and 5.13 pesos for a field laborer.

The weekly activity report breaks down the other workers on the hacienda into several categories. The largest group was the *luneros*. By this time, the term *luneros* was used to refer to the full-time, indebted employees of the hacienda.³³ *Muchachos*, younger sons of the *luneros*, did about half the work that their fathers did (Paredes, 1997: 7). As time went on the number of *luneros* and *muchachos* increased. In 1907 there were 76 *luneros* and in 1909 that number went up to 96, which appears to be the highest recorded. In 1914, twenty-six *muchachos* are listed on the weekly ledger, mostly either making 1.88 or 1.20 pesos for gathering firewood. The next largest groups of workers listed on the 1914 activity report are *Maquinas*, who worked the rasping machine, *Aprensadores*, who worked the press, *Plataformeros*, who worked the rail system, *Diversos*, who mostly worked in the orchard, and masons, carpenters and cowboys.

From the beginning of its operation as a henequen hacienda, Itzincab-Cámara imported workers from outside the state. As early as 1898 Cubans were brought to the hacienda. During the first years of the twentieth century the presence of Koreans and Yaquis was also reported.³⁴ In addition to the challenge of labor scarcity (which was the case throughout the state, according to Paredes), the problem of fugitive workers worsened as time passed. At Itzincab-Cámara the most consistently reported information on fugitives is in relation to the Koreans and the Yaqui. In 1907, for example, there were 20 Koreans reported as being on the hacienda. Later in that same year the number diminished to 13 and the rest were reported as fugitives.

³³ Based on work of Cámara Závala (1936), Paredes states that the *luneros* worked one day a week for the patron and performed free labor, or *fajina*, each Sunday; however, hacienda *semanarios* indicate this interpretation of the term *luneros* was no longer applicable at this time.

³⁴ The Koreans came in 1905 under a four-year contract. The second attempt at contracting with them failed. The Yaquis were brought in by the federal government in 1908. Notwithstanding the notable presence of foreigners working on the hacienda, Paredes argues that whenever the owners could, they substituted Maya for immigrants. For example, commissions were offered for native Maya from the nearby village of Timucuy, among others. Up to 1919, 66 immigrants continued to work in diverse jobs on the hacienda (Paredes, 1997, 8).

Compared to other *hacendados* of their time, the historical record suggests that members of the Cámara family were more paternalistic than many. During the period in question, between 1898 and 1914, the hacienda was large and prosperous and appeared to be growing. The family had a doctor and nurse on staff as well as a priest who came regularly to perform sacraments and celebrate mass. The original owner and patriarch, Camilo Cámara, was the president of Mérida's League of Social Action (*Liga de Acción Social*). This organization collaborated with the state government after 1910 to bring rural schools to the state. Indeed, Itzincab-Cámara was home to one of the 16 rural schools established at this time.³⁵

From this hacienda, we currently have data from the debt book from 1906 to 1912, a weekly activity report from 1914, and a host of civil and parish records dating from 1880 to 1920.³⁶ In the near future we hope to gain access to the complete archives of the hacienda, gather activity reports from earlier years, and augment the demographic data with additional information from the church and civil records. From the activity report we know the weekly wage and the category of the worker in 1914, from the debt book we know the debt of the worker in 1912, and from the civil and parish records we know the ages of the workers.

The debt ledger of Itzincab-Cámara offers us several insights into labor practices on the hacienda. The ledger includes entries for approximately 172 workers. The opening date is December 31, 1906 and the closing date is December 31, 1912.³⁷ A final tally of debts provided on the last page breaks down the debts into continuing and non-continuing employees. The non-continuing employees included the deceased and non-Maya, such as Koreans, central Mexicans, and Yaqui. All of these non-continuing debts were written off the books in 1912, totaling 2,895.78 pesos. The majority of this sum, 2,400.55 pesos, was for deceased Maya employees, while the amount written off

³⁵ Hacienda Itzincab-Cámara is easily confused with Hacienda Itzincab, which is in the municipality of Umán, and was owned by José Palomeque, known as an abusive *hacendado* (personal communication, Paul Eiss).

³⁶ We thank Herbert J. Nickel for providing us with a copy of the weekly ledger from June 8, 1914. All information from the debt book is taken from Nickel (1997a; and 1997b). We thank the Church of the Latter Day Saints (LDS) for access to the civil and parish records. All citations to these data refer to LDS microfilm reel numbers.

³⁷ Some entries are prior to 1906 and after 1912.

for imported laborers was quite small, as they tended to have debts averaging less than twenty pesos. For instance, the eleven Koreans listed in the debt book as having arrived in 1905 had an average debt of 14.50 pesos.³⁸ Of the twenty-one workers whose deaths are recorded in the debt ledger, the average debt was 139.64 pesos.³⁹ Workers who fled the hacienda continued to be listed in the debt books. These debts summed to 589.96 pesos in 1912.

Debts for continuing Maya workers were quite a bit higher than for contract workers. For those 64 workers who opened the debt book in 1906 and were still listed in the weekly activity report from 1914, debts averaged 125.38 pesos in 1912, with a low of 28.15 pesos and a high of 239.36 pesos.⁴⁰ Still focusing on these 64 workers, we see that in the next 6 years after 1906, 8 workers took no additional debt, 29 workers added less than 10 pesos worth of debt, 16 workers added between 10 and 20 pesos worth of additional debt, and 9 workers added debts of between 20 and 170 pesos. So for the majority of continuing workers, added debt was relatively minor: 2 pesos for a funeral, 2.50 pesos for clothes, 1.50 pesos for a hoe.⁴¹

Pages 135, 147 through 153, 169, and 176 of the debt book record ten workers whose *cartas cuentas* were purchased by the hacienda between 1908 and 1910. The available information indicates that these ten workers began with an average debt of about 197 pesos –considerably more than the average worker – and took on approximately 22 pesos more debt by 1912. Based on the date of the entry, the last names of the workers, and the size of the initial debt, we would estimate that the debts of at least another four workers were purchased in order to bring them to the hacienda. This estimate would bring the total to over 10% of the hacienda's adult workforce. If our estimate of the total number of transfer workers is correct, then a total of seven transfer workers were still on the hacienda in 1914, four of whom were doing higher paying jobs:

³⁸ No record is made of the Korean workers' debt from their indenture contract.

³⁹ While the books officially closed in 1912, some additional entries are made in 1913, including notes of death.

⁴⁰ The highest recorded debt was 367.15 pesos for Martín Pérez, who died in late 1913. Indeed, at least four of the eight highest debt holders died prior to 1914. For two records the final entries are illegible.

⁴¹ These relatively minor increases in debt raises the question as to whether workers mostly were paying for their own baptisms and other ceremonies, and whether all "gifts" from the *hacendado* were recorded in the books.

a carpenter and press and rail operators. These workers were brought to the hacienda after the largely unsuccessful experiments with the Yaquis and Koreans. They may have been more skilled workers or the market for new workers may have been so thin that the *hacendado* was forced to pay top price to recruit new local labor.

No effort to record interest on the debt was made, indicating that the *hacendado*, at least explicitly, was not attempting to keep workers tied to the hacienda through high interest payments. If debt were solely a binding mechanism, one would expect a high interest rate to be used to inflate the debt of the workers.

Table 1: Debt of Secundino May 1906-1911

90.	Secundino May	Debe
31.12.1906	Saldo á su cargo en liquidación de hoy	13.51
03.12.1910	Tomo para su matrimonio	25.00
17.12.1910	Id. efectivo y ropa de boda	40.00
	Saldo á su cargo	78.51
22.04.1911	Muebles para su casa	14.00
	Suma	92.51

A typical worker who added significant debt was Secundino May, whose debt record is provided in Table 1. From the civil records of births and parish records of baptisms, we know that he was born on hacienda Itzincab on July 1, 1893 and was the son of Norberto May and Damiana Chim, both residents on the hacienda.⁴² In 1906, at age 13, he opens the debt books with a balance of 13.51 pesos. At age 16 he marries María Ana Ramos, age 14, daughter of Pedro Ramos and Ysabel Llanes.⁴³ At this point he takes on substantially more debt. Several months later he takes out more debt to purchase furniture. This pattern of working on the hacienda – in May's case as a *muchacho* with low debt – followed by a large issuance of debt for a marriage seems to

⁴² Civil Register, 1893, reel 0796192. Parish Register, 1893, reel 0655046.

⁴³ Both the civil and parish records recorded this marriage twice. Civil Register 1910 and 1911, reel 0796147. Parish Register 1910, reel 0764193.

signal a commitment on both the part of the worker and the *hacendado* to a continuing employment relationship after an initial period on the hacienda.

Taking on debt at the time of marriage may have roots in widespread Mayan cultural practices. Juarez (2001) states that in highland Chiapas, “young [Maya] men become indebted to their relatives in order to obtain the bride-gifts needed to marry” (137). Juarez also notes the use of *haancab* (bride-service) in parts of Quintana Roo, where the groom “lives and works with the bride’s family” for a number of years after marriage (133). Peniche (1994, 85) argues that within the henequen zone, the *hacendado* solidified his own central role in the Maya community by adopting the role of the *casamentero* (marriage maker), and supplying the *mu’huul* (bridewealth), thereby usurping the role of the groom’s family. The *hacendado* paid for items such as the civil and religious fees, gifts to the bride’s family such as “clothes rings, and a long necklace,” and money to cover the wedding fiesta and gifts.⁴⁴

These debts signal a continuing relationship between the *hacendado* and families that were longstanding residents of the hacienda. In 1914, of the 128 men listed on the hacienda’s payroll, 23 had the surname May and 5 had the surname Ramos.⁴⁵ The debts can be seen as a gift, not just to the recipient, but also to the families of the bride and groom and, to a lesser extent, to everyone who attended the marriage ceremony and celebration. Akerlof (1982) argues that labor relations can be seen as an exchange of gifts between workers as a group and the boss. In his narrative, Akerlof argues that good workers maintain levels of productivity higher than the minimum required in exchange for leniency shown towards lower productivity workers. On the hacienda, the gifts from the *hacendado* to the group could consist of marriage celebrations, leniency towards workers, or greater autonomy. The debts may have had a long-run impact on the morale of workers by engendering a reciprocal sense of loyalty on the part of workers. This is especially important given the frequency of workers laboring without supervision. We stress that the use of debts would work prior to incurring the debt as well as following the debts. Prior to debt, workers would strive to

⁴⁴ Peniche (1994) estimates these outlays to be 25 pesos for the civil ceremony and celebration, 17 pesos for the religious ceremony, and at least 8 pesos for the bridewealth.

⁴⁵ Other prominent family names in 1914 were Chim (16), Chan (13), and Ceh (6).

show loyalty so as to be allowed debt and after the debts workers would remain loyal out of gratitude, given the social relations of the time.

Aggregating the debt records of hacienda Itzincab-Cámara shows that debts were mostly given for location-specific cultural events, particularly weddings. Table 2 shows the breakdown in debt by type, not including the purchase of the *cartas cuentas*, for those entries for which we have information. While fifty-five percent of the debt was granted directly for weddings, some entries listed as “cash” were often recorded around the time of a wedding, and perhaps should be counted in that category.⁴⁶ The category with the highest number of entries was for general supplies, such as clothing, furniture, hoes, and grinding stones. Some of the larger entries in this category were for furniture and were recorded following a wedding. Therefore the costs of marrying and starting up a household could have easily accounted for over 70% of the debt issued to existing residents for which we have information.

Table 2: Breakdown of Debts by Type

Category	% of Entries	% of Debt
Cash	25.9%	24.9%
Weddings	25.2	54.7
Funerals	5.2	1.7
Baptisms	2.2	0.7
Clothing, furniture, supplies	36.3	14.1
Medical	3.0	2.4
Apprehension ⁴⁷	2.2	1.6

It is not surprising that the *hacendado* gave loans that were targeted at settling the worker on the hacienda. During our time period, both the *hacendados* and the church encouraged large weddings. Within Maya communities, hosting wedding ceremonies in which the entire community was invited was a fundamental element of social cohesion. While the Christian forms of these ritualized celebrations (baptisms, weddings, funerals) were introduced by the Catholic Church during the colonial period,

⁴⁶ These entries listed as cash could have actually have been for credit at the *tienda de raya*, further tying the worker to the hacienda.

⁴⁷ Several entries included charges for *Gastos de su aprehensión*, or “expenses for his apprehension.” These seem to be for the capture of fugitive workers.

the rituals performed on the haciendas were a hybrid of both traditions. The social capital generated from hosting a wedding was location specific to the community in which it was held. Investing in a wedding was a signal of a commitment to the community and the entry of the couple into adulthood. Having a strong social network established bonds and generated greater levels of trust within the community. Being a community insider lowered transaction costs and allowed for risk sharing with other members of the network. Most importantly from a contractual standpoint, it gave great bargaining power to the *hacendado*, the central contractual agent on the hacienda.

Recorded levels of loans for weddings varied in size. For example, in Table 1 Secundino May received 65 pesos for his wedding and 14 pesos for furniture. Others received less or more. Casiano Narvaez, 21 years of age, received 40 pesos in cash in January 1907 and then 18 pesos for his wedding in March. At age 14, Herculano Chan opened with 11.01 pesos of debt in 1906. He next received 30 pesos for his wedding and 48.50 for a *terno* (ceremonial dress) in March, 1910, and an additional 20 pesos for his wedding and 6 pesos in cash in April, 1910.⁴⁸ One explanation for higher wedding debts is that higher productivity workers received greater debts (or gifts) from the *hacendado* at the time of his wedding. Higher productivity workers may also have been assigned to more remunerative jobs, such as *plataformeros*. By granting higher debts, the *hacendado* was able to keep higher productivity workers on the hacienda while at the same time solidify the social status of these workers by financing an elaborate wedding. Debt and salary would therefore be complementary mechanisms. If this hypothesis is true, then we would expect there to be a positive relationship between debts and salaries.⁴⁹

Another hypothesis is that debts had more to do with the family's status than the individual's on the hacienda. For instance, Secundino May's father was a long-time (perhaps life-time) resident of the hacienda who acted as a *Mayocol* for five days of the week for which we have a *semanario*. Being appointed *Mayocol* was perhaps the most

⁴⁸ The lag between the time of the first entry into the debt book and the time of marriage grew shorter over time. For those entering the debt books before June 1907, the average lag was almost 3 years. For those entering the books after June 1907, the marriage loan was the first entry in the debt book.

⁴⁹ This is similar to operation of paternalism in the U.S. South: tenants were more highly paid than sharecroppers but also typically received more paternalism from the landlord (Alston and Ferrie, 1999).

prestigious job on the hacienda that a Maya could perform. His father's higher status on the hacienda may have affected the size of the gift given to May. This may have worked in two opposite ways though. While the son of a more valued worker may have been given a larger gift as a sign of appreciation, a richer father may have needed less of a subsidy for financing the wedding. Allowing the father to pay for more of the wedding may also have reinforced his sense of autonomy, which would enhance his ability to motivate and discipline his coworkers.

Table 2 provides summary statistics on salary and debt by class of worker.⁵⁰ Forty of the fifty-six workers listed as *luneros* performed the same jobs throughout the course of the week and earned the identical salary (5.12 or 5.13 pesos for the week). On Monday through Wednesday they gathered firewood, on Thursday and Friday they spun rope, and on Saturday they gathered 2500 henequen leaves. Only those workers who were sick or had a different job description (e.g. *plataformero*, *maquina*, *huerto*) earned a different salary. Indeed, all workers on this hacienda were essentially salaried, with the job description determining the salary for the day. Only in rare cases did two workers assigned to the same job for the day earn different wages.

The debt, salary and age patterns in Table 2 indicate a number of interesting patterns.⁵¹ First off, the *mayocoles* had less debt than the average worker. Neither *mayocol* took on more debt during the period from 1906 to 1912. We suspect that when they were elevated to the position of *mayocol* they received an enhanced benefits package that did not include greater levels of debt. Second, the average debt of the workers listed as *diversos* was higher than average, while their salaries were lower. Of the five workers in this category, one was sick the entire week, one was listed as deceased, two worked in the orchard, and one did a half quota of weeding. Given the hard work on the haciendas, we would hypothesize that older workers who were no longer able to work at full capacity would be paid a reduced wage, reflecting their

⁵⁰ By class we mean the heading under which the worker was listed. This heading differed in some cases from the actual job. For instance, Pedro Ceh is listed under Luneros, but his job description each day was Plataformero. Juan Pablo May was listed under Plataformeros, but he gathered firewood for two days.

⁵¹ The data on ages is often quite inconsistent, with the recorded age varying by up to a decade. When birth records are available and generally consistent with later age records, we use the birth record to determine the age. In other cases, we average the various reported ages.

marginal productivity on the hacienda. By assigning them less stressful jobs and allowing them more free time to work their own *milpas*, these older workers also may have been rewarded for their long service to the hacienda, both by their work output and by rearing a large family.⁵² Third, workers in the skilled category are younger workers and generally have lower debt and higher salaries.

Table 2: Average Salary, Debt and Age of Workers Listed on 1914 *Semanario*⁵³

Job Category	Average Salary ⁵⁴	Salary Range	Average Debt	Debt Range	Average Age	Age Range
Mayocol (Supervisor)	6.75 (2)	6 – 7.5	75.03 (2)	63 – 88	32 (1)	32
Luneros (Wage Worker)	5.19 (55)	3.8 – 6	132.26 (56)	28 – 311	35.6 (38)	19-60
Diversos (Diverse)	4.56 (4)	3.75-7	134.30 (5)	112 – 173	57 (5)	52-65
Skilled	5.30 (29)	3.5-7	118.35 (18)	-20-239	28.9 (9)	16-46

Note: Number of observations in parentheses. The category “skilled” is made up of all workers not assigned to one of the other three categories.

Table 4 provides regression results using the data that we have gathered so far. To further examine the labor relations on the hacienda, we are currently seeking data on tenure and family size of workers on the hacienda. We are also seeking more *semanarios* in order to track the career paths of workers over time and correlate them with the increases in debt. Given the scattered nature of the available data, our regressions have differing sample sizes.

⁵² We thank Paul Eiss for providing this insight.

⁵³ We group all skilled workers into one group. These include *Maquinas*, *Aprensadores*, *Plataformeros*, *Asalariados y Vaqueros* (Salaried and Cowboys), and *Albañiles y Carpinteros* (Masons and Carpenters).

⁵⁴ For the purposes of this table and the regression, the wages of those workers who were sick during part of the week and had reduced wages were increased to a “full health” level by extrapolating their full salaries from the days they worked.

Table 4: Regression Results

Variable	(1) log(SALARY)	(2) log(DEBT)	(3) log(DEBT)	(4) log(DEBT)	(5) log(DEBT)	(6) log(DEBT)
C	2.02 ^c (11.88)	1.82 ^a (1.84)	0.19 (0.16)	5.31 (4.18)	4.39 (29.14)	0.49 (0.41)
MAYOCOL			-0.77 ^a (-1.90)			-0.73 ^a (-1.77)
DIVERSOS			1.03 ^b (2.29)			1.01 ^b (2.25)
SKILLED			-0.27 (-1.36)			-0.29 (-1.42)
log(SALARY)		1.78 ^c (2.97)	2.80 ^c (3.85)	-0.08 (-0.15)		2.57 ^c (3.49)
log(AGE)	-0.12 ^b (-2.44)			-0.12 (-0.62)		
CARTA CUENTA					0.56 ^b (1.98)	0.52 (1.63)
CHANCHIMMAY					0.38 ^b (2.41)	0.06 (0.37)
R-squared	0.113	0.109	0.225	0.008	0.066	0.256
Adjusted R-squared	0.093	0.096	0.178	-0.03	0.047	0.186
Observations	49	74	71	48	105	71

Level of significance: a. 10%, b. 5%, c. 1% for 2-tailed test. t-stats in parentheses.

In the first column of Table 4, we test the hypothesis that age and salary are negatively correlated. The statistically significant elasticity of -0.12 suggests that *hacendados* varied workers' salaries systematically according to their marginal productivity. This result makes us confident that salary is a good indicator of the marginal productivity of workers.

The next column tests the hypothesis that salary and debt were positively correlated, with higher productivity workers getting more debt. The statistically significant elasticity of 1.78 indicates that higher productivity workers received higher debt. Regression 3 tests this same hypothesis, but with the job category of the workers included as control variables. This yields a larger coefficient and a larger t-statistic on log(SALARY). Including AGE in regression 4 has two effects. It lowers the sample size and introduces a variable that is strongly correlated with log(SALARY), leading to statistically insignificant results. The simple regression of log(AGE) and log(DEBT) also yields statistically insignificant results with very small coefficients. Given the large debt

issuance at the time of marriage and the relatively small increases in debt thereafter, it is unsurprising that $\log(\text{AGE})$ has little effect on $\log(\text{DEBT})$.

In our last two regressions we test the importance of family ties between the *hacendado* and prominent families on the hacienda. As noted earlier, several families were prominent on the hacienda, with the Chans, Chims, and Mays accounting for 52 of the 128 adult workers on the hacienda in 1914. We generate a dummy variable that takes the value of one if the last name is Chan, Chim or May and zero otherwise. To separate out those workers who were brought in from outside by purchasing their *carta cuenta*, we add a dummy variable that takes a value of one for those workers who have a recorded *carta cuenta* in the debt book or we strongly suspect had their *carta cuenta* purchased. The regression results suggest that workers on the hacienda who were members of larger, more prominent families tended to get more debt. It also confirms that workers whose debt was bought through the *carta cuenta* tended to get more debt.⁵⁵

We are not very confident in the results for the importance of family, as it is very sensitive to the specification of the model. For instance, regressing CHANCHIMMAY and $\log(\text{SALARY})$ on $\log(\text{DEBT})$ yields a small, negative, and statistically insignificant result. In the final “kitchen sink” regression provided in Regression 6, the CHANCHIMMAY variable performs poorly. This last result does not mean that we reject the importance of family ties and reciprocal gifts between the *hacendado* and the workers on the hacienda. Rather, these relationships are most likely too complex and subtle to tease out with our current data. Other margins of compensation, such as larger milpas, better treatment, and greater autonomy are most likely not perfectly correlated with our current explanatory variables.

Generalizing too much from our research on hacienda Itzincab-Cámara may be a mistake given the wide variety of reported practices on henequen haciendas. But our findings suggest patterns of salary and debt on this hacienda that were responsive in part to market forces. Salary generally tracked the marginal productivity of workers, with

⁵⁵ We would like to run this regression including the age variable, but currently have insufficient data to do so.

older workers, who were generally less productive, earning lower salaries. Rather than indicating, as Turner (1910) suggests, that, “The amount of the debt does not matter, so long as it is debt,” our evidence suggests that the amount of debt did matter (12). Debt and salaries were positively correlated, indicating that more productive workers were granted more perks in the form of greater funding for weddings, baptisms, and funerals. Our evidence on whether gifts were granted to families rather than individuals was mixed, and requires more research.

Conclusion

The eyewitness reports and a great deal of the historiography on Yucatecan henequen haciendas suggest that debt served mainly to coercively bind workers to the haciendas and *hacendados*. While debt was certainly used as one of several powerful mechanisms to keep workers on the haciendas, our findings suggest that debt was granted in a systematic manner, consistent with a paternalistic system of labor relations. Debt was used to reward more productive workers for their past efforts and to ensure their continued loyalty.

When considering the logic of any contractual choice, that choice needs to be set within its cultural and institutional context. Our findings indicate that cultural and social norms – such as the value of having large, elaborate wedding ceremonies – significantly influenced the types of labor contracts made on Yucatán’s henequen haciendas during the boom period. Owners benefited from continuing these cultural and social practices because they served as a way of ensuring Maya loyalty in an industry that suffered from chronic labor shortage and under conditions where monitoring costs tended to be high. The Maya were not passive actors, but, in effect, entered into a social pact with *hacendados*, trading respect for their “traditions” for their loyalty and labor.

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