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ABSTRACT

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 important and pervasive in Yucatan state during the henequen boom of the late 19th and early 20th centuries. The henequen boom concurred with the long rule of Porfirio Díaz (1876-1910), under whose watch property rights were reallocated through land laws, and Mexico's economy became much more closely tied to the United States. In the Yucatan, 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. We stress the formal and informal institutional contexts within which *hacendados* and workers negotiated contracts.

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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* – made an immediate impact on Americans' perceptions of their southerly neighbors, and became the text to which all future scholars of Yucatan's labor conditions 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 the broader setting to the specific timing and function of debts. In this paper, we strike a balance between the critics of debt peonage who see it as pure exploitation and apologists who claim that debt peonage in Yucatan was not as harsh or as widespread as critics suggest. While many scholars have examined debt peonage during this period using qualitative methods, we utilize economic theory and data analysis to examine the existence and persistence of this institution.

Almost all labor contracts have multiple margins in addition to a wage. When monitoring costs loom large, as they always did in pre-mechanized agriculture, employers negotiated contracts that reduced these costs. Agriculture is characterized by high seasonal demands for labor or relative labor scarcity in "boom" times. In response to relative labor scarcity, agricultural producers raise salaries but may also alter other margins of contracts in order to tie laborers to their farms. On henequen

haciendas in the Yucatan, 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 Yucatan’s institutional and cultural setting debt served both of these functions.

In this paper, we advance three larger points concerning debt peonage in Yucatan. First, we argue that even though the institutional setting during this period was coercive and designed to favor *hacendado* interests, workers still made choices and responded to incentives. Had conditions outside the hacienda been less coercive, bargaining power would certainly have shifted in favor of workers, because labor was scarce during the heyday of henequen.¹ Second, the specific form that debt took in the Yucatan was shaped by cultural and social norms. The ruling elite drew on these norms, shared by Maya and non-Maya alike, to increase the demand for debt at a young age, in particular by encouraging increases in the size and expense of marriages. Finally, debt was part of a system of paternalism that compensated workers on multiple margins and increased loyalty to *hacendados*.²

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.³ Our study therefore roughly coincides with the rule of Porfirio Díaz 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

¹ See Steinfeld and Engerman (1997) for a discussion of the various meanings of the words “coercion” and “free.”

² Consistent with our view was the absence of perpetual debt for non-Mayan workers. 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 argument builds on the work of 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 While debt peonage was officially outlawed in Mexico in 1914, Haber, Razo, and Mauer (2003, 335) argue that the revolution had little immediate effect on production levels. 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).

“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 Section II with a discussion of the institutional context at the federal level followed by the institutional specifics of the Yucatan region. In Section III we discuss how the ecological characteristics of the Yucatan and the cultivation of henequen in particular influenced the use of labor. Section IV begins with a discussion of the multiple margins of labor compensation on henequen haciendas, including a description of overall labor conditions. We then review the literature on debt peonage followed by our hypotheses concerning debt and contracting which stress the importance of understanding the formal and informal contexts within which contracting transpires. Finally, in Section V we present a case study of a henequen hacienda, Itzincab-Cámara, from which we provide evidence consistent with these arguments.

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 1910.⁴ During his time in office, Díaz sought to modernize Mexico and brooked little dissent from those who opposed his vision of progress. Díaz sought to unify Mexico’s distinct regions to create a strong centralized nation, and he did this by greatly concentrating control in the office of the Presidency.

Díaz measured progress and modernization with metrics such as the miles of railroad tracks laid and the 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

⁴ 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.”

investors. U.S. investors, for example, financed 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, the Constitution prohibited the rendering of personal service without just compensation and full consent.⁵ 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. The stripping of corporate property rights also greatly facilitated the expropriation of communal lands from indigenous communities, many of which 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 positions.

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

⁵ Slavery was outlawed in Mexico at Independence.

long-simmering rebellion by the Yaqui, a largely nomadic people who lived in relative autonomy from the state.⁶ In the same year, Díaz dispatched General Ignacio Bravo to the Yucatan 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 Yucatan, 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.

IIb. Institutional Context: Yucatan State

The Díaz years brought more than a measure of political stability to Yucatan, 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, including seven in 1873 (Wells and Joseph 1996, 22). Díaz installed military governors, set up a political machine, and stabilized the rules of the game by which elites in Yucatan interacted. Succession of power in Yucatan 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 Yucatan economic power increasingly became tied to a single export crop: henequen. During the henequen boom the state was described as "one vast cleared plantation" (Reed 1964, 220). Exports of henequen rose from less than 6 million kilos in 1875 to 43 million in 1885 and to 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 Yucatan. 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

⁶ In 1908 Yaqui Indians from the north were imported to the Yucatan 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).

“secret” pact guaranteed lower prices for henequen in exchange for being the sole supplier to International Harvester (Joseph 1982, 45).⁷

As a result of the “green gold,” Yucatan went from being one of the poorest states in the republic to one of the richest. The transformation of the northwestern region of the state into a mono-crop economy happened relatively quickly and was moved along significantly by the Caste War.⁸ The early years of the conflict shifted the bulk of the state’s population westward toward Merida 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).⁹ Between deaths and displacement, the first decade of the conflict claimed between one-third and one-half of Yucatan’s population of 600,000 (Joseph 1982; Reed 1964, 122; Rugeley 1996, xii).

From 1750 to 1850, cattle and corn haciendas dominated the rural landscape of Yucatan. As these haciendas expanded, owners used their political power to appropriate communal lands from nearby villages. Some displaced peasants were pushed onto these haciendas when communal lands were broken up; others were pressured through the accumulation of debt. Eiss (2007, 9) 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. However, over the course of the second half of the nineteenth century in the same town of Hunucmá, the percentage of peasants living on haciendas rose to approximately 50%. While cautioning that these estimates may be inflated, Joseph (1982, 55-56) reports an estimate by Frank

⁷ 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).

⁸ The henequen zone ringed the city of Merida and it was here where we see mono-crop production. 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.

⁹ Brannon and Baklanoff (1987, 30) argue that the Caste War “basically destroyed the sugar industry” and seriously reduced cattle grazing.

Tannenbaum that “by 1910 at least 75 percent of all rural dwellers in Yucatan resided on large estates” and by George McBride that “96.4 percent of all family heads had no land of their own by 1910.” 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 by *hacendados* as production increased. Betancourt (1953, 52) reports an estimate that, in the three decades after 1878, 134,000 hectares of *ejido* land were expropriated by haciendas. At the state level, laws were passed in 1843 and 1882 that legitimized the use of debt peonage as a bonding mechanism. While peonage had been outlawed by the 1857 Constitution, the use of debts to tie labor to *hacendados* was legal in Yucatan.¹⁰

The law further restricted worker mobility by granting an exemption from military service to all permanent laborers attached to haciendas.¹¹ 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 full-time, indebted workers (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 Yucatan. In short, residing and working on a hacienda may well have been the best choice among otherwise worse alternatives.

While the 1857 Constitution guaranteed male citizens the right to vote and be voted into public office, in practice, poll-taxes and other barriers prevented many individuals, including most Maya peasants, from exercising their rights. Writing about

¹⁰ According to Wells and Joseph (1996, 157-158): “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.”

¹¹ These laws bear a striking resemblance to the agricultural deferments from the U.S. draft during World War II. Alston and Ferrie (1999) argue that Southern plantation owners through their political agents were instrumental in establishing the deferments.

Hunucmá, Eiss 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” (Eiss 2007, 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 assert that “in many cases, collaboration was cemented by kinship ties between *hacendados* and state officials” (Wells and Joseph 1996, 158).

In sum, liberal land policies, the lack of enforcement of constitutional guarantees, and state laws that obliged Maya to serve as conscripts and work on road gangs without pay generally reduced Maya autonomy. Besides the institutional and cultural forces that kept workers tied to the haciendas, ecological factors also played a crucial role in immobilizing labor.

IIIa. Ecological Context: Yucatan

The Yucatan peninsula consists 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). droughts and

locust plagues left peasants with the unfortunate choice of starvation or moving to a hacienda (Eiss 2007, 16; Gill 1991, 43-45; and Wells 1985, 94).

IIIb. Henequen

The henequen plant is a member of the agave family (*Agave fourcroydes*), and is well-suited to Yucatan'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 (*desfibradora*) in the late 1850s that production of the crop became commercially viable.¹² Demand for unskilled labor rose dramatically as production levels increased. Due to the invention of the mechanical rasper, the bottleneck in production switched from rasping 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.¹³ 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 at the heart of production.¹⁴

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.

¹² The rasping machine was invented by a Yucatecan, José Esteban Solís, in a competition sponsored by the state government. The mechanical rasper was akin to the cotton gin in terms of decreasing the costs of processing the plant.

¹³ Roughly 25 *mecates* are in a hectare.

¹⁴ The growing and harvesting of henequen differs from sugar in that henequen can be harvested year round, leading to a constant labor demand. Henequen processing is similar to the processing of sugar in that once harvested both plants need to be processed within a certain period of time to obtain the optimal yields from the plant. See Dye (1998) for a discussion of the contracts that arose in Cuba to reduce hold-up in sugar processing.

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 periodic 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 workers to be dispersed throughout the hacienda, raising monitoring costs.

Compared to haciendas in other regions of Mexico during the Porfiriato, Yucatecan haciendas were small. Many, if not most, were between 1,000 and 2,000 hectares in size (Chardon 1960, 64). Even Yucatan's most extensive hacienda, San Gerónimo Yaxcopoil, was about 11,000 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 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. The height of the boom came in the 1910s, when henequen was by far the most important Mexican export crop to the United States, averaging \$24 million a year for the decade.¹⁶ Fox (1961, 221) reports that, in 1916, 1100 haciendas cultivated 790 thousand acres of henequen and 850 rasping mills processed the fiber for export.

IVa. Multiple Margins of Labor Compensation

A range of contractual options was available to managers of henequen haciendas in the Yucatan.¹⁷ According to Cámara Zavala (1936), four general

¹⁵ Nickel (2006, 87) provides a map of Hacienda San Gerónimo Yaxcopoil in 1907 that shows the land in henequen production and in woodland. Joseph (1986, 57) notes that the extended Terrazas-Creel family in Chihuahua owned more than 5 million acres.

¹⁶ This compares to averages of \$5 million for coffee, \$2 million for ixtle (hemp), and \$2 million for sugar. See Haber, Razo and Mauer 2003, 327, 332 and 336.

¹⁷ 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

categories of workers existed in the pre-boom era, but there was substantial mixing and innovation.¹⁸ Renters and sharecroppers lived either on the hacienda or in a nearby pueblo. They paid either 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.¹⁹ 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.²⁰ Peons were the permanent, indebted work force of the hacienda.²¹ 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

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. Several factors have led to the scarcity of data in the Yucatan. First, the climate makes preserving paper records difficult. 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. Third, destruction of papers may have been due to space constraints. Kirk (1975, 141) reports that his search for *henequenero* documents ended with a statement that the documents “had been stored in a warehouse for a time but were finally burned.” Finally, those data that still exist are often in private collections and are difficult for researchers to access.

¹⁸ 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.

¹⁹ 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).

²⁰ 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, 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.

²¹ Peons 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 incurring debt, its amount, and the date of the loan. 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.

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 historically to their ancestral lands and had a preference for staying in the region (Baerlein 1914, 155). This preference shaped the margins of the contracts that *hacendados* used with their Mayan workers. Despite a preference by “locals” for staying in the area, during the boom times of henequen Maya laborers also were imported from other regions of the Yucatan, for instance from 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.

The exact terms of the labor contracts between peons and *hacendados* varied widely and are difficult to generalize. Travelers’ accounts generally agree that the workday began early in the morning, probably around 3 a.m. Turner (1910, 20) reports that peons 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. Narváez (1992), however, reports from a personal interview with an ex-peon 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 20 minutes to two hours worth of *fajina*, and generally ended at 2 to 3 p.m.

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

²² Since the Yaquis were sent to Yucatan as prisoners of war, working conditions were very harsh for them (see Wells and Joseph 1996, 164, 206).

quantifying the degree of harshness difficult. For instance, while *semanarios* indicate that workers during the boom typically cut between 1,000 and 2,500 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 2,000 and 2,500 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, 123-124), who describes the labor conditions as “benevolent serfdom,” states that “the average daily task was three thousand leaves, an effort that could be performed without strain in six to eight hours.”

The record of the role of women and children on the hacienda also varies. 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-peons on Hacienda Tabi, another (mostly) sugar hacienda in southern Yucatan, 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 women’s and children’s work was considered to be supplemental to that of the men (Peniche 1994; Rejón 1993; Gill 1991). Accounts vary as to whether women were paid for their 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 (1993, 75) notes that the male workers during the June sugar harvest were so busy that the women and the children helped in the planting, hoeing, and harvesting of corn and other indigenous crops. 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 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 centavos per 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*.²³

Compensation for work occurred on multiple margins. Peons 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 The *milpa* was very 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. 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; and Joseph 1986, 68) or if prices were actually subsidized during certain periods in order to maintain social stability on the hacienda (Gill 1991, 142; and 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 loans to workers for a variety of purposes.

IVb. Debt Peonage in Perspective

The exact contractual role that debt played during the henequen boom is often described in the literature in vague terms. Travelers' accounts generally note that debt

²³ The Mayan custom of women not working independently gave *hacendados* an advantage in using debt because it would not have been considered proper for spouses to work off the debt of their husbands.

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 reports 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 1993). 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.

existed and that laborers became enslaved once in debt. Weyl (1902, 43) 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. ...

Arnold and Frost (1909) viewed *hacendados* as essentially motivated by economic interests: "As a rule it may be said that the Yucatecan is a benevolent master. It pays him to be so, and every Yucatecan's one rule in life is to do what pays him. Indeed there is really no reason for him to be harsh. The average Indian is as submissive as a well-whipped hound, creeping up after a thrashing to kiss his master's hand" (1909, 333). They highlight the use of debt to tie workers to the hacienda, and claim that the books of the *hacendados* were cooked to inflate the debt if the worker tried to leave.²⁶

Joseph (1986) breaks the revolutionary and post-revolutionary literature on debt peonage into critics and apologists. Critics generally portrayed the system as oppressive and exploitative, while apologists highlighted the paternalistic relationship between *hacendados* and *peones*. Both groups characterized Maya workers as docile: the critics to highlight the complete subjugation of the workforce and the apologists as evidence of the consensual nature of employment.

Wells and Joseph (1996) strongly critique this narrative of docility, highlighting instead the agency on the part of workers and their ability to resist the *hacendados* in myriad ways. They argue that three forces led workers to choose to stay on the haciendas. First, both legal and ecological factors served to isolate the hacienda from the outside world. Second, *hacendados* used coercion in the form of debt peonage and

²⁶ Arnold and Frost (1909, 332) offer three arguments for why there was no exit or revolt: 1) the church brainwashed the Maya into thinking this was their proper lot in life; 2) the Maya were beaten into submission as a race; and 3) *hacendados* controlled all of the water by owning the *cenotes*, so leaving the hacienda was almost impossible.

corporal punishment to control the workers. Finally, *hacendados* offered security in the form of a steady supply of food and a “tepid brand of paternalism.”

Nickel (1996) has been most critical of the standard interpretation of debt peonage in Yucatan, 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 Yucatan.

Peniche (1994, 82-83) argues that acquiring debt was a way for workers both to meet their physical needs as well as to fulfill social obligations. Physical needs included medical care or large purchases from the *tienda de raya*, while social obligations included baptisms, marriages, and fiestas. These large debts were recorded in the accounting books of the hacienda. According to Peniche, the *nohoch cuenta* was not repayable.²⁷

Peniche argues that hacienda owners saw the *nohoch cuenta* as a way of maintaining a stable work force while also establishing relative peace on their haciendas by providing funding for social functions that the workers valued highly.²⁸ In the exchange for debt, *hacendados* and peons engaged in a kind of reciprocal relationship. The servants viewed the loans as part of the *hacendado*’s responsibilities – workers offered labor and *hacendados* offered loans (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

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 Maria 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*.

²⁸ Peniche 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.

religious celebrations and sacraments.²⁹ Peniche also notes that non-Maya workers, those from outside Yucatan who came to work on the henequen haciendas, did not incur large debts to pay for religious ceremonies. According to Peniche, loans were not offered to these workers because public religious ceremonies meant less to them, and because *hacendados* believed that non-Maya would not honor their debts (personal communication).

IVc. Coercion, Culture, and Contracting

As noted in the introduction, we make three points concerning debt peonage in Yucatan. These relate to the choices made in a *coercive* institutional environment, the importance of *culture* in shaping preferences, and the use of paternalism as the *contractual* choice to attract, motivate and retain labor. The choice to become a *peón 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 institutional 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 the risks, being tied to a hacienda was often the best of a set of bad choices. In this section, we first describe the options available to Maya workers and then analyze the timing and function of debt.

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

²⁹ Since the time of the Conquest, native customs and practices evolved, forming a syncretic blend of Hispanic (Spanish) and native Maya "traditions." Farriss (1984, 90-95; ch. 10) suggests that Maya beliefs and practices occupied a private, clandestine sphere while Christian rites were professed and practiced publicly. Catholicism has also provided a cohesive set of social and cultural norms for both Maya and non-Maya Yucatecos. While Catholic rituals have never completely replaced Maya customs and religious beliefs, local devotion to Catholic saints and icons form the backbone of pueblo religiosity. Bracamonte y Sosa (1994, 106) notes that on henequen haciendas in the nineteenth century "each plantation erected a chapel dedicated to the patron saint to which the Maya rendered devotion; at the same time, Maya recreated many aspects of Maya Christianity [on the plantations]."

hacienda, but attempt to resist the *hacendado's* power using explicit forms of resistance and 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, some administrators were very cruel, leading to workers being beaten arbitrarily and occasionally beaten to death. Oral histories, eyewitness accounts, newspaper reports, and a rich judicial record all provide consistent evidence on the use of physical coercion (see Eiss 2007; Wells and Joseph 1996, 156-60). 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. When José Cruz Tun, who was born in 1886 and lived on a sugar hacienda on the fringe of the henequen zone, was asked whether he was ever beaten, he responded: “Never, because my family and I always followed the rules, we never fought” (Rejón 1993, 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 (Narváez 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). Henequen is a long lived asset, with a lifespan of about 25 years so *hacendados* had reason to fear sabotage if they mistreated their workers. Gill (1991, 66 and 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 valuable target. 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 1966, 121). These documented cases of peasant protest were most likely only the tip of the iceberg of informal peasant bargaining power, which included work slowdowns, feigned illness, petty theft, and carelessness with machinery.

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, 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 found in the existing records of the haciendas, the accounts by "apologists" and the general lack of mention of a hacienda in the court records, while evidence of the latter are found in the eyewitness reports, opposition newspapers, and the court records.

Offering a package of paternalism to workers may have been more cost effective than either using violence or raising the salary margin of the contract to increase work effort. We argue that loans were part of this package and served three purposes. First, they were bonuses, usually in the form of a household item or small luxury, for high job performance. Second, they served an insurance function, helping the workers through tough stretches, particularly episodes of illness. Finally, when given for marriages, they were an important part of the social fabric of a hacienda, elevating the social status of the *hacendado* among the Maya workers. In all three cases, the *hacendado* gave a gift to the worker, a gift that required reciprocity in the form of loyalty. An alternative would have been to raise salaries, but doing so most likely would have been more expensive and would not have raised the *hacendado's* status as the benevolent patron.

Loans for events such as weddings and community fiestas tied locals more closely to other workers on the hacienda and to the *hacendado*. It is not surprising that most loans 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, 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 ample bargaining power to the *hacendado*, the central contractual agent on the hacienda.³⁰

³⁰ Taking on debt at the time of marriage may have roots in widespread Mayan cultural practices throughout southeastern Mexico. Juárez (2001) states that in the early twentieth century highland Chiapas, “young [Maya] men become indebted to their relatives in order to obtain the bride-gifts needed to marry” (Juárez 2001, 137). Juárez also notes the use of *haancab* (bride-service) in parts of Quintana

Loans were part of a larger set of paternalistic goods offered by *hacendados* to workers, including land for *milpa*, corn rations when prices were high, access to water, medical care, and, on some haciendas, schooling for children. Paternalism reduced risk for both parties. For *hacendados*, offering paternalism helped ensure a steady year-round labor force, not a small concern in conditions of labor scarcity and high demand. Paternalism protected workers from the vagaries of agricultural life, periodic locust plagues, military and *corvée* service, and other unforeseen catastrophes. Workers, however, had to weigh these benefits against the costs of living on a hacienda: loss of autonomy, backbreaking year-round labor, separation from traditional pueblo life centered on the *milpa*, and the uncertainty of *hacendado* benevolence. These costs made it necessary for *hacendados* to offer incentives to attract, motivate, and retain workers, even while the institutional context was tilted heavily in their favor.

The way debt functioned on henequen haciendas in Yucatan bears two similarities to the paternalistic agricultural labor system used in the postbellum U.S. South 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 in-kind goods 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 henequen haciendas in Yucatan were similar in that the workers did not have sufficient funds to pay for a lavish wedding. This debt tied workers to a hacienda and was a preferred outcome for many Maya given the importance of these events in Mayan culture and the lack of outside options.³¹ The following section expands on this discussion of the use of debt by focusing on a single hacienda for which we have detailed records.

Roo, where the groom “lives and works with the bride’s family” for a number of years after marriage (Júarez 2001:133).

³¹ Not all workers were equally dependent on *hacendados* to provide funds for ritual ceremonies and larger purchases. Narváez (1992) provides testimonies from ex-peons who say that they (or people they knew) paid for their own weddings from funds they had saved, thus not going into debt.

V. Case Study: Hacienda Itzincab-Cámara

Itzincab-Cámara is located in the municipality of Tecoh, roughly 35 kilometers from Merida and was purchased in 1898 by Camilo G. Cámara for the commercial production of henequen.³² Cámara was a businessman who came from a family of henequen *hacendados*; in 1890 Cámara had been elected Manager-Director of Yucatan's Union of Henequen *Hacendados* (based in Merida). While Itzincab-Cámara served as a place of rest and relaxation for the Cámara family, its principal purpose was commercial. At its height, hacienda lands encompassed 3,903 hectares, of which 1,300 were dedicated to henequen.³³

Records from the early 20th century indicate that the hacienda had a standard organizational hierarchy. 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. The hacienda also hired a teacher, listed as *la profesora* in some years and *el professor de musica* in others. The *semanarios* listed

³² Data concerning this hacienda come from a host of civil and parish records dating from 1880 to 1920, the debt book from 1906 to 1912, weekly activity reports from select years from 1897 to 1914, entries from the hacienda's store from 1908 and 1910, and records of payments to outside workers from 1908 and 1913. The Church of the Latter Day Saints (LDS) provided access to the civil and parish records. All citations to these data refer to LDS microfilm reel numbers. All information from the debt book is taken from Nickel (1997a and 1997b). All remaining records are from the hacienda's archive, housed at CIESAS-Peninsular (Merida). Much of the descriptive information from this section is drawn from Paredes (1997).

³³ According to Paredes (1997), 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, to 14 hectares by 1981 and to four by 1996.

the salaries (but not the names) of the hacienda's administrators. The *personero* made about 25 pesos, while the *mayordomos*, blacksmith and teacher made about half that.

The *semanarios* break 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.³⁴ *Muchachos*, younger sons of the *luneros*, did about half the work that their fathers did (Paredes 1997, 7). While workers were not assigned to subcategories in 1905, by 1912, other groups listed on the *semanarios* were the *Maquinistas*, who worked the rasping machine, *Aprensadores*, who worked the press, *Plataformeros*, who worked the rail system, *Diversos*, who mostly worked in the orchard, *Mayocols*, who were Maya bosses, and masons, carpenters and cowboys. These additional categories seem to indicate additional levels of specialization on the hacienda over time.

From the beginning of its operation as a henequen hacienda, Itzincab-Cámara imported workers from outside the state. Cubans were brought to the hacienda as early as 1898. On the 1905 *semanarios*, 22 Koreans are listed starting in May, and Yaqui Indians are listed as a group.³⁵ In addition to the challenge of labor scarcity (which was the case throughout the state, according to Paredes), the problem of workers deserting the hacienda worsened as time passed. In 1905, 11 Maya workers are listed on the *semanarios* as *prófugos*, or fugitives. 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 while the rest were reported as fugitives. The evidence of non-Maya being more likely to flee is consistent with our argument that it was much easier to tie local Maya to the hacienda than outsiders.

³⁴ 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.

³⁵ The Koreans came in 1905 under a four-year contract. The second attempt at contracting with them failed. 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).

The total employment on the hacienda seems fairly stable over the first decade of the 20th century. The *semanarios* list 108 Maya workers and 26 *muchachos* in 1897; 83 Maya workers, approximately 12 Yaqui, 22 Koreans, and 16 *muchachos* in 1905; and 104 Maya workers and 16 *muchachos* in 1912.³⁶ These workers were full-time. The hacienda records also list weeding and other work done by contract workers, most likely drawn from the neighboring pueblos. Their work is listed both in the *semanarios* and in record books titled *Pagos por Trabajos* (payments for work). Their output indicates that 30 additional workers could have been on the hacienda at peak times.

Compared to other *hacendados* of their time, the historical record suggests that members of the Cámara family were more paternalistic than many. The original owner and patriarch, Camilo Cámara, was the president of Merida'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.³⁷ So while Itzincab-Cámara should not be viewed as a typical hacienda of the time, it probably does reflect one management pattern common in Yucatan during this time.

The hacienda records indicate a rich and varied interaction between the *hacendado* and his workers. Before turning to the patterns of loans, it is useful to paint a broader picture of paternalism on the hacienda. Evidence includes the care for the elderly and the sick. In the record book titled *Recibos de Tienda de Raya* (receipts of the company store), weekly grants of 1 peso to every *viuda* (widow) are listed.³⁸ On the 1905 *semanarios*, these widows are also listed as receiving a weekly ration of corn.³⁹ Also listed in this book are breakfasts, consisting of biscuits, coffee, and sugar.⁴⁰

³⁶ The Yaqui are listed as a group, with their total work output noted. We estimated their numbers, assuming that they did an equivalent amount of work per day as a Maya worker.

³⁷ The family had a teacher on staff as well as a priest who came regularly to perform sacraments and celebrate mass. 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).

³⁸ While the Maya widows are named, two nameless Yaqui widows also receive 1 peso.

³⁹ Older male Maya may also have been given reduced workloads and allowed more time to work on their *milpa*.

⁴⁰ In 1908, breakfast for all workers for a typical week consisted of approximately 4000 biscuits, 40 pounds of sugar, and 9 pounds of ground coffee.

Permanent workers on the hacienda were paid more for their work than contract workers. For instance, resident workers were paid 37.50 while contract workers were paid 25 centavos per *mecate* for weeding. While the rate for contract workers occasionally increased (most likely due to market pressures), the resident workers were paid the same rate in 1905 and 1912.

The debt ledger of Itzincab-Cámara offers 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, 1912.⁴¹ 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 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.⁴² Of the twenty-one workers whose deaths are recorded in the debt ledger, the average debt was 139.64 pesos.⁴³ 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 significantly 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.⁴⁴ Still focusing on these 64 workers, we see that in the next 6 years after 1906, 8 workers incurred 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

⁴¹ Some entries are prior to 1906 and after 1912.

⁴² No record is made of the Korean workers' debt from their indenture contract.

⁴³ While the books officially closed in 1912, some additional entries are made in 1913, including notes of death.

⁴⁴ 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.

pesos. So for the majority of continuing workers, added debt was relatively minor: as examples; 2 pesos for a funeral, 2.50 pesos for clothes, 1.50 pesos for a hoe.⁴⁵

The debt book records ten workers whose *cartas cuentas* were purchased by the hacienda between 1908 and 1910. The available information indicates that they 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 number of transferred workers 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 performing higher paying jobs: 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. 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 the hacienda on July 1, 1893 and was the son of Norberto May and Damiana Chim, both residents on the hacienda.⁴⁶ 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.⁴⁷ At this point he takes on substantially more debt. Several months later

⁴⁵ 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.

⁴⁶ Civil Register, 1893, reel 0796192. Parish Register, 1893, reel 0655046.

⁴⁷ Both the civil and parish records recorded this marriage twice. Civil Register 1910 and 1911, reel 0796147. Parish Register 1910, reel 0764193.

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 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.

Table 1: Debt of Secundino May 1906-1911

Page 90.	Secundino May	Owed
31.12.1906	Balance owed after today's assessment	13.51
03.12.1910	[Amount] taken for his marriage	25.00
17.12.1910	Cash and wedding dress	40.00
	Balance Owed	78.51
22.04.1911	Furniture for his house	14.00
	Total	92.51

Source: Nickel 1997b, 33.

These debts indicate an ongoing 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.⁴⁸ 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. On the hacienda, the gifts from the *hacendado* to the group included 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, given the social relations of the time, debt was useful in tying workers to the hacienda both prior to incurring the debt as well as after the debt was given. Prior to incurring the debt, workers would strive to show loyalty so as to be allowed to borrow and after incurring the debts workers would remain loyal out of gratitude or a sense of obligation.

⁴⁸ Other prominent family names in 1914 were Chim (16), Chan (13), and Ceh (6).

Aggregating the debt records of hacienda Itzincab-Cámara shows that loans were mostly given for location-specific cultural events, particularly weddings.⁴⁹ The timing of large debts for a wedding had the advantage for *hacendados* of tying workers to a hacienda at time when males were approaching the peak of their labor productivity. Table 2 shows the breakdown in debt by type for those entries from the debt ledger for which we have information, not including the purchase of the *cartas cuentas*. 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 could be counted in that category.⁵⁰ 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 establishing a household could have easily accounted for over 70% of the debt issued to continuing residents. “Bonus” gifts were largely in kind, such as gifts of clothing, furniture, grinding stones, or hoes. Finally, loans that covered emergencies, such as funerals and medical expenses, were important forms of insurance for Maya workers.

Table 2: Breakdown of Debts by Type for Continuing Workers

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 ⁵¹	2.2	1.6

⁴⁹ 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” (Peniche 1994, 85). 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.

⁵⁰ These entries listed as cash could have actually have been for credit at the *tienda de raya*, further tying the worker to the hacienda.

⁵¹ Several entries included charges for *Gastos de su aprehención*, or “expenses for his apprehension.” These seem to be for the capture of fugitive workers.

While the complete record of the debt ledger is unavailable, loans for particular years were recorded in the *semanarios*. We currently have records from two complete years, 1905 and 1912. Loans granted totaled 845.22 pesos in 1905 and 336.25 pesos in 1912. Total salary paid to continuing workers totaled approximately 26,000 pesos in both years, making loans to workers approximately one to three percent of total salary. Unfortunately the reason for the loan was not always recorded in the *semanarios* in 1905, but in 1912, 74% of the value of all loans was to fund marriages. The smaller number of loans in 1912 than in 1905 reflects an overall downturn in the market for henequen during this time. Between 1905 and 1912, the average price of henequen fell from 15.31 to 10.41 cents per kilogram. While salaries stayed constant on the hacienda, loans to workers fell by over 60%. Sixty-seven workers received at least one loan during 1905, while only 19 workers received loans in 1912. Our conclusion is that in good times, the *hacendado* could boost his status with relatively inexpensive gifts, while in tougher times, these gifts could be more easily reduced than salary.

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 Narváez, 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 1910.⁵² 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 more loans, the *hacendado* was able to keep higher productivity workers on the hacienda while at

⁵² 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.

the same time solidifying the social status of these workers by financing an elaborate wedding. Debt and salary are therefore complementary mechanisms.⁵³

Of the 28 males whose marriage records we have located in the municipal records for the years 1895 to 1912, 21 were still working on the hacienda in 1914. All of these remaining workers incurred debt, indicating a strong link between debt and continuing employment. All workers employed in 1914 whose marriages are listed in the municipal archives incurred debt. Only three male Maya were married on the hacienda, did not receive a loan for their marriage, and did not work on the hacienda in 1914.⁵⁴ Given the strong demonstrated relationship between employment and debt, it is likely that either these three workers planned on leaving the hacienda, or the *hacendado* did not want to commit to these workers by offering them marriage loans.

To explain the variation in the size of debts, we argue that debt was a cheaper margin to adjust than salary. Table 3 provides summary statistics on salary and debt in 1914 by class of worker.⁵⁵ Forty of the fifty 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. If we exclude the old (*diversos*) and the young (*muchachos*), there were only two major job categories, skilled and unskilled, yet within these categories debt varied more than salary. We can visually see the relationship between age and

⁵³ 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).

⁵⁴ Three of these four workers were married after 1906, so any debt should have been listed on the books.

⁵⁵ We define "class" as the actual job performed by the worker and not the heading under which the worker is listed in the *semanario*. For instance, Pedro Ceh is listed as a *lunero*, but he performed the job of a *plataformero* every day. Juan Pablo May was listed as a *plataformero*, but he gathered firewood for two days. In cases where the worker sometimes did the work of a *lunero* and sometimes did something else, we assign the worker to the job at which he worked the most days.

salary in Figure 1, which is stepwise, from the young to full adults – with differences in salary for *luneros* and skilled – to the old.⁵⁶ Consistent with our observation of “debt clearing the market” we see in Figure 2 much more variation in debt in relation to age. Higher levels of recorded debt are due to workers having more lavish weddings, getting more bonus gifts in kind over the course of the years, or having more unexpected medical expenses.

**Table 3: Average Salary, Debt and Age of Workers Listed on 1914
*Semanario*⁵⁷**

Job Category	Average Salary ⁵⁸	Salary Range	Average Debt	Debt Range	Average Age	Age Range
Mayocol (Supervisor)	6.41 (3)	5.75 - 7.50	83.77 (3)	62.06 - 101.24	40 (2)	36 - 44
Luneros (Wage Worker)	5.07 (49)	4 – 5.25	123.72 (50)	28.15- 311.14	37.45 (42)	20 - 53
Diversos (Diverse)	3.45 (5)	2.25 – 3.75	139.67 (5)	112.61 - 173.63	56.8 (5)	49 - 60
Skilled	5.66 (32)	3.45 – 7.5	151.45 (19)	0 – 262.62	33 (15)	21 – 50
Muchachos (Children)	1.54 (25)	1.2 - 3	--	--	16.42 (7)	14 - 19

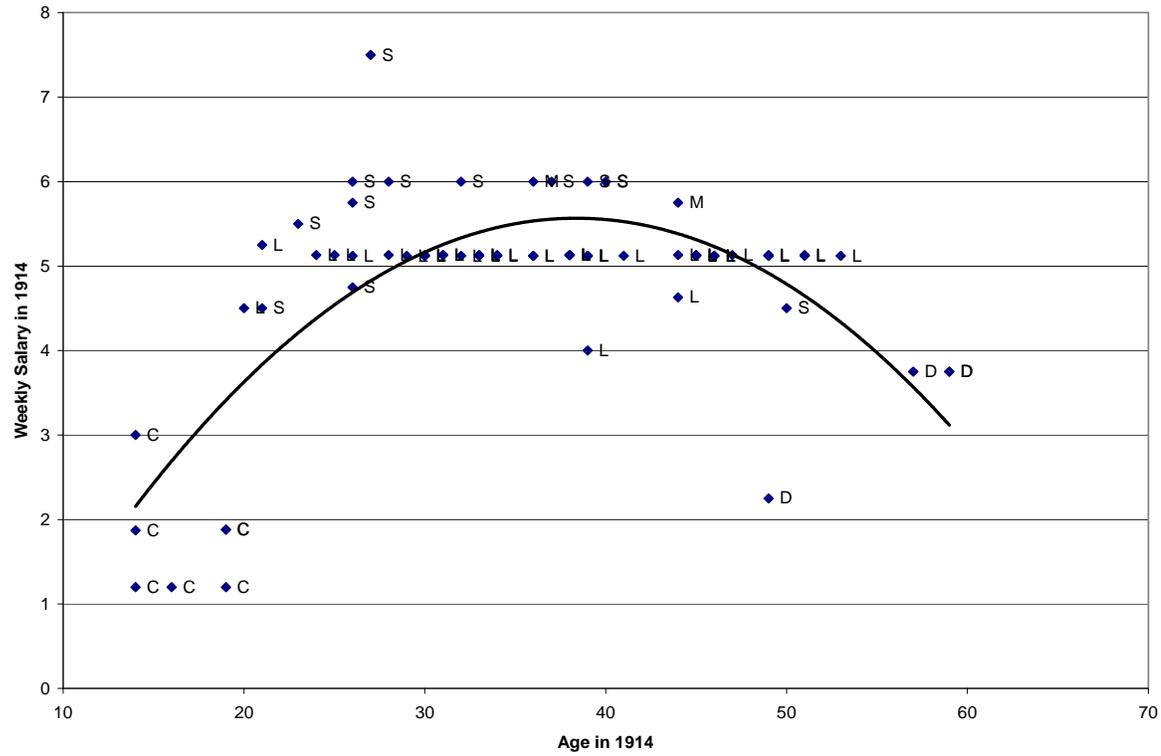
Note: Number of observations in parentheses. The category “skilled” is made up of all workers not assigned to one of the other categories.

⁵⁶ 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.

⁵⁷ 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).

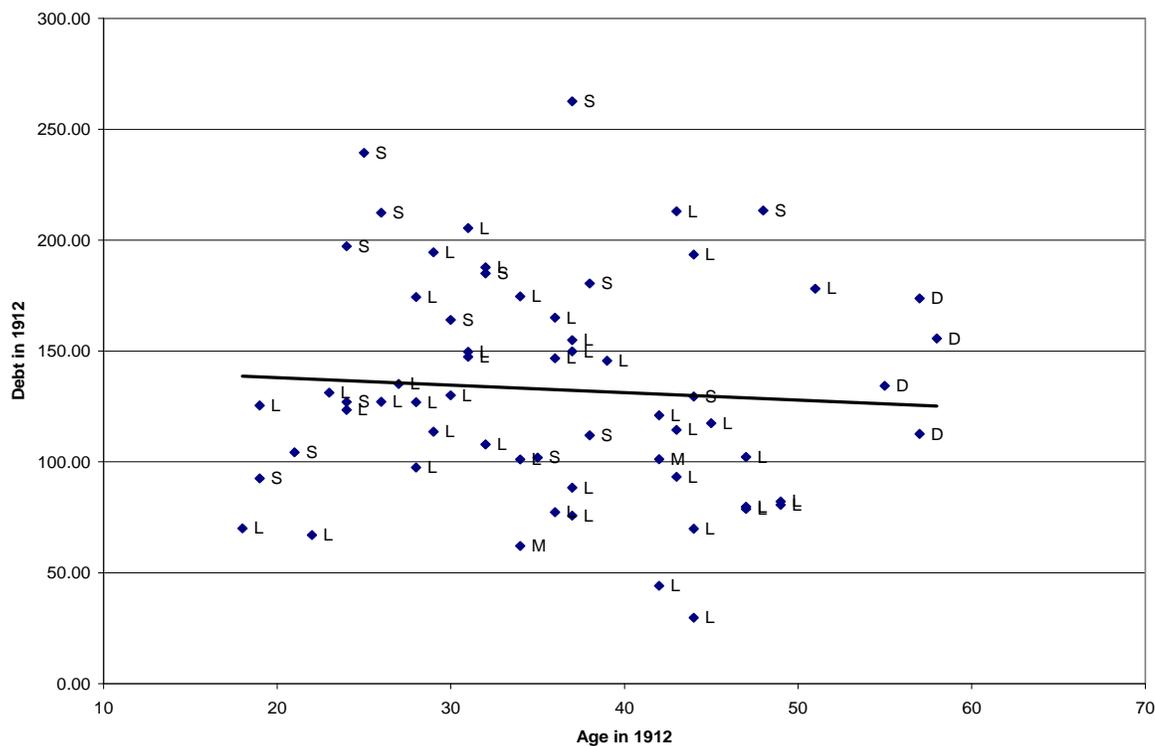
⁵⁸ For the purposes of this table and the regression, the wages of those workers who were sick during part of the week and had reduced wages were increased to a “full health” level by extrapolating their full salaries from the days they worked.

Figure 1: Age and Salary in 1914



Notes: C= Child; L= Lunero or Unskilled; S=Skilled; M= Mayocol or Supervisor; and D= Diverso or Elderly

Figure 2: Age and Debt in 1912*



Note: We did not include children in this Figure because they did not have any debt.

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: older and younger workers, who were generally less productive, earned lower salaries. But most adult workers earned a salary within a very narrow range. Keeping salary relatively constant and allowing debt to clear the market helped the *hacendado* cast himself in the role of benevolent patron and engendered loyalty and high work effort in reciprocity. Rather than indicating, as Turner (1910, 12) suggests, that, “The amount of the debt does not matter, so long as it is debt,” our evidence suggests that the timing and reasons for debt were carefully considered and played important roles in motivating and retaining the workforce.

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 case study indicates that debt was granted in a systematic manner, consistent with a paternalistic system of labor relations. Debt was used to bind workers to a hacienda at a young age, to reward more productive workers for their past efforts, and to cover unforeseen expenses. These three functions of debt served to attract, motivate, and ensure the continued loyalty of Maya peons. When considering the logic of any contractual choice, that choice needs to be set within its cultural and institutional context. Our findings suggest that cultural norms – such as the value of having large, elaborate wedding ceremonies – and the coercive institutional setting—such as land ownership and voting laws-- were necessary conditions for the granting of an early non-repayable debt.

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