

Encomienda or Slavery? The Spanish Crown's Choice of Labor Organization in Sixteenth-Century Spanish America

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When the Spaniards conquered the New World, they resorted to a form of native labor organization called the *encomienda*. The *encomienda* differed from slavery in that the Crown imposed inheritance, trading, and relocation restrictions on *encomenderos*. Such restrictions cost the Crown revenue by providing incentives for colonists to deplete more quickly the stock of native labor and by keeping native labor in areas of low-revenue productivity. This loss of revenue makes the Crown's preference for the *encomienda* curious. The Crown opted for the *encomienda*, however, to secure its rule and to satisfy an ideological bias against slavery.

Douglass North and other neoinstitutional economists argue that institutions are the primary determinants of economic performance over time.¹ In a static sense, institutions define the costliness of transacting and the ability of organizations to capture the gains from specialization and division of labor. In a dynamic sense, institutions define the incentive structure for organizations and determine whether or not the payoffs promote productive behavior and endogenous technological progress. In the United States and other wealthier nations, the institutional framework has on balance promoted economic growth. In Latin America, on the other hand, the institutional structure has led to relative stagnation.

North, Claudio Veliz, and William P. Glade, argue that the roots of Latin American poverty date back to the transfer of centralist Castilian institutions to the New World.² Castile was a powerful monarchy in the late fifteenth century, and the unification of the kingdoms of Castile and Aragón united Spain under Castilian rule. This centralization was transferred to Spanish America where institutions were created with little economic or political freedom. Over time, Latin America has been bound by these Castilian origins.

This article analyzes the *encomienda* and explains why the Crown preferred this organizational structure over alternatives such as slavery. This case study provides a clear example of how the Crown created

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¹ North, *Institutions*.

² North, *Institutions*; Veliz, *Centralist Tradition*; and Glade, *Latin American Economies*.

institutions to strengthen its control over New World assets despite adverse consequences.

THE PARADOX OF THE *ENCOMIENDA*

When the Spaniards conquered the New World, they resorted to a system of forced labor called the *encomienda*. An *encomienda* was an organization in which a Spaniard received a restricted set of property rights over Indian labor from the Crown whereby the Spaniard (an *encomendero*) could extract tribute (payment of a portion of output) from the Indians in the form of goods, metals, money, or direct labor services. In exchange, *encomenderos* provided the Indians protection and instruction in the Catholic faith, promised to defend the area, and paid a tax to the Crown.

Property rights over Indian labor were restricted in three ways. First, Indians were not owned by *encomenderos*; they could not be bought, sold, or rented to others. Second, *encomenderos* were forbidden inheritance rights. *Encomiendas* did not automatically transfer to future generations. They would revert to the Crown upon the death of the second-generation *encomendero*, to be kept by the Crown or given to another Spaniard. Third, Indians could not be relocated from their proximate geographical area. The *encomenderos* were only given a right to the labor, not the land. These restrictions on trading, inheritance, and relocation distinguished Indians in *encomiendas* from slaves.

The Spanish Crown's preference for the *encomienda* is curious because it lowered the Crown's revenue compared to alternative forms of labor organization such as slavery. Property-rights restrictions over Indian labor reduced the Crown's revenue in three ways. First, inheritance restrictions provided *encomenderos* with incentives to destroy more quickly the human capital because any bequeath motive was absent. This resulted in lower intertemporal output due to higher Indian depopulation ratios. Second, trading and relocation restrictions forced *encomenderos* to use Indian labor in the geographical locations where it was found rather than moving the laborers to areas with higher-revenue productivities such as the silver mines of Mexico and Peru. Third, inability to trade and rent Indians to other Spaniards reduced economies of scale resulting in higher average costs. *Encomenderos* could not optimally adjust the size of their labor force. Despite these consequences, the Crown demanded that Spaniards use *encomiendas*. This paradox needs explanation.

OBJECTIVES OF THE CROWN

It is possible that the *encomienda* satisfied a key objective that other forms of labor organization could not have done. The Crown wanted to expand and defend the Spanish empire in a cost-minimizing manner,

spread Christianity to the natives, and extract wealth from the colonies. Each of these will be taken in turn.

To expand its empire in the New World, Spain needed to conquer the native people. This required a sufficient number of Spanish *conquistadores* to risk the sea voyage, the hardships of life in the New World, and of course, the possibility of death in battle. It is useful to view the conquest strategy as analogous to sharecropping.³ The Crown could have used wage, fixed-rent, or share contracts. Wage contracts required the Crown to finance the expeditions directly and provided *conquistadores* great incentives to shirk. Fixed-rent contracts required *conquistadores* to pay a lump-sum to the Crown in return for complete control of New World assets. This type of contract had efficient incentives, but the Crown would have lost substantial revenue if the variance of returns was high. Moreover, the rent had to be paid in advance as death of the *conquistador* made debt collection difficult at best. Many Spaniards may have had difficulty in raising the necessary capital.

The Crown favored the share contract. Under this arrangement, the Crown traded partial rights to New World assets for a more efficient incentive system. The Crown contracted with *caudillos*, leaders of the conquests, specifying the return to the *caudillo* (usually 80 percent) and the geographical area over which the *caudillo* had authority. The *caudillo* in turn would be required to raise capital and organize a labor force for the conquest. The Crown did not have to finance the expedition directly.

A number of native labor systems could have been implemented after the conquest. Many *conquistadores* became *encomenderos*, others became slave owners.⁴ The conquest had no bearing on the subsequent organization of native labor. But it did make it impossible for the Crown to retain full control of all the New World assets.

The Crown also endeavored to convert the natives to Catholicism. Even if life on earth was not pleasant, a converted Indian could look forward to an afterlife in heaven. A miserable Christian, the Crown reasoned, was much better off than a free "heathen." *Encomenderos* were required to instruct the natives in the faith and enforce attendance at Mass on Sundays. Slave owners could have carried out similar responsibilities.

Finally, the Crown resolved to extract wealth from the new colonies. Since the most abundant asset in the New World was native labor, it was essential to earn rents from this resource. The first Spaniards in the West Indies soon realized that the Indians refused to work for them. Even if they would have agreed to work, the reservation wage of the Indians was such that they would have extracted much or all of the rents from the Spaniards.

The Portuguese, from 1500 to the mid-1530s, partially solved their labor

³ See Batchelder and Sánchez, "Encomienda," p. 10; and Alston, "Tenancy Choice."

⁴ Many early *conquistadores* were slave owners. The Crown did not consistently enforce the ban against slavery until the New Laws of 1542.

problem in Brazil by implementing the “factory” system.⁵ They established large trading posts on the Brazilian coast, and the two continents exchanged European goods for Brazilian dyewood. Mutual gains from trade provided incentives for the Indians of Brazil to work. Unfortunately for Spain, Indians on Hispaniola and the other Caribbean islands lacked lucrative resources. Columbus and his cohorts were constantly frustrated by the inability to locate large gold deposits on the islands. The obvious remedy to the labor shortage was to *force* Indians to work. Free wage labor was not a viable alternative.

What were the forced labor options available to the Crown? It is useful to place the Crown’s problem in comparative historical context. After three decades of the factory system, Portugal decided in 1534 to settle Brazil or risk losing the colony to the French. To satisfy the demand for labor on the sugar plantations, Portuguese colonists enslaved Indians. The issue of Indian slavery, however, was controversial. The Portuguese Crown did not clarify the issue of Amerindian slavery until 1574 when it declared that slavery was illegal unless the Indian was taken in the course of a “just war,” already had slave status within the Indian community, or practiced cannibalism.⁶ Interestingly, Spain had reached the same conclusion earlier in the sixteenth century when it abolished slavery under the 1542 New Laws. Portugal satisfied labor demand in the sixteenth century via slavery. Delays in solving the slavery controversy made this possible. Over time, African slaves were imported to Brazil, and the need for native labor declined.

French settlers were generally more interested in setting up trading posts than in enslaving Indians. They treated Brazilian Indians better than the Portuguese, though they did own some as slaves.⁷ In the West Indies, the natives had long died off by the time France occupied Hispaniola (Haiti) in the early seventeenth century. France began to use African slaves in large numbers in the eighteenth century, but it never had a need for a large number of Native American slaves.⁸

England used indentured servitude to satisfy labor demand in the seventeenth century. Conditions in the North American colonies, however, were quite different as there were no large concentrations of Indians. The Spanish could have used indentured servitude in which the property rights over Indian labor were valid only for a definitive period of time, say ten years. After the ten-year period, however, the labor shortage would have reappeared because the Indians would have again refused to work. In England, there was a voluntary supply of indentured servants who wished to reach the English colonies. After their period of servitude, they continued to live and work in the colonies. Indians would not have

⁵ Johnson, “Portuguese Settlement.”

⁶ *Ibid.*, p. 274.

⁷ Hemming, *Red Gold*, p. 119.

⁸ Heintz and Heintz, *Written*, pp. 24–25.

continued to work for the Spaniards. So indentured servitude would have been, at best, a temporary solution to the labor shortage.

Finally, Spain could have solely relied on African slavery and left the Indians to themselves. In fact, the number of African slaves imported to the New World grew significantly in later centuries. The relevant question, though, was how to extract rents from the large numbers of Native Americans. Sole reliance on African slaves would have meant sacrificing much wealth. Historical comparisons give limited alternatives. It seems that the Spanish Crown had two viable options: *encomienda* or slavery. Why did the Crown prefer the *encomienda* in spite of the adverse revenue consequences?

THE *ENCOMIENDA* AS A CONSTRAINED WEALTH-MAXIMIZING OUTCOME

The Crown preferred the *encomienda* because the property rights granted to *encomenderos* reduced threats to its security. Slavery offered no such provision. The Crown also expressed an ideological bias against Indian slavery. Such a bias did not come from Church pressure (which was weak) but from a general attitude that the natives should be free people. In fact, the Crown was often openly hostile towards the *encomienda* because it was still a system of forced labor.⁹ The Crown ultimately wanted wage labor in the colonies, but it was not willing to forego the wealth during the transition phase. The next three sections demonstrate how the use of the inheritance, trading, and relocation restrictions increased the Crown's security and better satisfied its ideology. Each restriction is treated in turn.

Inheritance Restrictions

Inheritance restrictions strengthened the Crown's rule in three ways. First, it diminished severely the ability of a family to acquire wealth over time. Even fairly wealthy families who had amassed small fortunes over two generations lost their access to native labor in the third generation. Second, the Crown could more easily confiscate *encomiendas*. The property rights given to *conquistadores* provided the Crown with a legal way to reclaim *encomiendas*. Third, the Crown improved its bargaining position with *encomenderos* through the threat of confiscation. The Crown more frequently seized the *encomiendas* of rebellious *encomenderos*. This gave

⁹ Some scholars have noted that it was the Spanish *colonists* (particularly Cortés), not the Crown, who introduced the *encomienda* to the mainland in 1519. The Crown was actually hostile towards the organization and initially banned its use because it wanted to see wage labor appear. However, the Crown succumbed to colonial pressure and approved the use of the *encomienda*. Therefore, the argument goes, the Crown did not prefer the *encomienda*, the colonists did. This argument misses the entire thrust of this article. The point is that the Crown had to ultimately allow forced labor of some type in the New World in order to extract rents from Indian labor. The Crown's "preference" for the *encomienda* does not imply that the Crown liked all aspects of the organization, it just disliked other alternatives more.

encomenderos incentives to remain submissive to the Crown in order to secure permission to pass on *encomiendas* to their heirs.

Direct evidence that the Crown imposed inheritance restrictions for security reasons is difficult to find because the Crown did not openly admit to such a policy. There is strong indirect evidence, however. Recall that one advantage of the *encomienda* was the Crown's ability to confiscate *encomiendas* legally. If it can be shown that the Crown exercised this option in a manner that primarily increased its security, then we have strong evidence that the Crown preferred the *encomienda* to slavery because of the security benefits it offered. The Crown did indeed confiscate *encomiendas* from the mid-1530s forward. We must show that confiscation was not wealth-maximizing, but security-enhancing.

Figure 1 shows the number of *encomiendas* in ten regions in Spanish America from roughly 1530 to 1790. Two patterns emerge. First, after about 1575, the number of *encomiendas* declined in most regions. Second, they declined much more rapidly in Central Mexico and Peru. The decline in Central Mexico began in the 1530s and in Peru around 1570. The absolute number of *encomiendas* generally did not fall with the sharp decline in population, so population trends cannot explain the decline.

Earlier we explained that the Crown had to forfeit partial rights to New World assets in order to provide more efficient incentives for *conquistadores*. After the conquest was consolidated in a particular region, the Crown could reclaim those assets. The Crown's revenue from incorporating an additional *encomienda* is expressed as follows:

$$\max_{K,L} U = \sum_{j=1}^{\infty} \beta^{j-1} [(1-t)(P_j F(K_j, L_j) - rK_j - wL_j) - CL_j] \quad (1)$$

where β equals the discount factor (β less than 1); t equals the average tax rate on the output of *encomiendas*; P_j is the average price of output in period j ; r is the rental price of capital; w is a subsistence wage paid to the natives; and C equals the confiscation and supervision costs of the Crown for incorporating one native laborer.

The Crown's marginal revenue from confiscating an *encomienda* was the total revenue of the *encomienda* less tax receipts and costs incurred to incorporate the *encomienda* ($C \times L_j$). These costs consisted of the portion of administrative salaries spent on a particular incorporation plus salaries of the newly appointed *corregidores* responsible for supervision of the *corregimiento*, a confiscated *encomienda*.¹⁰

The partial of equation 1 with respect to L_j after cancelling β gives the following:

$$(1-t)(P_j F_L(K_j, L_j) - w) = C \quad (2)$$

¹⁰ A *corregidor* was an appointed official who replaced the *encomendero* once the *encomienda* was confiscated.

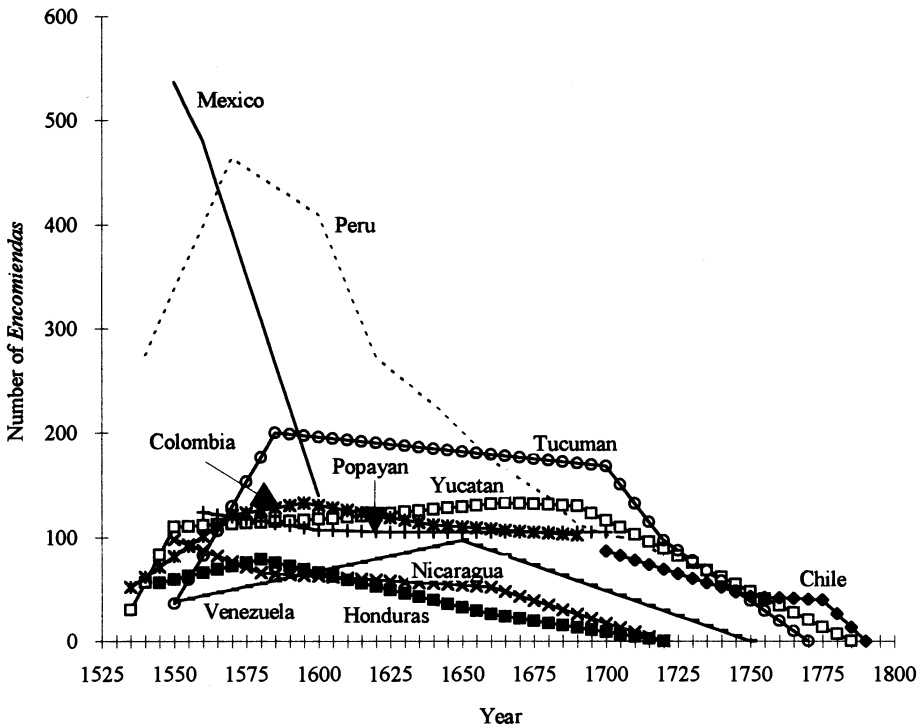


FIGURE 1
NUMBER OF ENCOMIENDAS

Notes: All data are rounded to the nearest decade or quarter-century.

Sources: The data for Central Mexico are from Zavala, *Encomienda indiana*, pp. 312, 314. Peruvian figures are from Puente Brunke, *Encomienda y encomenderos*, p. 141. They do not include present-day Bolivia and Ecuador. Yucatán's figures are from García Bernal, *Población*, pp. 189, 350; Nicaragua's are from Newson, *Indian Survival*, p. 98, 151, and the data for Honduras are from Newson, *Cost*, pp. 103, 190. The numbers for Colombia are from Ruiz Rivera, *Encomienda y mita*, pp. 30, 46, 128, 199. Popayán's figures are from Padilla Altamirano "Tasaciones," p. 61; and López Arellano, *Encomienda en Popayán*, p. 179. The data for Venezuela are from Arcilia Farías, *régimen*, pp. 110, 181–185; Tucumán's figures are from González Rodríguez, *Encomienda en Tucumán*, pp. 60, 62, 94, 95; and Chile's data are from González Pomes, *Encomienda indígena*, pp. 18, 74–75.

The left-hand side of equation 2 shows the marginal revenue to the Crown from incorporating one more native laborer and the right-hand side shows the marginal cost. Some "back of the envelope" calculations estimate values for these terms. Since the tax rate was the Royal Fifth, we set t equal to 0.2.¹¹ The term $P_j F_L(K_j, L_j) - w$ is the annual net revenue of one native laborer. The large number of data suggests that the average yearly tribute income from one worker throughout the middle decades of the sixteenth century was four pesos. Therefore, assuming constant returns to scale, the

¹¹ It is difficult to estimate average tax rates for *encomiendas* since taxes varied by region. In Peru, for example, taxes were initially set at 10 percent, though payments for justices and defense were taxed separately. Records do not indicate how much these taxes were. Nevertheless, the 20 percent tax rate is a reasonable estimate. See Puente Brunke, *Encomienda y encomenderos*, p. 61.

marginal revenue of the Crown net of wages was $(1 - 0.2) \times 4$ equals 3.2 pesos. To approximate the value for C , we must rely on much less evidence. Silvio Zavala found that in 1536, 101 *corregidor* salaries in New Spain (Mexico) totaled 55 percent of tribute income.¹² This implies that C equals 0.55×4 equals 2.2 pesos. In early seventeenth-century Peru, the salaries of 575 *encomiendas* and *corregimientos* amounted to 382,507 pesos. This included 216,757 tributaries. So the salary per tributary was 1.76 pesos.¹³ The average of the two estimates for C is 1.98, or nearly 2 pesos per tributary. Therefore, on average the Crown gained $3.2 - 2$ equals 1.2 pesos per laborer incorporated.

Is there a tax policy that could have resulted in at least an equivalent amount of revenue for the Crown? The Crown's additional revenue from raising taxes on *encomiendas* was

$$(t_n - t_0) \cdot (P_j F(K_j, L_j) - rK_j - wL_j) \quad (3)$$

where t_n is the new tax rate, and t_0 is the old tax rate. Taking the derivative with respect to L_j gives

$$(t_n - t_0) \cdot (P_j F_L(K_j, L_j) - w) \quad (4)$$

We know that t_0 equals 0.2, $(P_j F_L(K_j, L_j) - w)$ equals 4 pesos, and the gain to Crown revenue is 1.2 pesos. We now can solve for a value of t_n that would have raised the same revenue as the Crown received from incorporating *encomiendas*, $(t_n - 0.2) \times 4$ equals 1.2, so t_n equals 0.5. In other words, the Crown could have raised an equivalent amount of revenue by taxing the same *encomiendas* it chose to incorporate at a 50 percent rate. Moreover, if all *encomiendas* were taxed at the 50 percent rate, the Crown's revenue would have been greater than it was under the confiscation strategy. In Mexico, for example, approximately half of the tributaries were under Crown control in 1550 so the revenue-equivalent tax rate in that region was only 35 percent.¹⁴

One could argue that such a high tax rate would have increased black-market activity and reduced *encomenderos'* incentives to increase production. Thus the confiscation strategy was wealth-maximizing. Indeed those effects would have been present. However, the marginal increase in black-market activity would have been small because the *encomiendas* incorporated were generally the largest ones in the most populated regions of Mexico and Peru. The Crown could monitor these *encomiendas* at a relatively low cost. All that was required to accurately estimate tax payments was a head count of tributaries. Also, the bureaucracy in the New World was continuously expanding after 1530, especially in Central Mexico. The Crown assigned individuals to collect census information and

¹² Zavala, *Encomienda*.

¹³ Vázquez de Espinosa, *Description*, pp. 694–724.

¹⁴ Of course these numbers are only estimates, but there certainly existed a tax policy that could have generated the same revenue as did the confiscation strategy.

to assign tax schedules to every *encomienda*. Shirking became increasingly difficult over time.

What about the adverse dynamic incentives of a tax increase? Higher taxes surely reduced the incentive to produce and invest. But the relevant comparison is between a tax policy and a confiscation policy. One can hardly conceive of a worse incentive system than a confiscation strategy. Second-generation *encomenderos* (especially the wealthy ones) knew that the Crown would confiscate their *encomiendas* upon their death. Any planning past the lifetime of the *encomendero* was irrational. The *encomendero* tried to exhaust his assets completely before his death, implying that the natives were overworked and thus died more quickly than they would have under a tax policy. Also, the *corregidores* who replaced the *encomenderos* were paid salaries. There was no incentive for *corregidores* to manage the *corregidor* properly. So the Crown's main concern was clearly not to provide efficient incentives. A tax rate of 50 percent provided better dynamic incentives than the confiscation strategy. At least a portion of the revenue would have been passed along to future generations justifying some investment with payoffs exceeding the *encomendero*'s lifetime. The Crown's confiscation strategy was not wealth-maximizing because a revenue-equivalent tax policy could have been implemented with fewer dynamic distortions.

We must now show that the Crown's confiscation strategy was security-enhancing. Suppose that in the mid-sixteenth century, the Crown perceived its security in the New World as insufficient. How could the Crown best secure its rule? Since incorporation of natives was done discretely, *encomienda* by *encomienda*, the Crown should have incorporated the largest *encomiendas* first. This would have increased the Crown's security the fastest by eliminating the most powerful *encomenderos* first.¹⁵ To test this hypothesis at the interregional level, it is necessary to rank regions by their wealth and power. This will indicate which regions the Crown should have confiscated first. We can compare this to the actual confiscation strategy pursued by the Crown.

Rankings of regions by wealth and power around the year 1550 are done on the basis of three variables: average number of tributaries per *encomienda*; gold and silver production from 1500 to 1550; and tonnage of ship cargo sailing from the New World to Spain from 1500 to 1550. The first measure should provide insights as to the relative power of *encomenderos* vis-à-vis the Crown. The second two should serve as proxies for regional wealth. Table 1 provides these data. The regions are listed in order from the largest number of tributaries per *encomienda* to the smallest. The numbers in parentheses represent the regions' respective rankings on gold and silver production and tonnage shipped to Spain.

¹⁵ Remember that for confiscation to occur, the *encomendero* most likely died so he was not around to resist.

TABLE 1
INTERREGIONAL WEALTH AND POWER, 1550

Region	Tributaries per <i>Encomienda</i> , 1550	Gold and Silver Production, 1500–1550	Tonnage Shipped to Spain, 1550–1550
1. Central Mexico (2,2)	1,506	32,289,850	17,370
2. Peru (1,1)	673	84,350,000	21,400
3. Yucatán (7,7)	470	0	—
4. Popayán (3,5)	356	3,040,500	835
5. Colombia (3,5)	281	3,040,500	835
6. Honduras (6,3)	137	461,717	1,045
7. Nicaragua (5,3)	116	657,599	1,045
8. Tucumán (7,7)	87	0	0
9. Venezuela (7,7)	77.6	0	—
10. Chile (7,7)	—	0	0

Note: The numbers in parentheses represent the regions' respective rankings on gold and silver production and tonnage shipped to Spain.

Sources: Per capita gold and silver production data are from Haring, "American Gold," p. 468. Data on tonnage shipped to Spain are from Chaunu and Pierre "Le mouvement." The numbers are derived by aggregating the 1500 to 1550 tables. The following sources refer to the Tributaries per *encomienda* data. For Central Mexico, Cook and Simpson, *Population*, p. 102, give a tributary population of 808,500 and there were 537 *encomiendas* (see Figure 1 sources). The figure for Peru is from Cook, *Demographic Collapse*, p. 118. It includes Ecuador and Bolivia. Yucatán's number is from García Bernal, *Población*, p. 350. Nicaragua's number is from Newson, *Indian Survival*, p. 98. Honduras' figure is from Newson, *Cost*, pp. 103, 126. The Colombian figure is from Ruiz Rivera, *Encomienda y mita*. Popayán's figure comes from Padilla Altamirano, "Tasaciones," p. 61. For Venezuela, see Arcilia Farías, *régimen*, p. 111. There were 256 total Indians per *encomienda*. Assuming a 3.3:1 population-to-tributary ratio, a standard-conversion ratio, the tributary per *encomienda* figure is 78. Tucumán's number is from González Rodríguez, *Encomienda en Tucumán*, p. 13.

Given these data, three divisions can be made. First, Mexico and Peru are clearly in the top division, far surpassing the others regions in silver production. The five regions of Yucatán, Popayán, Colombia, Honduras, and Nicaragua constitute a second division. The third division includes Tucumán, Venezuela, and Chile. These three regions were the poorest and had the smallest *encomiendas*. The Crown should have confiscated regional assets in the order that appears in Table 1, making little or no distinction among regions in the same division.

Confiscation activity in a particular region is measured by the percentage change in the number of *encomiendas* over time, the percentage of tributaries directly under the Crown's control, and the percentage of *encomiendas* or towns under direct Crown control. Each of these will be taken in turn.

Table 2 provides the percentage change in the number of *encomiendas* using 1550 as the base year. The regions are ranked in the same order as Table 1. The rates of decline should be largest for the more powerful regions at the top of the list, and they should be smallest for the regions near the bottom. Central Mexico shows the fastest rate of decline, and the division 3 regions disappear the slowest. But there are important contradictions. Peru's *encomiendas* show no decline (relative to 1550 levels) for the rest of the sixteenth century. Yucatán's *encomiendas* seem to decline

TABLE 2
CHANGE IN NUMBER OF *ENCOMIENDAS*
(percentages)

REGION	1560	1570	1580	1590	1600	1625	1650	1675	1700	1725	1750	1775
Central Mexico	-10.6				-73.9							
Peru	15	34			18.5	-21.1	-41.9	-59.8	-70.5	-76.0		
Yucatán					7.3		20.9	18.2				-100
Popayán					-13.7	-15.3	-15.3	-15.3	-15.3			
Colombia		0				9.9	-8.04		-15.7			
Honduras			41.1				-53.6			-100		
Nicaragua			-32.6				-46.9			-100		
Tucumán			325	455.6					366.7	169.4		-100
Venezuela							155.3				-100	
Chile	n.a.											

Notes: The percentage change numbers are derived using 1550 as the base year. Data are rounded to the nearest decade or quarter-century.

Sources: See the sources for Figure 1.

almost as slowly as those in division 3. Some of these contradictions may be due to data problems. Therefore, two other measures of decline are tested.

A second measure of confiscation activity is the percentage of tributaries under direct Crown control. These are the tributaries that paid the tribute directly to the Crown's agents as opposed to *encomenderos*. The tribute usually went to a *corregidor* (as in Central Mexico) or to a local governor who directly supervised the *encomiendas* (as in Peru).¹⁶ The confiscation strategy in Peru differed from that in Mexico. Instead of replacing the *encomenderos* directly with a *corregidor*, a local governor was assigned to a particular area and would oversee all important aspects of the *encomienda* including tribute collection.¹⁷ Therefore, *encomiendas* in Peru supervised by local governors were under Crown control. Table 3 summarizes the results. The evidence supports the hypothesis. Peru and Central Mexico clearly dominated in Crown-controlled assets.

The final measure of predator activity is the percentage of *encomiendas* confiscated by the Crown or the percentage of towns under Crown rule.¹⁸ We expect the regions listed in the top rows of Table 4 to show higher percentages. Not surprisingly, Central Mexico and Peru surpass the others. Data on division 3 regions are almost completely absent, which is an indirect indication that Crown holdings were very small and insignificant in those regions. In Tucumán, for example, the Crown held only two towns

¹⁶ These local governors were also called *corregidores*, but to avoid confusion, we will only use the term to mean Crown appointed officials of confiscated *encomiendas*.

¹⁷ Keith, *Conquest*.

¹⁸ The percentage of *encomiendas* confiscated is computed by the ratio of *corregimientos* over the sum of *corregimientos* and *encomiendas*. Native societies were organized under townships so a confiscation of an *encomienda* also resulted in the confiscation of a certain number of towns. Therefore, the percentage of towns confiscated and the percentage of *encomiendas* confiscated should be highly correlated.

TABLE 3
 TRIBUTARIES UNDER CROWN CONTROL
 (percentages)

Region	1550	1560	1570	1580	1590	1600	1625	1650	1675	1700	1725	1750	1775	1800
Central Mexico		55.5				63.1								
Peru		3.9	100											
Yucatán	11.6					12.3							100	
Popayán	—													
Colombia						10.97	9.84			18.3				
Honduras											100			
Nicaragua								15			100			
Tucumán				3.78			2.96						100	
Venezuela										1.94		100		
Chile													38.6	100

Notes: Data are rounded to the nearest decade or quarter-century.

Sources: Central Mexico's figures are from Simpson, *Encomienda*, p. 163. Peru's 1560 figure is based on the fact that only two of the 52 *corregimientos* eventually set up were in place by 1560. By 1580 all of them were in place. See Cole, *Potosí Mita*. Yucatán's numbers are from García Bernal, *Población*, pp. 202–03, 359. For Nicaragua, see Newson, *Indian Survival*, p. 152. The data for Colombia is from Ruiz Rivera, *Encomienda y mita*, pp. 30, 46, 50, 111. For Tucumán, see González Rodríguez, *Encomienda en Tucumán*, p. 159. Venezuela's data are from Arcila Farías, *régimen*, pp. 275–77. For Chile see González Pomes, *Encomienda indígena*, p. 76.

until 1600, and held only three towns throughout the seventeenth and eighteenth centuries. There were few confiscations in Tucumán during the entire colonial period.

TABLE 4
 ENCOMIENDAS OR TOWNS UNDER CROWN CONTROL
 (percentages)

Region	1550	1560	1570	1580	1590	1600	1625	1650	1675	1700	1725	1750	1775
Mexico	36.1 T ^a	42.7 T	42.8 T			51.2 T							
Peru		3.0 E ^b		100 T									
Yucatán	7.0 T					5.6							
Popayán													
Colombia						14.2 E		15.8 E		28.4 E			
Honduras	7.9 T			13.5 T				65 T					
Nicaragua				11.5 T						80.7 T			
Tucumán													
Venezuela													
Chile													32.1 E

^a T represents the number of towns under Crown control.

^b E represents the percentage of *encomiendas* under Crown control. E = *corregimientos* / (*corregimientos* + *encomiendas*)

Notes: All data are rounded to the nearest decade or quarter-century.

Sources: Central Mexico's data are from Zavala, *Encomienda indiana*, p. 312; and Simpson, *Encomienda*, p. 162. Peru's data are also from Zavala, *Encomienda indiana*, p. 326. In 1560, the Crown had 18 *corregimientos* out of a total of 575. By 1580 all were under the control of the local government. See Keith, *Conquest*; and Cole, *Potosí Mita*. For Yucatán, see García Bernal, *Población*, pp. 202–03, 363; for Honduras, see Newson, *Cost*, p. 103, 190. Nicaragua's data are from Newson, *Indian Survival*, p. 152. For the Colombian data, see Ruiz Rivera, *Encomienda y mita*, pp. 30, 46, 50, 61, 199. González Pomes, *Encomienda indígena*, pp. 76–77 provides the data for Chile.

TABLE 5
ENCOMIENDAS IN THE VALLEY OF MEXICO

<i>Encomienda</i>	Ranking	Tributaries (1560)	Incorporation
Tenochtitlán	3	12,971	1525
Tlatelolco	5	8,665	1525
Texcoco	1	16,015	1531
Otumba	6	5,550	1531
Tizayuca	16	1,191	1531
Chalco	2	14,482	1533
Xochimilco	4	10,583	1541
Tenayuca-Coatepec	9	1,890	1544
Tepozotlán	8	2,971	1546
Tecama	26	600	1554
Cuauhtitlán	7	5,020	1566
Ixapalapa	24	700	1582
Chicoloapa	32	330	1597
Ixapaluca	31	370	1597
Xilotzingo	18	1,100	1600
Tequiscitlán	33	220	1600
Axapusco	20	940	1603
Tepetlaoztoc	17	1,100	1628
Huitzilopochco	30	420	1640
Teocalhueyacán	11	1,750	1653
Teotihuacán	15	1,400	1658
Tezontepec	29	530	1658
Cuitláhuac	23	800	1658
Hueypoxtla	10	1,800	1658
Culhuacán	27	560	1659
Tequixquiac	12	1,600	1666
Chimalhuacán Atenco	22	800	1670
Oxotiepac	25	600	1675
Tepexpán	21	850	1678
Acolmán	19	1,000	1678
Azcapotzalco	13	1,500	1702
Toltitlán	14	1,500	1702
Mixquic	28	550	1702
Tacuba	34	2,700	Perpetual
Coyacán	35	2,130	Perpetual
Ecatepec	36	1,390	Perpetual

Source: Gibson, *Aztecs*, p. 64.

The Crown not only confiscated the larger *encomiendas* first across regions, but within regions as well. Charles Gibson carried out a study for the Valley of Mexico, a relatively small but important geographical portion of Central Mexico. His results are reproduced and extended. In the mid-1530s there were 36 *encomiendas* of which three were perpetual.¹⁹ One belonged to Cortés (who had exceptional but unique influence over the Crown), and two belonged to the daughters of Montezuma. Table 5 shows the 36 *encomiendas* listed by the date of escheatment with the ranking by tributary population in the second column. Of the first 11 *encomiendas* reverting to the Crown, 9 of them were also in the top 11

¹⁹ Gibson, *Aztecs*, p. 61.

TABLE 6
CONFISCATION OF *ENCOMIENDAS* IN THE VALLEY OF MEXICO

Variable	Coefficient	Standard Error
Constant	1638.28***	10.34
<i>TRIBUTARY POPULATION</i>	-0.00869***	0.00196
R^2	0.388	
<i>F</i> -Statistic	19.61	

*** = Significant at the 0.5 percent level.

Source: Gibson, *Aztecs* p. 64.

ranked by tributary population. To further test the hypothesis, the following regression was run:

$$DATE\ OF\ ESCHEATMENT_t = \alpha + B\ TRIBUTARY\ POPULATION_t + e_t \quad (5)$$

The results are listed in Table 6. There is a negative correlation between size and incorporation, significant at the 0.5 percent level. The results suggest that an *encomienda* in 1560 with 1,000 more tributaries than another *encomienda* would revert to the Crown almost nine years earlier than the smaller one. This evidence suggests strong behavior by the Crown to increase its security of rule.

The pattern in Yucatán was similar to that of Central Mexico. Manuelo García Bernal calculated the mean number of tributaries in both private *encomiendas* and *corregimientos*. If the Crown confiscated larger towns first, the average size of Crown *corregimientos* should have been larger than the average size of *encomiendas*. The figures are reproduced in Table 7. Casual observation suggests that *corregimientos* in Yucatán were larger than private *encomiendas* until the mid-seventeenth century. After constructing sample variances, hypothesis tests were conducted for the years 1549 and 1607. The *p*-values are reported in Table 7. Based on these results, rejecting the null can only be done at the 95 percent confidence level for 1607. This suggests that by 1549 the Crown was only beginning to

TABLE 7
YUCATAN *ENCOMIENDAS* AND *CORREGIMIENTOS*

Year	Mean of <i>Encomiendas</i>	Mean of <i>Corregimientos</i>	<i>P</i> -Value
1549	470	592	0.15
1607	359	529	0.02
1640	n.a.	345	—
1666	211	211	—
1688	197	—	—

Source: García Bernal, *Población*, pp. 350, 363.

consolidate its holdings. By the early seventeenth century, the Crown had more fully exerted its influence in the area.

The Crown confiscated the largest *encomiendas* first. The confiscation strategy was not wealth-maximizing as an equivalent amount of revenue could have been raised by a 50 percent (or lower) tax rate. Moreover, the confiscation strategy was consistent with a policy in which the Crown attempted to secure its rule by weakening the most powerful *encomenderos*. Therefore, the Crown preferred the *encomienda* to slavery in part because the inheritance restrictions allowed the Crown to easily reconfiscate the assets it had to sacrifice in the early conquest era.

Trading Restrictions

The philosophy regarding slavery at the time of conquest was grounded in the Aristotelian doctrine of natural slavery. This doctrine held “that one part of mankind is set aside by nature to be slaves in the service of masters born for a life of virtue free of manual labor.”²⁰ Medieval Christendom interpreted “natural slaves” as infidels, or those that had rejected the true faith.²¹ However, the people in the New World had not explicitly rejected the faith since they had never been exposed to Christianity. The ideological debate in the sixteenth century, then, centered on whether or not Native Americans were natural slaves.

Queen Isabella was confronted with this debate immediately after Columbus’s expedition. Columbus could not find large gold deposits on Hispanola, so he opted to send Indian slaves to Spain in 1502. Queen Isabella consulted with theologians on the issue, and in 1503 she wrote a letter to the governor of the Indies. The letter captures the struggle between Native Americans’ freedom and the Crown’s desire for wealth. It became the legal basis for establishing the *encomienda* in the West Indies, and by extension to the mainland. The queen ruled that Indians were free, not slaves. But she also instructed the Spanish colonists to “compel the said Indians . . . to work on their buildings, and to gather and mine the gold . . . and to till the fields and produce food.”²² Forced native labor with trading restrictions allowed the Crown to avoid outright Indian slavery while allowing Spain to earn rents from the native labor force.

Relocation Restrictions

At first glance, relocation restrictions seem to be a derivative of the conquest strategy. Each *caudillo*, leader of an expedition, was given exclusive rights to a particular territory. Ability to relocate to another

²⁰ Hanke, *Aristotle*, p. 13.

²¹ Elliott, “Spanish Conquest,” p. 163.

²² Simpson, *Encomienda*, pp. 12–13.

territory would have made the enforcement of conquest contracts even more difficult and further confused land disputes and rights to labor. Yet, even after conquest, relocation restrictions persisted. At the same time, Indian depopulation left free land for *encomenderos* to settle. It would have made sense for the Crown to allow relocations to wealthier areas where *encomenderos*' (and the Crown's) incomes would have been much higher.²³

The Crown's notion of Indian freedom explains why it continued the policy of relocation restrictions. The Crown could not justify the removal of the Indians' possessions if they were supposed to be "free." Forced relocation deprived the natives of their immobile possessions, making them more like slaves. Slaves could be bought, sold, or relocated as often as the owners preferred.

The Crown was also concerned with the health of the Indians. Contemporaries thought that Indian relocation had contributed to rapid depopulation by exposing Indians to dramatic climate changes. Therefore, laws were passed that restricted *encomenderos* from sending laborers on long-distance journeys. Relocation restrictions protected the welfare of the "free" laborers.

CONCLUSION

The story of the *encomienda* has strong implications for neoinstitutional economics. In static analysis, the *encomienda* lowered revenue by more quickly depleting human capital, restricting labor mobility, and promoting higher average costs. The Crown preferred this organization over other forced labor alternatives because it allowed rents to be earned from native labor and gave the Crown greater security of rule in the New World while not reducing Native Americans to the status of slaves.

Confiscation of *encomiendas* also created poor dynamic incentives. Second-generation *encomenderos* had reason to believe that their *encomiendas* would not be passed on to their heirs. This muted incentives for long-term planning and investment. Furthermore, the wealthier *encomiendas* were the first ones targeted for confiscation. Wealth accumulation was seen as a threat to the Crown rather than a basis for tax revenue.

The Crown guarded its security at the expense of creating a poor institutional framework for productivity and investment. It is likely that this pattern of Crown centralization was repeated in other areas of Latin America's colonial economy. If so, it may go a long way toward explaining the poor performance of Latin American economies today.

²³ See Yeager, "Explanation," for an elaboration of the effects of varying regional productivities on colonists' actions.

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