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HUMAN CAPITAL AND OTHER DETERMINANTS IN THE LIFE CYCLE OF THE
PRICE OF A SLAVE: THE CASE OF SPANISH AMERICA IN THE EIGHTEENTH
CENTURY

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Abstract

This paper analyzes the determinants of the price life cycle of a slave, dealing particularly with the impact of the human capital, both with respect to skills and health. The paper details the source of the sample -including more than two thousand Spanish American Slaves of the 18th Century- and discusses its reliability, moving on to a descriptive analysis in the geographic and historical context. Later on it looks at the factors influencing price in several types of economic activity, and ends by comparing the conclusions with those obtained in other studies.

Key Words

Human Capital, Slavery, Economic History, Spanish America.

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The study of the price structure of slave labour reveals the economic value generated by the different characteristics present in the human being. Such a structure presents itself as a product of a complex and sophisticated calculation, infused with economic reasoning, which took into account the most important factors affecting labour productivity. Among existing investigation on the subject is a range of studies on the United States, the Caribbean and Brazil (see Kotlikoff 1992; Fogel and Engerman, 1974a, 1974b, 1992; Fogel 1989; Fogel, Galantine and Manning, 1992; Higman 1976; Marcilio 1978; Moreno Friginals, Klein and Engerman, 1983; Queirós Mattoso, Klein and Engerman, 1986). This paper includes a region which has been neglected up to the present, namely Spanish America in the second half of the 18th Century. The prices of a sample of more than two thousand slaves is analysed, dealing particularly with the impact of the human capital, both with respect to skills and health. The paper details the source of the sample and discusses its reliability, moving on to a descriptive analysis in the geographic and historical context. Later on it looks at the factors influencing price in several types of economic activity, and ends by comparing the conclusions with those obtained in other studies.

The Source and Reliability of the Sample

The sample that this study analyses consists of information on 2347 slaves in the period 1767-1794. Of each slave is known his price, age, sex, Creole or African origin, occupation, health and the type of economic unit of which he formed a part. The data originates from the valuations carried out on all the Jesuit

possessions following the expulsion of the Order from Spanish territory in 1767. The Jesuits had some 2200 members in America, and administered numerous educational establishments, embracing all levels of teaching, including universities. It was in secondary education where they most made their mark, with more than a hundred colleges that faced little local competition. Since these establishments received no fundings from the State they were obliged to finance themselves by charging fees to pupils; because this source was not sufficient they also acquired business of all types in order to obtain additional funds. These included estancias, haciendas, sugar plantations, vineyards and semi-industrial or artesanal activities such as the manufacture of tiles, textiles, hats, furniture, silver and even clocks. The Jesuits adapted themselves to the workforce available in each region, which included salaried workers where these were plentiful and slaves when this was not the case (1).

The Jesuit slaves were registered in the inventories which the Spanish Government ordered after 1767 so as to control the possessions which had been confiscated. Specialists were contracted in each place to prepare them, including professional valuers, carpenters, masons and experts on slaves (in some cases accompanied by doctors). These professionals, who were paid for their services, acted under oath and the threat of confiscation of their properties if their valuations were not exact. In addition, they had to be accompanied by witnesses, respected neighbours, civil servants, soldiers or clerics, which would prevent possible falsification. The inventories are of varying quality, tending to be more complete and accurate when the properties were situated near large urban centres. In some cases they were even carried out with excessive detail - which implied an increase in their cost - and an order came from Madrid to complete them in less time and at a lower cost (AHNM Jesuitas L. 126 No. 25). For the purposes of this study the flawed valuations, or those which did not contain complete information on each individual, have been ignored.

One of the advantages of this sample is that all the slaves appear valued individually, so that there is also information on

young children, who in other types of register frequently appear priced together with their mothers; in being a complete register, the problem of adverse selection is also avoided (that the slaves that might appear in the market are the worst). In addition, given that they are not auction prices, but theoretical values calculated by the specialist, they are free of fluctuations caused by circumstantial market forces. What degree of reliability, however, do these inventories offer us? Although we cannot be certain that the valuers did not manipulate the prices for their own personal gain, such action would be relatively transparent, since the value of a slave was reasonably well known and its fluctuation less than that of land, construction or improvements. Again, if a buyer did not agree with the prices he could call in his own experts to undertake a new valuation. But perhaps the most powerful incentive for carrying them out correctly was the fact that the slaves were later sold at public auctions, making any divergence from reality obvious. Unfortunately we do not have the auction sale price for the majority of the individuals, although the partial information that has survived for the Viceroyalty of Rio de la Plata suggests that the valuations were correct. In the city of Córdoba seven slaves from the Hacienda de San Ignacio were valued at 960 pesos and sold for 987 pesos (AHNM Jesuitas L. 127 No. 54). In Salta 55 slaves were auctioned in 1771; for the great majority there was no significant difference between the theoretical and real price; a group of slaves even bought their own freedom, a not unusual phenomenon in Spanish America (AHNCh Jesuitas Libro 149). In Tucumán only five out of 26 slaves were not sold for the expected price; here once again some of the slaves bought their freedom, or that of their children (AHNCh Jesuitas Libro 149). It should be pointed out that if the values were biased downwards, the principal conclusions of this study would only be affected if the price structure was also altered. Finally it should be mentioned that in the case of Peru the majority of Jesuit properties were sold at a discount of 30% on their valuation price, which would appear to indicate that slaves could not have experienced a significant undervaluation (Macera 1966,

Analysis of the Sample and its Context

Towards the end of the 18th Century there were nearly four million slaves in the American continent. For its relative importance the British and French Caribbean stood out. A million slaves lived there, and formed the greater part of the local population - in Jamaica 90%, and in Barbados 80% -; in Brazil there was 1.6 million, but the proportion to overall number of inhabitants was less, at 46%. The United States had around one million, representing 22% of the inhabitants. In Spanish America the relative importance was much less, since its nearly 400 thousand slaves made up only 3% of the population. Of course, the number was not evenly spread throughout the territory. Table A gives a regional breakdown (using current names). In first place is Venezuela, with its need for labour for its cultivation of cocoa, with 10.2 % of the population. Next came the Spanish Antilles, with 9.1%, although among these stood out Cuba (with 30%), which was importing labour at a growing rate for its sugar production. Many regions had between 4 and 7%, the labour force being used here for production of gold, wine, liquor and in artesanal and domestic urban activities; these were Ecuador, Peru, Colombia, Argentina and Paraguay. Finally they would have scant importance in Chile, Bolivia and Central America (with the few that there were concentrated in Panama), and they were relatively insignificant in Mexico, in each case as a result of the cheap and abundant free labour force.

The geographical distribution of the individuals who compose the sample is shown in table A, and their main characteristics in table B. As can be seen, Río de la Plata (the present Argentina and Uruguay) and Peru are over-represented, although there is also information for Central America, Venezuela, Cuba and Chile. By activity, the following classifications can be made: 1) Slaves in plantation type establishments. Of the total, 36% worked on the cultivation and processing of sugar cane, 20% in vineyards producing wine, brandy and liquors, and a smaller

group dedicated to the growing of cocoa (which is not broken down for analysis because of its small size), 2) Urban slaves, who made up 12% of the total, and were mainly located in Montevideo or Buenos Aires, working as artesans, domestics and unskilled labourers, 3) Slaves in estancias and haciendas, a small group dedicated to cattle raising and agriculture, and 4) Slaves in mixed enterprises - 22% - attached to rural establishments which combined farming activities with others more characteristic of urban areas, such as the production of tiles and bricks, or the manufacture of furniture. As far as the division by sex is concerned, it appears to be fairly balanced in all activities, with a slight preponderance of males; the majority of slaves were part of established family units. The exception is Cuba, where all the sugar plantation workers were male.

Nearly all the slaves appear in the inventories with positive prices. That is because most of the individuals formed a part of the active population. The women usually worked in the fields with the men: in the sugar plantations they formed gangs which followed the male cane cutters, and also carried out lighter tasks such as collecting up and loading the cane and the husks; in the vineyards and cocoa plantations they took part in the harvesting and the rest of the tasks. In the cities a large number were involved in domestic work. The older slaves and children (from the age of seven or eight) were also useful, taking the dry husks to the boiler houses, clearing weeds from the fields or looking after smaller children.

Of the total number in the sample most of the individuals (72%) are black Creoles, in other words born on the American continent. The Mulattos (cross between black and white) made up 9% of the total, and the zambos (cross of Indian and black) 4.4%. The remainder (14.6%) came from Africa, and had probably in most cases been some time in America. For some of this latter group their ethnic group or region of origin is known: the Carabali and the Congo tribes each accounted for 16.4% of the Africans, the Mandinga 4.8% and the Mina 3.7%. Others which are mentioned, but in tiny numbers, are the Lucumi, Araxa, Angola and Chinese (from the Philippines). The information on their origins may be of

interest, for in works of that time mention is made of different ethnic groups in which they are valued heterogeneously, for their distinct characters or capabilities. The Carabali and Mandinga, from the North of the Equator,

were in general considered good and strong workers, but very bad-tempered and rebellious, as well as displaying a certain suicidal tendency. They seem to have been preferred in Cuba and Colombia. Those from the Congo and Angola - on the South of the Equator - would seem to be calmer, more docile and cheerful, but not as hardworking, skillful or strong; they would be more sought after in Río de la Plata and Peru (See Rout 1976, pp. 32, 72; Sharp 1976, p. 118; Castillo Mathieu 1982, p. 17; Isola 1975, p. 103; Martínez Montiel 1992, p. 282; Rodríguez Molas 1988, pp. 130-138).

Although there generally appears to have been a price difference in favour of the Creoles, in some regions the Africans would be preferred, for although they suffered from not understanding Spanish and a certain tendency to contract local diseases, they were more docile, obedient and hardworking. In addition, the fact that the Creoles were more accustomed to their surroundings and better organised among themselves meant that they could stir up revolts or escape more easily (Marcilio 1978, p. 97). On the other hand the woman born in America appears to have been valued more highly than the African woman for her higher assimilation, permitting an easier integration into domestic service (Bowser 1977, pp. 117-118). Mulatto women, with lighter skin, could attract a premium if they were used for sexual favours or in prostitution.

In the sample skilled slaves are clearly distinguished from untrained ones (2). These former slaves were a privileged group who received favours and rewards, such as cash payments, small plots of land to grow their own produce, special clothes and food, and the use of horses for their personal transport. The overwhelming majority were men; women would not receive any training, for reasons of discrimination as well as being physically weaker, with the additional possibility of becoming pregnant.

First among the skilled slaves stood out the drivers, who had the function of intermediaries between the administrators and the rest of the blacks. Their job was to coordinate the work in the fields, especially that of the gangs, and they could punish those who slacked; they were also responsible for the distribution of food. At the end of each day, they would account for the work done. (Von Webeser 1986, p. 158; Chevalier 1950, p. 63; Macera 1966, pp.41-42, 60, 62; Tomich 1990, pp. 240-244).

In the urban centres there appears a very varied group of qualified workers. In the city of Buenos Aires in 1778, for example, the blacks and mulattos represented 17% of the artesans, although the probability of a white being in this category was more than double that of a coloured person (Kossok 1959, p. 115). In general these slaves were divided into the three usual categories, apprentice, official and master, the latter having the theoretical right to own a shop (unfortunately in the sample this differentiation is not always mentioned and has not been able to be used). The masters would take the apprentices with them, showing them the job, in a process which has been described as lengthy (Chevalier 1950, p. 186; Tomich 1990, p. 225). Many urban slaves, artesans or labourers, would operate in the free market offering their labour or services; of the money they received they had to hand over either a fixed or proportional sum to their owners. They enjoyed relative freedom and in some cases did not live with their owners (Saguier 1989). Of the artesans, a large number worked in construction and related activities: these were the blacksmiths, carpenters and masons. Another group included barbers, cobblers, tailors, harness makers, leather artesans, hatmakers and millers. Some specialisations required a higher degree of training, such as watchmaker, musician or sculptor.

In the sugar plantations, the skilled group was made up of those slaves who worked in processing the cane and the production of sugar, together with blacksmiths and carpenters. First came the boilers, who processed the juice from the cane, evaporating the water in cauldrons and copper kettles, with the help of alkalis which stimulated the clarification process. This process

was very sensitive and overcooking could ruin the product: it required a special skill to determine the "striking point", the exact moment at which the syrup must be taken off the heat, to produce the right grade of crystallisation. These were followed by the purgers, who deposited the liquid into cones for it to lose its remaining moisture. Later on they took the sugar from these cones and divided it according to its quality (with the poorer quality, the darkest, at the bottom). All this process was coordinated by the Sugar Master, who supervised all the tasks and needed to have a knowledge of the specific quality of the cane, which affected the degree of cooking required. In the case of the vineyards, only the potters and tanners appear with a specific skill, responsible for making the earthenware or leather containers to hold the alcoholic drinks produced. Other activities in the vineyards, such as the pruning, picking and pressing of the grapes did not seem to require any type of training worthy of mention.

In the sample 7.9% appear as skilled, nearly all of them men. Among the males the proportion of adults (over 17 years) with a skill is 17.4%. Looking at it by activity (see Table A) the importance of skilled slaves is higher in the urban sector, where there was a considerable number of artesans and drivers (31.4%). The mixed sector and the sugar plantations also had a number of qualified workers, 21.8% and 16.9% respectively. They would be less significant in the vineyards, and still less on the estancias and haciendas. The figures indicate (Table C) that the proportion of skilled slaves increases with age, until the fifties, after which it falls. This phenomenon was more marked in plantation type establishments (sugar plantations and vineyards), where the opportunity cost of training a young, strong man would be high, as a result of which they were selected at a older age. In the urban and mixed sectors, training would start at an earlier age, perhaps because alternative uses did not have such weight. Comparing the age structure of the drivers and artesans, the first group appears more often as older than the second, since maturity seems to have been an important requirement to succeed in imposing their authority. An

instruction given to the Jesuit Mexican haciendas stated that among the attributes of a driver was that of being "a faithful slave, with good sense and mature in age" (Chevalier 1960, p. 63). This requirement was not essential in the case of artesans.

Of the overall total of slaves, 17.5% appear with some health problem (3). This proportion is very similar to that found by D. Chandler for a group of Colombian slaves in the 18th Century, more than three times in number than the sample being analysed here; the percentage with some problem is 15.3% (Chandler, 1981). In the sample the most common kind of complaint is musculoskeletal, such as hernias, broken bones and amputations, representing 39% of the non-healthy slaves. Some 6.7% had skin infections, 8.7% genito-urinary problems, 6.3% eye diseases, 4.8% gastrointestinal disorders and 8.2% respiratory difficulties. The rest (26.3%) include other complaints not listed, as well as mouth and throat, mental and heart troubles. If the figures are separated according to activity, the urban and mixed group is the healthiest, with between 11 and 12% of the population affected. In the sugar plantations the number rises to 18.3%, in the estancias and haciendas 22.1% and in the vineyards 29%. With the exception of the urban areas, where the different complaints are evenly distributed, the predominant problems are musculo-eskeletal, ranging from 37% to 47% of the total. This percentage cannot be surprising given the accidents and physical wear produced by the tough work in the fields. In the sugar plantations and vineyards genito-urinary problems also stand out (for the most part venereal diseases), probably as a result of sexual promiscuity in large masses of people. In the vineyards lung problems are also prominent.

The incidence of illnesses by age, sex and skill level is shown in table D. As can be expected, the health and physical state deteriorate with age, although stabilize after the age of 50. The women are shown to be healthier than the men, especially from the age of 40. On the other hand, skilled male slaves are healthier; this could be explained by their avoidance of work in the fields, with its negative consequences. Another possibility is that they may have been selected from among those who were

most healthy.

Misconduct only stands out among the Cuban population, where 37% of the slaves are shown to have some behavioral problem. Of those 61% had a propensity to escape, 22% were alcoholics and 16% had other defects, such as thieving. The characteristic which differentiated the Cuban slaves was that theirs were the only plantations where the male sex had an absolute predominance. This factor demonstrates the socialising (and binding) role of the family, since in the rest of the economic units studied the sexes are equally balanced.

The Price Determinants

In order to analyse the price determinants of the slaves, regressions were estimated which explore the statistical relation between the prices and the observable characteristics of the slaves in the sample. The Tables E, F and G contain various price equation estimations. In all the examples the dependent variable is the logarithm of the price. The independent variables include, in the first place, measures of the human capital of the individuals: age, skills and health. With these variables, equations are estimated similar to the modern income equations of Mincer (Mincer 1974), although in this case the variable to be explained reflects the present discounted value of the income flow that a slave might be expected to generate. Some estimations include another group of variables which reflect the sex and race of the individuals, in order to analyse if these characteristics were associated with differences in prices. Finally, the equations take in the economic activity to which the slaves belonged. In table E there appear estimates for the sample as a whole. Apart from age, which presents a concave relation with the price, the level of training of the individuals appears as a clear factor in determining their value, increasing it by some 20%. If a slave is healthy, his price is on average 50 or 60% higher. It is worth noting that in taking into account the slaves' state of health, the estimated effect of training is reduced. The positive effect of training on health is today a

well recognised fact (Grossman 1975; Berger and Leigh, 1989).

The price of the women in the sample is on average 7.5% below that of the men. By race, the Africans are worth 20% more than the Creoles, while the price of Mulattos is 10% less than that of the (black) Creoles. Nevertheless, on breaking the figures down by production activities we discover that these differentials are not present in all of them (see Table F). Thus, for example, it is only in the sugar plantations that significant differences appear among individuals of different races; on the other hand, among the Africans no major variation was found between the valuations of the Congo and Carabali. Only in the vineyards do women have a price significantly lower than that of the men.

A statistical contrast accepts that identical price equations are imposed on the urban and mixed sectors. A Chow test, however, rejects the homogeneity of the price equations between the urban-mixed sector, the sugar plantations, the vineyards and the haciendas, from which it must be concluded that the valuation of the characteristics of the slaves was different in each of the economic activities considered here. It is worth asking if these variations were as a result of the existence of different markets for different geographical regions (and activities). The specificity of the human capital of the skilled slaves can also help to explain variances in their valuation in the distinct production activities.

From the information in table F it can be concluded that the value of training seems to be greater in those activities where skilled slaves were more scarce, in other words in vineyards and haciendas. On the other hand, in these same activities it can be seen that the premium for good health is less than in the sugar plantations and the urban and mixed sector. As a whole, the two characteristics of human capital under discussion, skill level and health, raise the price of a slave approximately 110% in the urban-mixed sector, 95% in the sugar plantations, 90% on the agricultural estates and 80% in the vineyards.

The estimations in table F show the ages at which maximum price is obtained as being practically identical in the various

activities, ranging between 27.7 and 28.6. Only in the haciendas is a different maximum price obtained, at 30 years, but the small size of the sample renders this result almost not significant. In table G separate equations are estimated for unskilled men and women, for the main economic activities in the sample: the urban-mixed sector, sugar plantations and vineyards. It can be seen that in all activities the base price for women (the constants) are slightly below that of the men; and that good health increases the value of a woman more than that of a man. Nevertheless, the price differentials for race, in favour of the Africans and against the Mulattos, are only significant in the sugar plantations.

Graph 1 represents the estimated price-age profiles from semilogarithmic equations for three groups of slaves: untrained men and women, and male skilled slaves. It can be observed that at the age of ten the price of the women was 11.6% higher than that of the men, while this difference between the sexes reduced to 2% at the age of 20, becoming negative later. At 35 years the difference in favour of males was 17%, and at 50 years 52%. The skilled slaves present a steeper profile than the non-skilled, and reach their maximum price later (31.8 years against 29.5 for men, and 25.7 for women). This result reflects their accumulation of human capital (training) which produces high returns, increasing with experience, and depreciates later than in the case of non-skilled workers (Mincer 1974).

Comparative Analysis

The characteristics of the Spanish-American slaves presented in this paper tend to confirm the results obtained in studies on other regions and for other periods, thus showing that slavery has had a relatively stable structure, a phenomenon based on the similarities in the personal qualities of the human being. The first coincidence is found in the evolution of the life-cycle in the value of the labour force. Maintaining the usual concavity of the age-price profile, the maximum price for (unskilled) men in the sample is achieved at the age of 29.5, and for women at

26.7 years. This difference between the sexes is compatible with that obtained in Cuba around the middle of the 19th Century (28-30 for males, 25 for women; Moreno Friginals et al 1983, p. 1216); for Brazil in 1873 (26-27 for males, 22 for women; de Mello 1992, p. 77) and for the United States in the 19th Century (25 for males, 23 for women; Kotlikoff 1992, p. 45). As far as the discrepancy in absolute value between the sexes is concerned, the investigations have in general found a difference in favour of men. In the United States and the West Indies women would cost between 80 to 90% of the price for men; in Brazil the proportion would be between 70 and 80%. The existing studies on Spanish America point to a smaller gap: in the Chocó region of Colombia during the 18th Century it was 94%, while in Cuba in the 19th century it was between 90 and 95% (Moreno Friginals et al 1983, pp. 1210-1211). The sample tends to confirm the greater equality between the sexes in the Spanish speaking countries: for the sample as a whole the proportion is 92.5%. With regard to the younger ages the sample corroborates the clear female superiority: at the age of ten a woman was worth 11.6% more than a man, and although the difference reduced, it remained even up to the age of 20. In the United States and Brazil women also attracted a higher price men - although only up to the age of 16 - and a similar phenomenon has been observed in Cuba (Kotlikoff 1992, p. 42; de Mello 1992, p. 77; Moreno Friginals et al 1983, p.1216). On the other hand, at greater ages the difference is inverted, and widens from that point, as it does in the United States and Cuba (Fogel and Engerman 1974a, p. 75; Moreno Friginals et al 1983, p. 1216).

The characteristics of skilled slaves are also similar to those found in other regions. While in the sample the proportion of skilled adult males was 17.7%, for Trinidad (1813) it was 18.6%, for Surinam (1855) 19.2%, and in the British Caribbean (1834) 17.4%. The figure for the United States would be greater, since estimations put it at between 20 and 30% (Manning 1992, p. 110) (4). Another similarity is that a greater proportion were trained in urban areas than in rural ones (Friedman and Manning 1992, p. 78). With regard to the ages at which the artesans

appear, taking only the plantation-type units, the conclusions drawn of the sample coincide with those obtained for the United States, where the artesans appear in greater numbers after the age of 30, and the drivers from 35 onwards (Olson 1992, 9. 154). One difference should be noted: in the sample, the training of urban slaves and those in mixed activities appears at earlier ages, which could indicate that the opportunity cost of training a young slave may have been lower there.

In the sample the skilled male slaves reach their maximum at 31.8 years, while the unskilled do so at 29.5. A comparable difference has been found in the United States where the blacksmiths attained their highest value at the age of 29, while the field workers did so at 25 (Friedman, Manning and Fogel 1992, p. 148). The increase which has been found for the skilled slaves, over 20% for the sample as a whole, is greater than that discovered for Cuba (10 to 20%; Moreno Friginals et al 1983, p. 1217) and somewhat less than that found for the United States (around 40%, Friedman 1992, p. 74).

The discount that appears in the sample as a result of various defects or illnesses has also been observed in the case of the United States (Fogel 1989, p. 68). In the sample the sugar plantations present a comparatively poor state of health (against the urban or mixed units); that would coincide with the greater morbidity found in the sugar plantations of Jamaica and Trinidad (Fogel 1989, p. 127). In the same way, the sample indicates that skilled slaves enjoy better health than the unskilled, which agrees with the existing information for Cuba, Trinidad, Santo Domingo and Jamaica (Fogel 1989, pp. 128; Moreno Friginals et el 1983, p. 1207; Geggus 1978, p. 30). On the other hand, women had in general better health than men, which has also been noted for Jamaica and Santo Domingo (Geggus 1978, p. 29; Craton 1975, p. 269).

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Notes

1. The Jesuit Order did not systematically question whether the use of slaves was morally justifiable, which contrasts with its defence of the Indian and the criticism of the servitude to which he was subjected. In this they were conditioned by the mentality of the age, since virtually nobody in the world criticised slavery until the final years of the 18th Century. On the other hand, they seem to have treated the slaves better than the lay owners (Chandler 1981, pp. 180, 206; Riley 1976, p. 183), and while slave revolts in their properties are unknown about, they often occurred after the expulsion of the priests, following a deterioration in their conditions (Kapsoli 1975).

2. Those classified as skilled slaves are of those professions which appear under the category of "craftsmen" in Friedman (1992), p. 76.

3. We have taken the relation of illnesses from Chandler. His sample is sub-divided into Jesuit slaves (almost the same number as used in this work), who present a percentage of 20.8%. See also Chandler (1982).

4. These comparative figures exclude slaves employed as domestics, which seems reasonable considering that no slaves appear in the sample under this category.

Sources

1. The sample:

The valuation of the Jesuit properties which were carried out following the expulsion of the Order are principally concentrated in the National History Archive of Chile (AHNCh) and in the National History Archive of Madrid (ANHM). Below is indicated the location of the documents used in this work:

Montevideo: Molino y Taona, Residencia, Ranchería, Estancia de la Calera, Estancia de Pando (AHNCh, Jesuitas (=J), Libro 146); Santa Fe: Haciendas del Colegio (AHNCh, J, Libro 156); Buenos Aires: Colegio de Belén, Ranchería, Estancia de las Vacas, Chacarita, Estancia de las Conchas, Estancia de la Magdalena (AHNCh, J, Libro 149); Mendoza: Hacienda de la Cañada (AHNCh, J, Libro 156); Santiago del Estero: Ranchería, Hacienda de San Ignacio (ANCh, J, Libro 151); Salta (AHNCh, J, Libro 149); Corrientes: Chacarita de la Viña, Ranchería (AHNM, J, Legajo 96-1); La Habana: Ingenio San Juan Bautista de Poveda, Ingenio Nuestra Señora de Aranzazi, Ingenio de Barrutia (AHNM, J, Legajo 125-2); Guatemala: Ingenio de Amatitlán, Hacienda de los Canales (AHNM, J, Legajo 85-1); Caracas: Hacienda del Valle del Guatiré, Hacienda de San Ignacio (AHNM, J, Legajo 126-2), Hacienda del Valle de Cancagua (AHNM, J, Legajo 128); Ica: Hacienda de San Jerónimo (AHNCh, J, Libro 348), Hacienda San José de Nazca (AHNCh, J, Libro 459); Lima: Hacienda de la Huaca (AHNCh, J, Libro 459); Pisco: Hacienda de Santa Rosa de Caucato (AHNCh, J, Libro 459); Trujillo: Hacienda de Tumán (ANCh, J, Libro 459); La Serena: Hacienda y Chacra (AHNCh, J, Libro 5).

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TABLE A
REGIONAL DISTRIBUTION OF SLAVERY IN SPANISH AMERICA
TOTAL AND SAMPLE

Region	Proportion of total Population	Proportion of total Slaves	Sample Distribution
Mexico	0,2	2,4	
Central America	1,1	2,5	3,6
Caribbean	9,1	20,4	5,6
Colombia	5,8	15,8	
Venezuela	10,2	19,2	5,1
Ecuador	6,7	7,9	
Peru	6,6	22,6	39,5
Chile	2,3	3,1	2,1
Paraguay	4,1	1,0	
Rio de la Plata	4,9	5,3	44,1
Total	3,0	100,0	100,0

Source: Klein (1986), Morales Padrón (1988), Rout (1976).

TABLE B
SAMPLE CHARACTERISTICS

Economic Sector	Sample Proportion	Proportion Skilled*	Proportion Healthy	Proportion Female
Urban	11,8	31,4	88,8	48,7
Estancia/Hacienda	3,5	2,9	77,9	43,4
Mixed	28,4	21,8	88,2	50,7
Sugar	35,7	16,9	81,7	42,8
Vineyards	19,8	11,3	71,0	45,9
Cacao	0,8	25,0	90,0	55,0
Total	100,0	17,7	82,5	46,5

* Males 18 and older.

TABLE C
SKILLED SLAVES

	Proportion of Skilled Slaves at Each Cohort			Proportion of Skilled over Total Slaves				
	Drivers	Artisans	Total	Drivers	Artisans	Total	Sugar and Vineyards	Urban and Mixed
18-27		22.9	20.1		15.2	15.2	11.9	21.8
28-37	11.1	26.0	24.2	0.9	15.6	16.5	10.9	26.4
38-47	22.2	26.0	25.5	2.4	20.2	22.6	19.8	34.1
48-57	38.9	14.5	17.4	6.8	18.4	25.2	25.3	20.8
58-67	11.1	9.2	9.4	2.1	12.4	14.4	11.1	28.6
68 and older	16.7	1.5	3.4	5.3	3.5	8.8	9.8	7.1
Total*	100.0	100.0	100.0	2.1	15.6	17.7	15.1	24.9

* Males 18 and older

TABLE D
PROPORTION OF HEALTHY SLAVES

Age	Total			Males 17 and over	
	Male	Female	Total	Skilled	Non-skilled
17 and less	95.0	96.2	95.7		
18-27	88.4	94.8	91.7	96.8	86.8
28-37	76.6	77.3	76.9	84.6	74.9
38-47	63.1	57.4	61.0	69.2	61.2
48-57	59.2	65.1	61.4	74.1	54.5
58-67	60.8	63.4	61.6	64.3	60.2
68 and older	61.4	75.8	66.7	80.0	60.4
Total	79.5	85.8	82.5	79.3	70.1

TABLE E
PRICE EQUATIONS TOTAL SAMPLE

Constant	4.456 (121)	4.465 (122)	3.906 (67)	3.989 (66)	3.596 (58)
Age	0.085 (33)	0.083 (32)	0.091 (35)	0.086 (34)	0.087 (36)
Age²	-0.152 (41)	-0.150 (40)	-0.155 (43)	-0.152 (43)	-0.153 (46)
Skilled		0.290 (4)	0.249 (4)	0.222 (3)	0.259 (4)
Healthy			0.529 (12)	0.616 (14)	0.661 (16)
Female				-0.069 (2)	-0.075 (2.4)
Zambo				-0.213 (3)	-0.047 (0.6)
Mulatto				-0.370 (8)	-0.109 (2.3)
African				0.430 (7)	0.203 (3)
Sugar					0.599 (16)
Vineyards					0.505 (12)
Haciendas					0.132 (1.6)
N	2,347	2,347	2,347	2,347	2,347
F	999.3	677.8	577.4	324.8	290.1
\bar{R}^2	0.46	0.46	0.49	0.52	0.57

t statistics in parenthesis.

TABLE F
PRICE EQUATIONS BY ECONOMIC ACTIVITY.

	All	Urban-Mixed	Sugar	Vineyards	Haciendas
Constant	3.596 (58)	3.383 (42)	4.105 (38)	4.359 (34)	4.231 (35)
Age	0.087 (36)	0.076 (25)	0.088 (19)	0.100 (17)	0.064 (12)
Age ²	-0.153 (46)	-0.133 (29)	-0.155 (25)	-0.180 (24)	-0.105 (14)
Skilled	0.259 (4)	0.244 (3.2)	0.216 (2)	0.493 (3)	0.598 (2.3)
Healthy	0.661 (16)	0.913 (14)	0.754 (10)	0.365 (4)	0.181 (2.3)
Female	-0.075 (2.4)	-0.013 (0.3)	-0.013 (0.2)	-0.274 (4)	-0.084 (1.5)
Zambo	-0.047 (0.6)	-0.032 (0.4)	-0.018 (0.1)	-0.238 (0.6)	
Mulatto	-0.109 (2.4)	-0.050 (1.1)	-0.524 (4)	-0.144 (0.2)	0.023 (0.3)
African	0.203 (3.4)	-0.156 (0.2)	0.271 (3)	0.070 (0.4)	
N	2,347	951	845	468	83
F	290.1	152.6	123.1	104.3	37.8
\bar{R}^2	0.57	0.56	0.53	0.64	0.73
Age Penax.	28.4	28.6	28.4	27.7	30.4

t statistics in parenthesis.

TABLE G
PRICE EQUATIONS BY ACTIVITY AND SEX.

	All activities		Urban + Mixed		Sugar		Vineyards	
	Males	Females	Males	Females	Males	Females	Males	Females
Constant	3.904 (46)	3.786 (41)	3.338 (27)	3.211 (28)	4.062 (28)	3.843 (23)	4.130 (27)	4.078 (24)
Age	0.092 (24)	0.091 (24)	0.080 (17)	0.078 (18)	0.091 (13)	0.090 (14)	0.103 (14)	0.116 (15)
Age ²	-0.153 (30)	-0.169 (31)	-0.132 (19)	-0.140 (21)	-0.156 (18)	-0.164 (18)	-0.168 (18)	-0.227 (21)
Healthy	0.576 (9)	0.834 (12)	0.855 (8)	1.132 (12)	0.711 (7)	1.064 (8)	0.359 (3)	0.473 (4)
Zambo	-0.211 (1.6)	-0.195 (1.8)	-0.161 (1.1)	0.039 (0.4)	-0.047 (0.2)	0.001 (0)	-0.076 (0.2)	
Mulatto	-0.362 (5)	-0.407 (6)	-0.024 (0.3)	-0.071 (1.2)	-0.495 (2.3)	-0.539 (3)	-0.204 (0.3)	-0.258 (0.3)
African	0.285 (4)	0.657 (4)		-0.215 (0.4)	0.199 (1.9)	0.425 (2)	-0.152 (0.9)	0.195 (0.4)
N	1,054	1,046	399	474	422	357	233	215
F	194.7	241.5	92.7	118.3	81.6	81.7	73.6	130.3
R ²	0.52	0.58	0.53	0.60	0.53	0.57	0.65	0.75
Age Pmax.	30.1	26.9	30.6	27.9	29.4	27.6	30.6	25.7

t statistics in parenthesis

Price Profiles

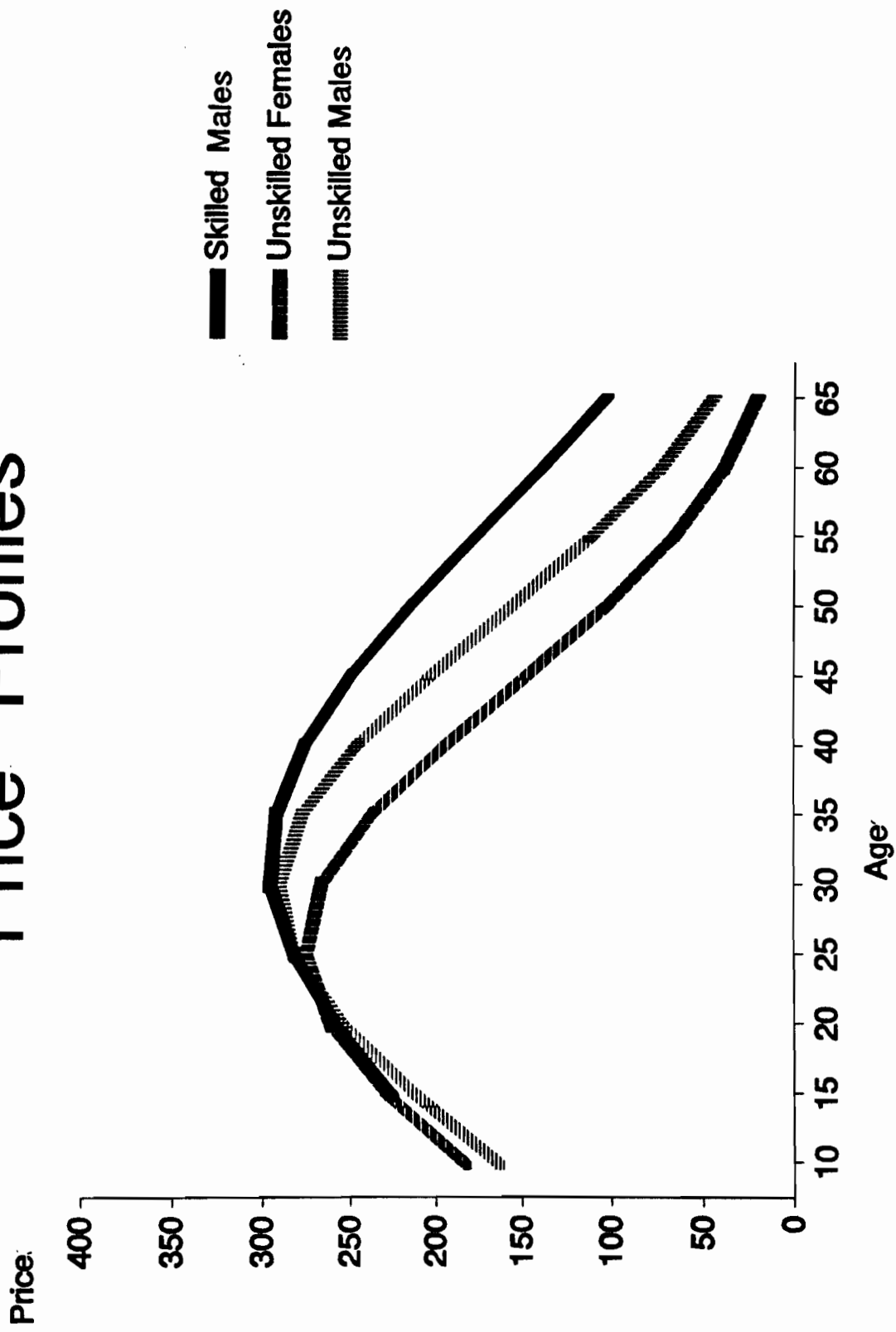


Figure 1