# 11. URBAN MARKET AND AGRARIAN HINTERLAND: LIMA IN THE LATE COLONLAL PERIOD 

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Since the publication more than thirty years ago of Guillermo Céspedes del Castillo's seminal "Lima y Buenos Aires: Repercusiones económicas y políticas de la creación del virreinato del Plata," our understanding of this period of Peruvian history has been colored by a persistent image of widespread stagnation and economic decline. ${ }^{1}$ In recent years, however, this traditional interpretation has begun to be replaced by a less pessimistic and at the same time more nuanced model of Peruvian economic performance. John R. Fisher's 1977 monograph on the growth (rather than decline) of postpartition Peruvian silver production has categorically revised long - held views about the condition of this key sector of the colonial economy. ${ }^{2}$ There are also indications of economic vitality in other sectors of the Peruvian economy. An earlier study by Fisher of the impact of Bourbon administrative changes in the viceroyalty suggests that overseas trade was experiencing modest economic expansion in the 1790 's. ${ }^{3}$ The long - awaited publication of statistics of colonial revenue entering the Lima treasury by John J. TePaske and Herbert S. Klein bears out the British historian's thesis, for they show that tax collections from commerce (alcabalas) and foreign trade (almojarifazgos) rose steadily and at times dramatically during the fifty - year period 1736-1785. ${ }^{4}$ Alcabala revenues rose even higher in the 1790 's, to about four million pesos in the quinquennium $1790-1794 .{ }^{5}$

In addition to confirming the flourishing state of the mining sector of Lower Peru, the treasury accounts of Lima also suggest regional economic expansion, for the net remittance from provincial treasuries to the Lima matrix increased substantially between the 1760's and the 1780 's. They also provide a sense of demographic transition, as revealed in the growth of tribute revenue in the last fifty years of the eighteenth century.

The new perspective on the global state of the Peruvian economy afforded by the recent historiography should certainly not obscure the fact that our knowledge of substantive problems is still rather patchy. The agricultural sector is a case in point. The movement over time of the two - ninths of one - half of the tithe collected as Crown income
shows, for instance, a healthy increase between the 1740's and 1760's, but this impetus appears to have been spent by the following decade. ${ }^{6}$ On the other hand, tithe figures for the Lima archbishopric suggest a more positive trend in agricultural production. While the average figure for the period $1774-1779$ was 126,546 pesos, the years $1790-1794$ saw an 18 percent increase to 148,866 pesos. The value of the tithe in 1803 was 182,349 pesos, a figure apparently maintained throughout the decade. In 1810-1814 tithe revenue averaged 184,826 pesos. ${ }^{7}$ At about the same time that eighteenth - century commentators pointed to the dismal condition of the sugar haciendas of Trujillo, one Crown official noted with satisfaction that tithe revenue in that province had increased from 72,685 pesos in $1759 / 60$ to 131,509 pesos in $1787 / 88$, a surge he ascibed to the discovery of silver ore in Hualgayoc in the early 1770 's. ${ }^{8}$

These contradictory strands of evidence underscore what seems to be the crucial aspect of the colonial economy: its spatial fragmentation and regional diversity. The fundamental integrative force here is obviously represented by the dynamic inter-relationship between regions and markets. In this regard, the key role played by the mining sector of the Peruvian economy (as the tithe data for Trujillo reveal) has been recognized by most colonial historians. ${ }^{9}$ On the other hand, the part played by urban markets as stimulators of trade, agriculture, and industry still needs to be delineated in sharper detail. ${ }^{10}$ In this paper, therefore, we attempt to refine our understanding of late colonial Peru's agrarian sector from a regional perspective: the capital of the viceroyalty and its hinterland. Because of Lima's functional importance as intermediary between the outside and domestic economies, we are concerned to develop two tightly interwoven avenues of historical evidence: first, the impact external factors had in transforming the size and structure of urban demand, second, the response of the rural economy to the urban market through the analysis of price trends for selected agricultural commodities.

Let us begin with modifications in the city's traditional commercial structure. Prior to the changes in Crown policy that took place during the second half of the eighteenth century, Lima had been the beneficiary of the mercantilistic economic ideas followed by Spain since the early colonial period. As the southern terminus of the fleet system that connected the peninsular and colonial economies, the city held a relatively tight monopoly of European trade and export of bullion. Lima's most important merchants, organized in a Consulado since 1613, controlled the viceroyalty's internal markets by purchasing most of the European
merchandize imported into Peru and through dominance of marketing and pricing mechanisms. The transition from a strictly regimented to a progressively looser transatlantic trade structure, begun in the 1740's as a consequence of the Spanish - British war of 1739-1748 when single ships were allowed to ply the alternative route around Cape Horn and anchor at Callao irrespective of time and condition of the Peruvian market, inaugurated a period of progressive erosion of the ability of Limeño importers to control an increasing flow of goods into Peru. In institutional terms, this process was carried to completion by 1778 with the elimination of the Cádiz-Lima trade monopoly and the further simplification of transatlantic shipping through the abolition and reduction of a number of regulatory constraints. ${ }^{11}$

Events resulting from Spain's almost continuous involvement in European conflicts also contributed to destroy what little was left of Lima's old monopolistic structure. In the aftermath of the SpanishBritish war of 1779-1783, for example, peninsular merchants shipped the large inventories they had accumulated during the years when communications between Spain and the American colonies were interrupted. As a consequence of the excess of supply over demand, prices of imports began to fall drastically, commercial capital in Lima became tied to merchandize that was rapidly depreciating, and a rush of business failures ensued. By 1795, much of the Peruvian debt owed to metropolitan interests still remained unpaid. ${ }^{12}$

These episodes of European warfare continued to undermine Spain's ability to trade with its colonies and made it impossible for the large Limeño merchant to exert an effective degree of control over the supply of foreign goods entering the Peruvian market. New hostilities between Spain and England (1796-1802) forced the Spanish Crown to open colonial tade to neutrals (1797). ${ }^{13}$ Seven years earlier, the Nootka Sound dispute between the two powers was solved when the Bourbons grudgingly conceded England permission to navigate, trade, and fish in the Spanish Pacific, an agreement that resulted in an increase of smuggling episodes along the coast of southern Peru. ${ }^{14}$ Vessels from other countries also began to penetrate the South Pacific market. In 1800, for example, a ship from Hamburg was allowed to sell its cargo in Lima. ${ }^{15}$ Between 1788 and 1809, some 257 United States sails plied the coasts of Chile and Peru. ${ }^{16}$

It was Britain, however, that presented the greatest threat to Limeño commercial interests. By 1806, a brisk trade under a licensing system was underway from Britain to the Pacific coast of South America and
the Río de la Plata. ${ }^{17}$ The rhythm of exports to Spanish America increased substantially when Britain began to suffer the effects of Napoleon's continental blockade. By 1808, in the aftermath of the fall of the Spanish Crown to the French, Britain and Spain became allies in the war against the common enemy; this alliance further encouraged British penetration in the Spanish American market. In 1807-1808, for instance, eleven ships sailed from England to Chile and Peru, their hauls laden with merchandize valued at 933,000 pounds Sterling. ${ }^{18}$ In response to a viceregal inquiry, the Lima Consulado estimated that in the two - year period 1809-1810 nine million pesos worth of manufactures had been smuggled into Peru while for the period 1800-1810 contraband trade entering the viceroyalty by the Panama - Paita route had exceeded twenty million pesos. On the other hand, legal imports through Montevideo, Panama, and Spain, for the same eleven-year period, were estimated at 29.5 million pesos. ${ }^{19}$ Whatever their merits, these figures indicate the declining importance of legal trade and the comparative advantage of extralegal economic avenues.

The steep erosion of the Lima-Cádiz commercial route severely affected the large Limeño wholesaler who over the course of the early colonial period had been the principal beneficiary of Lima's monopoly of trade. The undermining of his control over commercial events had as its main consequence the appearance of competing interests, some powerful, some modest, within the city's mercantile community. A foreboding of developments that would show their full impact in the closing decades of the eighteenth century occurred during the period of registered ships when, as a result of the expansion of trade, the Limeño importer, fear ful about the very real possibility that he would be unable to dispose of his stock in a glutted market, elected to restrict the amount of goods he purchased. This forced the Spanish merchant just docked at Callao to set up shop and sell his cargo directly to the public. As a result, Limeño businessmen had thereafter to share their domestic market with a new and substantial group of peninsular merchants. ${ }^{20}$

The liberalization of trade after 1778 and the recurrent dislocations of inter-oceanic communications through the turn of eighteenth century continued the process. The two wealthiest men in late colonial Lima were the merchants Pedro Abadía and José Arizmendi. Abadía had a personal fortune of four million pesos; Arizmendi was worth over two million pesos. ${ }^{21}$ These men were closely connected to the Royal Philippine Company, a stock corporation which since 1796 imported goods into Peru directly from Manila. ${ }^{22}$ Abadía and Arizmendi possessed the abi-
lity and entrepreneurial flexibility to engage in unconventional commercial ventures involving other sectors of the Peruvian economy and foreign markets that had been beyond the reach of the city's traditional mercantile groups. Abadía, for example, managed to consign cargoes of cascarilla bark for sale in Russia; through his connections with Asia, he was able to introduce into Peru better strains of sugarcane which he imported from India. ${ }^{23}$ In 1819, when Lima was being strangled by the insurgents' sea blockade, it was the firm of Arizmendi and Abadía that struck a deal with the Viceroy whereby they donated 200,000 pesos to the exchequer, 50,000 as an outright grant and the remainder against custom duties. In return, the viceroy granted the two merchants the right to use one or two ships of any flag to import merchandize from China. ${ }^{24}$ The two businessmen also invested directly in Peru's mining sector, forming a company in 1812 to finance the construction in London of steam engines to be installed at Cerro de Pasco. ${ }^{25}$

Small merchants were also able to take advantage of the new economic opportunities. During the 1786 market glut, for instance, the Lima Consulado noted that while large commercial houses had withdrawn from business or gone into bankruptcy commerce was being conducted by "hands of very limited means." ${ }^{26}$ Five years later, the "Mercurio Peruano" reported that since the liberalization of trade one third more retail shops (tiendas de varear géneros) had opened their doors to Limeño consumers. ${ }^{27}$ Again, in 1810, at a time when the viceroyalty was flooded with English manufactures, Lima's main square was teeming with stalls in which foreign merchandize was sold. ${ }^{28}$ Tadeo Haenke, the Czech naturalist who visited Lima in the late 1790 's, noted that, in addition to the wholesalers (almaceneros) and commission merchants (encomenderos), the viceregal capital featured independent small merchants who purchased merchandize in small quantities, hauled it to the interior for sale, and returned to Lima to start the process anew. These modest entrepreneurs apparently also traded in silver piñas, purchasing small quantities at a discount, on a cash basis, at the pit head, and selling them to the Lima mint. Since this trade did not involve offering advances to the miner, it was free from risk and usually gave the small merchants good financial returns. ${ }^{29}$

By the late colonial period, therefore, the old Limeño monopolist, so deeply committed to the Cádiz commercial lifeline, saw his position weakened by the emergence in the city of new and more dynamic economic groups. This redistribution of commercial wealth, although ungaugeable, appears to be the most significant social consequence to
evolve out of the Bourbon reform period. Writing in the "Mercurio Peruano" in 1790, José Rossi y Rubi, the Vice - President of the Sociedad de Amantes del País, indicted the old monopolists who longed for times long past and exaggerated the city's poverty because of the absence of "those gigantic capitals" existing at the beginning, and even in the middle of the eighteenth century. Observing that earnings were less substantial because they were distributed among a larger number of individuals, Rossi y Rubi pointed to the increased prosperity of the artisan, the small - scale merchant, the laborer, and the trader. ${ }^{30}$ This assessment was shared by many prominent creoles. ${ }^{31}$ In his visit to Lima twelve years later, Alexander von Humboldt also noticed that commercial wealth was evenly distributed particularly, as he was to find out later, when compared to Mexico's. ${ }^{32}$

Rossi y Rubi's favorable prognosis of the changes brought about by the implementation of the Bourbon reforms appears to be essentially correct but requires further amplification. The available evidence suggests, for instance, that the city experienced a period of urban growth in the last third of the eighteenth century followed by stagnation or perhaps decline of the building industry in the early nineteenth century. ${ }^{33}$ On the other hand, examination of parish registers of baptisms and burials for the years following 1790 indicates that Lima - with a total population of roughly 53,000 in 1790 - experienced a mild demographic increase, fueled mainly by immigration, which peaked during the first decade of the nineteenth century. The outbreak of revolutionary activity within and without the viceroyalty in the late 1800's caused a substantial number of refugees to seek sanctuary in the viceregal capital. As a result, by 1811 Lima had swelled to an estimated 80,000 inhabitants. The population declined immediately thereafter, but sharp demographic fluctuations associated with the movement of civilians and armies in and out of the city continued to characterize the reminder of the period. ${ }^{34}$

Connected to the changes in the structure of commercial life were the expansion and transformation of urban patterns of consumption, as seen in the more cosmopolitan air urban life had taken since the 1770's, with new cafés, inns, barber shops, and commercial establishments opened to the public. ${ }^{35}$ Several factors account for the general well - being of the city's middle groups. The economy of Lima rested upon two basic pillars: commerce and government. If the new economic climate that evolved as a consequence of imperial policy brought about a redistribution of commercial wealth, it also contributed to mitigate, in a city
accustomed to operate within a wider viceregal space, the economic shock of market losses and territorial dislocation. An increase in the elasticity of Peruvian demand after the loss of twenty - three provinces to the new Viceroyalty of the Río de la Plata was reported by a senior customs official in 1794. ${ }^{36}$ While this increase in internal consumption was undoubtedly related to the decline in the cost of imports, it was also the expansion of silver mining, to which we have alluded, that contributed to stimulate local demand for industrial and consumer goods. This demand continued to be met by Lima's mercantile community. ${ }^{37}$ The overall increase in the size of government promoted by a Crown interested in a more efficient colonial administrative apparatus also contributed to modify the structure of urban demand. ${ }^{38}$ Not only were many mid - and low - echelon posts made available to Limeños in the civil bureaucracy but also in a substantially expanded military establishment. ${ }^{39}$ Finally, the 1790's were years of relative prosperity for the capital's artisans, brought about by the increase in the number of consumers and an apparently plentiful supply of currency. ${ }^{40}$

Let us turn now to the last part of our topic, namely, the response of the agrarian hinterland to the urban market. The viceregal capital was an impressive urban conglomeration that performed, as Peru's neural center, a variety of complex economic, administrative, and social activities associated with the various groups which made up its active population. In the late eighteenth century, urban consumption surpassed eight million pesos per annum and 60 percent of this amount was spent in domestically - produced foodstuffs. ${ }^{41}$ In functional terms, therefore, as coastal Peru's principal market, Lima depended upon trade linkages that extended well beyond its adjacent hinterland. The pull of urban demand radiated to a significant number of regional markets along the Peruvian coast and into the sierra. In the late 1780's, for example, the provinces sent Lima domestic manufactures and agricultural products amounting to about 1.8 million pesos per year, a figure representing close to 40 per cent of the total value of viceregal output. ${ }^{42}$ Hispanoamerican imports supplied the remaining needs. In exchange, Lima provided the interior with European goods, mainly textiles, but also paper, iron tools and nails, metals, some furniture items, and pharmaceutical products. It also supplied the provinces with American commodities such as indigo, cacao, tobacco, and wax, and with African slaves imported through Buenos Aires via Chile. ${ }^{43}$

How did the agrarian sector respond to urban demand? We may approach this problem through the examination of the behavior of
wholesale prices for selected commodities reaching the Lima market. ${ }^{44}$ Starting with the movement of prices for some comestibles, between 1799 an 1819 the average porcentage growth rate for potatoes (calculated on the basis of the linear trend in the logarithms of the index numbers) was 0.51 percent per annum. Prices for pumpkins exhibit stronger gains. Between 1798 and 1818, the index for this staple rose at a rate of 2.75 percent per year. Quinoa followed closely, at an annual rate of 2.68 percent (1798-1814). Rice, on the other hand, did not exhibit a noticeable trend, the annual average rate being 0.12 percent $(1795-1818) .{ }^{45}$

Although lacunae in the data prevent calculation of rate, it is clear that, with few exceptions, the direction of prices for garden crops and grains also follows a growth pattern. ${ }^{46}$ Black beans, lima beans, and chickpeas show price increases over this period. As for grains, three quotations for maize for the period before Independence suggest that the cost of the cereal was also rising. In 1798, white maize flour sold for twenty - two reales each fanega. The following years the price rose to twenty - four reales. In 1807, it had climbed 82 percent over the 1798 figure, to forty reales per fanega. In the decade following the early 1820's (at which time consumers paid seventy reales for one fanega of maize flour) the price of this staple never dropped below the twentyeight reales mark. These scattered data suggest that the long - term trend for maize prices was also one of growth.

As for animal products, the abundance of hens kept the bird's unitary value fixed at about six reales (1790-1819). The overall trend for unsalted pork grease (unto sin sal) between 1799 and 1819, was one of mild growth ( 0.6 percent per annum). Prices for this commodity, however, were generally depressed. For eleven years out of twenty for which we have information, index numbers $(1799=100)$ were below 100 . With the exception of 1812 , when the index reached 121 , relatively strong prices in the early 1800 's gave way to a declining trend whose bottom was reached in 1816, when the index hit a low of 58 points. This trend was reversed in the following years when insurgent activity helped push prices upward. ${ }^{47}$ As for mutton, the data are not completely reliable because our source, Santa María hospital, purchased the commodity under an annual supply contract. Nevertheless, the series shows a steady rise. From 1792 to 1798 the hospital paid 13.5 reales per carcass. The price rose to fifteen reales in 1801 and remained at that level until 1806, when the institution began paying sixteen reales. Disruption of internal trade during 1811-1812 caused supplies from the sierra to Lima almost
to cease; as a result, the hospital could only obtain pieces of mutton at retail prices. In 1813, it paid fifty - six reales for half a carcass. By 1815, however, the reestablishment of communications brought prices back to sixteen reales, at which level they remained to the end of the decade.

While it is clearly impossible to identify with much precision the reasons behind the changes in the price of a commodity in particular, the more so since we lack detailed knowledge of regional conditions, the essential feature of the price of staples we have just analyzed is one of moderate vigor. An unweighted arithmetic average of relatives of prices for hens, potatoes, pumpkins, rice, and unsalted pork grease for the period 1799-1819 shows an average percentage growth rate of 0.66 percent per year. In addition, as has been noted previously, tithe figures for the Lima archbishopric, although undeflated, also suggest an increase in agricultural production. The principal operative factor that accounts for the long - term rise in the cost of foodstuffs must be found in that substantial and dynamic market that was late colonial Lima. The modest but sustained rise in prices and the relatively low value of the index numbers at critical conjunctures, suggest that the price rise was not directly related to agrarian crises of ancien régime type. As we have seen, the urban market acted as a potent engine whose strength exceeded the geographic demarcations of the Lima valley. But the effects of urban demand can be appreciated most clearly at the local level, for contrary to what has been supposed, Lima's rural landscape in the eighteenth century was one where small and medium-size estates, rather than latifundia, predominated. Of 190 production units in the city's hinterland (that is, the eight districts surrounding the urban core plus the Carabayllo and Pachacamac valleys, twenty and thirty kilometers from the city, respectively) for which data on size are available, at least 47 percent did not exceed 145 hectares each and at least 16 percent had an area of 73 hectares or less. Each district contained only one or two large haciendas. It was in districts like Surco and Carabayllo that good access to water and closeness to the urban market happily combined in a sector of relatively prosperous and heavily cultivated small - scale landholdings. ${ }^{48}$

It is within the more restricted area of cash - crop agriculture that an agrarian crisis may be identified with certainty. The movement of prices for sugar and aguardiente, the principal cash crops, behaves in a markedly different pattern than that for foodstuffs. Between 1790 and 1819 , the index of sugar prices declines at an average rate of 0.62 per-
cent per year. After mild gains in the 1790's that peaked in 1800 when the index reached $106(1792 / 95=100)$, sugar prices fell to an index of 88 in 1803. Prices recovered somewhat after the latter year, but it was not until the 1820's that sugar prices returned to (and surpassed) the level they had reached twenty years earlier. With minor variations, the series of aguardiente prices follows the same pattern as that for sugar, with the notable difference that index numbers for aguardiente are consistently lower than those for sugar. ${ }^{49}$ If we combine sugar and aguar diente into a single index of cash crops, the resulting average percentage growth rate for the period 1799-1819 is negative: -0.96 percent per annum.

The differential behavior in the price movement of foodstuffs and cash crops must be understood in terms of the relative weight of internal and external factors affecting the viceroyalty. Sugar and aguardiente were not only consumed in Lima but were also exported to Hispanoamerican markets. These commercial products were therefore highly sensitive to market forces vaster than the city's. There is substantial evidence to indicate that the Peruvian internal market for sugar became saturated early in the eighteenth century; moreover, by the late colonial period the size of the viceroyalty's Hispanoamerican market also began to suffer a series of contractions, particularly by competition from Brazilian producers in the Río de la Plata market. The outbreak of revolution in 1810 practically sealed the Chilean market to Peruvian sugar (while motivating Peruvian landowners to step up domestic production of wheat). In general terms, sugar producers responded to declining demand by increasing rather than reducing output. This effort to offset the weakening trend of sugar prices had the obvious effect of further depressing prices and aggravating the crisis. The same type of problems befell the wine and arguardiente industry which was greatly affected by the establishment of royal monopolies for aguardiente in Guayaquil and Panama (1777) and the imposition of a surtax in addition to the normal alcabala. Moreover, traditional markets in the Altiplano were beginning to produce their own spirits while the old Potosí market had shifted its wine purchases to Mendoza. Under these circumstances, it is obvious that the urban economy could not provide a sufficiently ample umbrella to protect sugar and spirit producers from the structural vulnerabilities inherent in an integrated colonial market. ${ }^{50}$

While our price evidence reveals that the agrarian sector reacted positively to the urban demand for comestibles, it would be clearly dangerous to propose generalizations at the viceregal level. As has been
noted, spatial fragmentation and regional diversity are factors of importance in the colonial economy. And direct linkages between urban markets and supplying regions not always produced beneficial effects, either in local or regional contexts. These ties could produce a profound disarticulation of traditional commercial circuits. The decline of sugar production in the region of Trujillo in the second half of the eighteenth century was, in large part, a direct consequence of the relative geographic advantage enjoyed by producers closer to the viceregal capital, the principal consumer market. ${ }^{51}$ Notwithstanding these disturbing elements, the importance of urban markets as growth poles for economic development cannot be minimized. But only detailed study of economic phenomena in a variety of regional contexts will establish whether the validity of the old notion of agrarian crisis in eighteenth - century Peru must be rejected or thought out afresh.

## NOTES

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37. For example, see statistics on imports sold to Cajamarca in 1788, in J.I. Lequanda, "Descripción geográfica del partido de Caxamarca en la intendencia de Truxillo," MP, 338 (1794), 211; see also data on merchandize registered at Cerro de Pasco (1786-1815), in J.R. Fisher, "Miners, Silver Merchants and Capitalists in Late Colonial Peru," IAA, N.F., 2 (1976), 266-268.
38. G. Céspedes del Castillo, "Reorganización de la hacienda virreinal peruana en el siglo XVIII," Anuario de Historia del Derecho Español, 23 (1953), 329-369. For a Chilean example see, J.A. Barbier, "Reform and Politics in Bourbon Chile, 1755-1796," Cahiers d'Histoire, 10 (Ottawa, 1980), pp. 121-122.
39. Hesperióphylo, "Reflexiones," p. 96.
40. Ibid., pp.95-96; Haenke, Descripción, p. 73.
41. M.P. Pérez Cantó, "Abastecimiento de la ciudad de Lima en el siglo XVIII," in F. Miró Quesada L.,et al., Historia, problema y promesa: Homenaje a Jorge Basadre, 2 vols. (Lima, 1976), I, 468.
42. BM, Eg. MS. 771, fols. 212v, 221.
43. Haenke, Descripción, p. 49.
44. The analysis of price movements that follows is based on documentation contained in the account books of a number of Limeño hospitals: Hospital Real de Santa María y Colegio de la Caridad, Hospital Real de Santa Ana, Hospital de San Bartolomé, and the Hospital Real de San Andrés.The basic series is that of Santa María hospital (1790-1826). The information collected from the other institutions was used mainly as controls, although, when appropriate, a number of quotations was utilized to fill in unavoidable gaps. Most of these account registers are located in the Archivo de la Sociedad de Beneficencia Pública de Lima (hereafter cited as SBPL). A few, however, have been lost to private collectors. In 1975 the Pontificia Universidad Católica was able to purchase part of the Maldonado collection of medical documents and, as a result, some of the lost ledgers are now housed in the Archivo Histórico Riva-Agüero. A detailed description of the Maldonado purchase is in A.E. Arrieta Alvarez and C. Gutiérrez Muñoz, "Indice analítico de la colección Maldonado," Cuadernos del Seminario de Historia, 11 (1973-75), 22-90. The 1807/08 account book of Santa Ana hospital is in BNP, MS. D10709. As
a check on the long-term direction of some prices, I have collected informations for the post - Independence period. This was extracted from account books belonging to a number of monasteries closed by the republican government in the late 1820's. These 13 legajos are located in the AGN(P), Archivo del Ministerio de Justicia, Cuentas de Conventos Supresos, 1827-35.

Due to paucity of data, I have constructed index numbers on the basis of two different base years: 1792/95 and 1798/99 (also because of lacunae, in some cases the base was calculated with fewer than the stated number of years). While the earlier base period appears to be normal, that is, no major internal or external events seem to have affected the Lima market, the late 1790 's were years of rising prices. While of course there is no difference in the proportional change from value to value, the reader should be aware that the choice of a base year for which prices were relatively high will give the impression that growth was gentler than it really was. This impression will be confirmed by the moderate rates of growth I have calculated. Therefore, the argument that we will develop, to the effect that the price of foodstuffs increased over time, is on the side of caution. One last caveat: the statistics on mint production published by J. Fisher in Government and Society, pp. $254-55$; and M.E. Rivero y Ustáriz in Colección de memorias científicas, agrícolas e industriales, 2 vols. (Brussels, 1857), I, 227, show that the period under discussion was one of protracted deflationary pressure on the price structure of the Lima market.
45. The linear trend formulation is:

| for potatoes: | $\log y=$ | $-1.7998+0.0022$ | $x(1790) ;$ |
| :--- | :--- | ---: | :--- | :--- |
| for pumpkins: | $\log y=$ | $-19.2028+0.0118$ | $x(1790) ;$ |
| for quinoa: | $\log y=$ | $-18.7031+0.0115$ | $x(1790) ;$ |
| for rice: | $\log y=$ | $1.1900+0.0005$ | $x(1790)$. |

46. Data are from the Libros de Cuentas of Santa María hospital. It is difficult to obtain a clear idea of trend with regard to the price of wheat or, rather, bread. This is because of price regulation by the Cabildo because hospitals usually had annual contractual arrangements for delivery of bread, and because price fluctuations affected consumers in terms of variation in the weight (rather than the price) of each piece of bread. As an illustration, however, we may note that Santa María hospital paid its supplier seven reales per every ten hands (manos) - some four to five kilograms - of bread between 1790 and 1810. The price rose 14 percent (to eight reales) in 1811. Data in SBPL. Because of space limitations, most price series do not appear in this paper. For a complete appendix see M. Haitin, "Prices, the Lima Market, and the Agricultural Crisis of the Late Eighteenth Century in Peru," JLA (forthcoming).
47. The linear trend formulation for unsalted pork grease is:

$$
\log y=12.8619+(-0.0060) \times(1790)
$$

48. Haitin, "Prices."
49. The trend formulation is:
for sugar: $\quad \log y=6.9237+(-0.0027) \quad x \quad(1790)$;
for aguardiente: $\log \mathrm{y}=4.2437+(-0.0013) \mathrm{x}(1790)$.
50. Haitin, "Prices." On the integration of the sugar market see, G. Rico de Angulo, Proyecto relativo al comercio, suerte y servidumbre de los esclavos, inclinado a su transición oportuna a libres (Cádiz, 1813), p. 19.
51. S. Ramírez Horton, The Sugar Estates of the Lambayeque Valley, 16701800: A Contribution to Peruvian Agricultural History (Madison, 1974), pp.28-33; T. de Croix, "Memoria de gobierno," in Fuentes, ed., Memorias, V, 134-136.

PRICE SERIES:

All prices in reales; figures in italics denote years for which only one price quotation was available; no data found for missing years.

TABLE I: Aguardiente (botija), (1792/95 = 100) and
Unsalted Pork Grease (arroba), (1798/99 = 100)

| Year | Aguardi Average Price | iente (botija) Index $(1792 / 95=100)$ | Unsalted <br> Average Price | Grease (arroba) <br> Index <br> $(1798 / 99=100)$ |
| :---: | :---: | :---: | :---: | :---: |
| 1794 | 160.00 | 100.00 | - | - |
| 1795 | - | - | - | - |
| 1796 | - | - | - | - |
| 1797 | - | - | - | - |
| 1798 | - | - | - | - |
| 1799 | 172.00 | 107.50 | 75.00 | 100.00 |
| 1800 | 168.00 | 105.00 | - | - |
| 1801 | 144.00 | 90.00 | 56.00 | 74.67 |
| 1802 | 143.34 | 89.59 | 56.00 | 74.64 |
| 1803 | 116.62 | 72.89 | 79.19 | 105.59 |
| 1804 | 161.87 | 101.17 | 87.50 | 116.67 |
| 1805 | 183.35 | 114.59 | 79.00 | 105.33 |
| 1806 | 178.98 | 111.86 | 68.00 | 90.67 |
| 1807 | 139.44 | 87.15 | 75.48 | 100.64 |
| 1808 | 142.97 | 89.36 | 73.10 | 97.47 |
| 1809 | 135.12 | 84.45 | 64.70 | 86.27 |
| 1810 | 135.31 | 84.57 | 62.50 | 83.33 |
| 1811 | 144.15 | 90.09 | 66.25 | 88.33 |
| 1812 | 128.12 | 80.08 | 90.50 | 120.67 |
| 1813 | 142.00 | 88.75 | 61.75 | 82.33 |
| 1814 | 138.92 | 86.82 | 58.25 | 77.67 |
| 1815 | 140.67 | 87.92 | 59.11 | 78.81 |
| 1816 | 150.34 | 93.96 | 43.75 | 58.33 |
| 1817 | 142.00 | 88.75 | 95.75 | 127.67 |
| 1818 | 134.00 | 83.75 | 90.67 | 120.89 |
| 1819 | 202.67 | 126.67 | 102.88 | 137.17 |
| 1820 | 194.00 | 121.25 | - | - |
| 1821 | 209.00 | 130.62 | - | - |
| 1822 | 209.00 | 130.62 | - | - |

TABLE II: Potatoes (carga), (1798/99 = 100), Pumpkins (serón), $(1792 / 95=100)$ and Quinoa (costal), $(1798 / 99=100)$

|  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |
|  | Pumpkins (serón) | Quinoa (Costal) |  |
|  | Average Index | Average Index |  |
|  | Price $\quad(1798 / 99=100)$ | Price $\quad(1792 / 95=100)$ | Price $\quad(1798 / 99=100)$ |


|  |  |  |  |  |  |  |
| :--- | ---: | ---: | :---: | :---: | :---: | :---: |
| 1794 | - | - | 16.00 | 100.00 | - | - |
| 1795 | - | - | - | - | - | - |
| 1796 | - | - | - | - | - | - |
| 1797 | - | - | - | - | - | - |
| 1798 | - | - | 10.12 | 63.25 | 50.50 | 100.00 |
| 1799 | 24.21 | 100.00 | 17.50 | 109.38 | - | - |
| 1800 | 29.74 | 122.84 | 18.88 | 118.00 | - | - |
| 1801 | 35.26 | 145.64 | 21.75 | 135.94 | 56.00 | 110.89 |
| 1802 | 28.31 | 116.94 | 23.00 | 143.75 | 47.97 | 94.99 |
| 1803 | 28.93 | 119.50 | - | - | 50.17 | 99.35 |
| 1804 | 37.58 | 155.23 | 21.38 | 133.62 | 57.08 | 113.03 |
| 1805 | 33.81 | 139.65 | 19.00 | 118.75 | 71.00 | 140.59 |
| 1806 | 32.04 | 132.34 | 20.00 | 125.00 | 88.00 | 174.26 |
| 1807 | 30.74 | 126.97 | 20.00 | 125.00 | 78.00 | 154.46 |
| 1808 | 39.75 | 164.19 | 20.00 | 125.00 | 92.25 | 182.67 |
| 1809 | 41.00 | 169.35 | 23.75 | 148.44 | 96.50 | 191.09 |
| 1810 | 31.75 | 131.14 | 27.00 | 168.75 | 88.00 | 174.26 |
| 1811 | 34.12 | 140.93 | 29.00 | 181.25 | 89.44 | 177.11 |
| 1812 | 31.52 | 130.19 | 35.34 | 220.88 | 76.00 | 150.50 |
| 1813 | 30.43 | 125.69 | 32.00 | 200.00 | 55.75 | 110.40 |
| 1814 | 33.68 | 139.12 | 29.33 | 183.31 | 52.50 | 103.96 |
| 1815 | 30.34 | 125.32 | 26.25 | 164.06 | 58.66 | 115.96 |
| 1816 | 30.82 | 127.30 | 20.21 | 126.31 | 83.33 | 165.01 |
| 1817 | 36.74 | 151.76 | 23.56 | 147.25 | 83.33 | 165.01 |
| 1818 | 35.69 | 147.42 | 20.67 | 129.19 | 86.67 | 171.62 |
| 1819 | 28.16 | 116.32 | 25.33 | 158.31 | - | - |
| 1820 | 36.87 | 152.29 | 28.25 | 176.56 | - | - |
| 1821 | 58.50 | 241.64 | 34.62 | 216.38 | 168.00 | 154.46 |
| 1822 | 38.64 | 159.60 | 27.72 | 173.25 | - | - |
| 1823 | 33.15 | 136.93 | 21.38 | 133.62 | - | - |
| 1824 | 60.77 | 251.01 | - | - | - | - |
| 1825 | - | - | - | - | 78.00 | 154.46 |
| 1826 | - | - | 13.75 | 85.94 | - | - |
| 1827 | - | - | - | - | - | - |
| 1828 | - | - | - | - | - | - |
| 1829 | - | - | - | - | - | - |
| 1830 | 30.83 | 127.34 | - | - | - | - |
| 1831 | 22.20 | 91.70 | - | - | - | - |
| 1832 | 26.06 | 107.64 | - | - | 58.67 | 116.18 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

TABLE III: Rice (botija), (1792/95 $=100$ ) and Sugar (arroba), (1792/95 = 100)

| Year | Rice (botija) <br> Average Index <br> Price $\quad(1792 / 95=100)$ |  | Sugar (a <br> Average <br> Price | (arroba) Index $(1792 / 95=100)$ |
| :---: | :---: | :---: | :---: | :---: |
| 1790 | - | - | 21.28 | 96.90 |
| 1791 | - | - | 22.99 | 104.69 |
| 1792 | - | - | 22.9 | 104.6 |
| 1793 | - | - | - | - |
| 1794 | - | - | 23.25 | 105.87 |
| 1795 | 18.06 | 100.00 | 20.67 | 94.13 |
| 1796 | - | - | - | - |
| 1797 | - | - | - | - |
| 1798 | 21.00 | 116.28 | - | - |
| 1799 | 19.67 | 108.91 | 28.84 | 131.33 |
| 1800 | 17.97 | 99.50 | 31.13 | 141.74 |
| 1801 | 27.52 | 152.38 | 28.00 | 127.50 |
| 1802 | 25.21 | 139.59 | 22.16 | 100.91 |
| 1803 | 25.31 | 140.14 | 19.30 | 87.89 |
| 1804 | 22.30 | 123.48 | 23.56 | 107.29 |
| 1805 | 21.33 | 118.11 | 26.61 | 121.17 |
| 1806 | 22.13 | 122.54 | 27.38 | 124.68 |
| 1807 | 20.94 | 115.95 | 24.76 | 112.75 |
| 1808 | 19.28 | 106.76 | 24.34 | 110.84 |
| 1809 | 18.93 | 104.82 | 24.29 | 110.61 |
| 1810 | 20.74 | 114.84 | 23.32 | 106.19 |
| 1811 | 25.70 | 142.30 | 22.97 | 104.60 |
| 1812 | 20.71 | 114.67 | 23.86 | 108.95 |
| 1813 | 20.12 | 111.41 | 22.18 | 101.00 |
| 1814 | 18.68 | 103.43 | 17.15 | 78.10 |
| 1815 | 15.36 | 85.05 | 25.65 | 116.80 |
| 1816 | 24.66 | 136.54 | 22.94 | 104.46 |
| 1817 | 25.70 | 142.30 | - | - |
| 1818 | 22.96 | 127.13 | 17.62 | 80.24 |
| 1819 | 27.39 | 151.66 | 17.41 | 79.28 |
| 1820 | 25.86 | 143.19 | 31.96 | 145.54 |
| 1821 | 40.62 | 224.92 | 45.27 | 206.15 |
| 1822 | 23.82 | 131.89 | 47.39 | 215.80 |
| 1823 | 30.83 | 170.71 | 34.72 | 158.11 |
| 1824 | 26.80 | 148.39 | 42.78 | 194.81 |
| 1825 | 22.32 | 123.59 | 37.50 | 170.77 |
| 1826 | 17.67 | 97.84 | - | - |
| 1827 | 19.00 | 105.20 | 28.50 | 129.78 |
| 1828 | 14.50 | 80.29 | 22.38 | 101.91 |
| 1829 | - | - |  | , |
| 1830 | 17.74 | 98.23 | - | - |
| 1831 | 17.40 | 96.35 | 17.50 | 78.69 |
| 1832 | 12.54 | 69.44 | 18.06 | 82.24 |
| 1833 | 13.28 | 73.53 | - | - |
| 1834 | - |  | - | _ |
| 1835 | - | - | - | - |
| 1836 | - | - | - | - |
| 1837 | - | - | - | - |
| 1838 | - | - | - | - |
| 1839 | - | - | - | - |
| 1840 | 12.00 | 66.45 | 15.71 | 71.54 |
| 1841 | - | - | 17.99 | 81.92 |

