

# The Latin American Coffee Commodity Chain

Steven Topik  
Department of History  
University of California, Irvine

Mario Samper K.  
Universidad Nacional, Universidad de Costa Rica

Coffee commodity chains serve as a bi-directional link between producers and consumers worldwide, and they also interconnect local processes and those taking place in overseas markets. Historically, there has been an extraordinary diversity in the ways cultivation, harvesting, transport, processing, and export of coffee have been organized. Consumption patterns and especially consumer preferences have changed over time in ways which need to be taken into account but which affect coffee producers through the tropical world in quite different ways.

Coffee commodity chains, like other agroindustrial ones, are dynamic historical constructs which change over time, in terms of both the technical and the social organization of interlinkages among cultivation, harvesting, local transportation, processing, overseas transportation, and distribution abroad. Technological innovations in any phase may substantially alter the dynamics of other links, both 'upstream' and 'downstream'.

Coffee farmers' responses to changing external conditions have been far from uniform, and cannot be explained merely as passive reflections of world market trends and fluctuations. This paper will use the evolution of two quite different producers, Brazil and Costa Rica, as a starting point for comparative discussion of interactions between local agroecological, economic, social, and political conditions, on the one hand, and changes in the international market for this product, on the other.

Studies on coffee have tended to discuss production, trade and consumption as relatively separate issues, pertaining to successive stages in the itinerary by which the seed is obtained, then bought and sold, and ultimately used to make a stimulating beverage. This

is reflected in the structure of various general works with chapters on each of these aspects, but not on their interrelations. The same applies to numerous monographs on coffee-producing regions which take the world market into account mainly as regards volume or value of exports from those specific regions, with a cursory look at trends of international supply and demand, as well as certain price fluctuations. We often pay little attention to how, and to what extent, changing external conditions are “internalized” by local economies, where endogenous processes and past history play a decisive role. We also tend to take for granted the means by which coffee beans ultimately reach consumers, and how their changing habits and preferences affect the decisions of those who cultivate, process, transport, finance, regulate and export this tropical product. Conceptually, the unity of production and consumption may be almost self-evident, but historically we need to comprehend how it occurs, as well as what the various cases have in common and why they differ in certain important respects.

Coffee has been one of the world's most valuable internationally traded commodities for several centuries. One of the few commodities that was already important under Early Modern luxury long distance trade, it continues today as a key trade good. But one should not reify the "coffee market." Rather than a continuous, homogeneous institution, the international market has been marked by radical disjunctures and essential transformations, and production systems have varied and changed markedly. Although it has been true for the whole period that coffee was grown in the poorer southern countries for consumption in richer northern ones, the relationship between them changed. Over time coffee consumption became increasingly segmented,

balancing between a luxury and a necessity. The length and complexity of the chain has grown as the nationality and ethnicity of producers has varied. As the nature of processing and the end product became more complex, the role of multinational processors and traders expanded greatly as did their share of surplus despite state capitalist efforts by governments in coffee growing countries.

This paper will compare the coffee commodity chain originating in the largest and one of the first continental Latin American growers, Brazil, and one of the first and most innovative Spanish American producers, Costa Rica. We will see that although both produced arabica coffee early on for sale in Europe and North America, their production systems, technologies, and trade partners differed and each varied within the country.

The nature of the international coffee market has changed dramatically over the centuries. So has control of that market which moved away from the producer to the exporter in the eighteenth century, then in the nineteenth century to the importer, and in our century the roaster, government and inter-governmental institutions, and finally today a few vertically integrated multinational firms. When one speaks of "the market" or "market forces" one must remember the evolving nature of that market, regional variations, and the role of human agency in creating it.

The very many histories of coffee that have been written all treat coffee as an essential unity, an unproblematic commodity. Indeed, the most common story of coffee's development has it originating in Ethiopia, where it was passed to Yemen. A Yemeni seedling supposedly was spirited out by Dutchmen who began cultivating in Java. A Yemeni by-way-of-Java seedling then went to Amsterdam, from there to Paris and from there to Martinique. The Martinique tree is argued to be the mother of all Latin American

coffee. Purveyors of this neat story are unwitting assistants of international traders and mass roasters who had a vested interest in positing a monolithic sort of coffee.

Its diffusion was much messier than the official story lets on. India, the islands of Reunion (formerly Bourbon) and Mauritius, as well as Dutch Guiana (today Surinam) played important roles in coffee's early spread. New African species (robusta and liberica) were introduced at the end of the nineteenth century. Moreover, botany prevented the international homogenization that traders would have preferred. The coffee tree is very sensitive to soil and climatic conditions so even the same species can vary greatly in taste or appearance in neighboring areas and, as with grapes, yearly vintages from the same trees differ considerably. The process of grading and standardizing was both an intellectual one of people, mostly traders, creating categories-- and a botanical one of farmers trying to harness nature's varieties.

Prices in consuming countries varied greatly over time. Partly this was for botanical reasons: *Coffea arabica* plants are prone to great variations in yield. Not only do year to year differences in rainfall, land fertility and sunshine translate into variable yields as with all plants, but exceptionally large crops are followed by one or several below average ones while the trees "rest." They undergo two year and seven year cycles. So there were great fluctuations in production levels.

For coffee's first three and a half centuries as a commodity, production levels and technology were relatively unaffected by world demand and the price of coffee in consuming countries varied according to local merchants' ability to monopolize and the willingness of the elite and urban middle class to pay.

The Dutch were the first European colonial power to enjoy much success

in planting coffee in their colonies when they brought it to Java in the 1690s. The market became yet more complicated when thirty years later it spread to the Americas which have been the main producers of this exotic for the last 250 years. The Dutch and French states participated in this hemispheric transfer by nurturing *Coffea* seedlings in their home botanical gardens. But the expenses of *Coffea*'s transfer and cultivation in the New World were borne by private individuals. Climate and soil differences translated into marked taste differences.

The Dutch were able to overtake Mocha and Mediterranean ports to transform Amsterdam into the world's leading coffee entrepot for over a century. By 1730 Amsterdam was trading in coffee from three continents: Asian Java, Middle Eastern Yemen, and American Dutch Guyana, St. Domingue and Martinique. Although Europe was still a small luxury market, its demands outstripped Mocha's possibilities. Whereas 90 percent of Amsterdam's imports in 1721 were from Mocha, by 1726 Java supplied 90 percent of them. By 1750 Amsterdam's imports of American production almost matched its purchases of Javanese coffee. Initially the American good was mostly colonial production from Dutch Guyana. But soon the price of French production from St. Domingue ( today Haiti) made that island more attractive. Already before the French Revolution over 80 percent of the world's production originated in the Americas. This demonstrates that shipping rates were sufficiently low well before the transportation revolution to remove distance as a major barrier to market integration.<sup>1</sup>

Complexity was compounded in the late nineteenth and early twentieth centuries

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<sup>1</sup> John Crawford, *History of the Indian Archipelago* (Edinburgh: Archibald Constable & Co., 1820) vol. 3, p. 374; Steensgaard in James D. Tracy, ed., *The Rise of Merchant Empires*. (Cambridge: Cambridge University Press, 1990), pp. 129-130. Calculated from

when other African coffee species, the robusta and the liberica, were discovered by European imperialists eager to export something from their newly-won colonies. However, it should be emphasized that except for the Dutch, who played a key role in coercing the Javanese to grow coffee in their colony and rather unsuccessful British, French, and Portuguese efforts in Africa, European states did not play a major role in the development of coffee production. They relied instead on comparative advantage in the world coffee market. Unlike the case of sugar, for coffee the first age of colonialism of the sixteenth through eighteenth centuries did not see the development of colonies to supply the individual metropolises. On the contrary, the French at first attempted to prohibit production in their colony of St Domingue (Haiti) because of the Levant Company's interest in its Middle Eastern monopoly. True, French colonies supplied two-thirds of the world's coffee in the years immediately before the French Revolution. But once Haiti gained its independence the French did not turn to other of their colonies.

The Dutch preferred to serve as traders and shippers in the Americas, never developing or expanding their small colonies. The British, who saw the mercantilist possibilities in exploiting the Chinese and then the India tea trade, were the only western European power to reduce per capita coffee consumption rather than exploiting the coffee-growing potential of Jamaica, Ceylon, or India. The Spanish and Portuguese preferred cacao so that Iberian America had to wait for independence to become a significant coffee producer.<sup>2</sup>

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Ocampo, Colombia, p.303.

<sup>2</sup> José Antonio Ocampo, *Colombia y la economía mundial, 1830-1910* (Bogotá: Siglo Veintiuno, 1984), p. 303. In 1909 the *Spice Mill* reported on p. 174 that Spanish and Portuguese per capita coffee consumption at .7 and .5 kilos was a fifth to a tenth of that of northern European countries and the U.S..

Even later, once the United States gained the coffee producing colonies of Puerto Rico, Hawaii, the Philippines and effectively Cuba--at a time when the US was the world's greatest coffee consumer--it continued to import from Brazil in an open market.<sup>3</sup> After the decline of Java towards the end of the nineteenth century, production was dominated by independent nations in a relatively unhindered international market. States in consuming countries rarely interfered except to tax imports.

Coffee was treated differently than sugar and rubber in the nineteenth century Age of Empire because its low technological demands meant that an independent country richly endowed with the factors of production, Brazil, could begin producing on an unprecedented scale. Cheap fertile land and abundant slave labor allowed coffee prices to plummet after 1820 and remain low until the last quarter of the century creating supply-induced demand. Brazilian production not only satisfied world demand, it stimulated and transformed it. Coffee went from a noble and then bourgeois beverage to a mass proletarian drink. The slaves of Brazil slaked the thirst of the industrial workers of the industrial countries (except England). Brazil's exports jumped 75 fold between independence in 1822 and 1899 leading world consumption to multiply more than 15 fold in the nineteenth century!<sup>4</sup>

No African or Asian colonies could compete with Brazil in price nor meet the large new demand in Europe and the United States. The newly independent countries of

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<sup>3</sup> The Spice Mill may 1909, p. 299 in an article discussing the limited amount of US investment in Mexican coffee fincas (when US capital was flooding into other Mexican areas) explained "Concerning the increase in the production of coffee, Brazil continues and will continue to have no competitors in the world."

<sup>4</sup> Brazil, IBGE, Séries Estatísticas Retrospectivas vol. 1 (Rio: IBGE, 1986), p. 85.

Spanish America were embroiled in civil wars that deterred coffee cultivation. By 1850 Brazil was producing over half the world's coffee. That figure swelled in the second half of the century since about 80 percent of the expansion of world coffee production in the nineteenth century occurred in Brazil alone!<sup>5</sup> By 1906 *it produced almost five times as much as the rest of the world combined*. And this was no marginal market. At the dawn of the twentieth century the value of internationally traded coffee trailed only grains and sugar.<sup>6</sup> Thus Brazilian production helped to redefine the nature of the consumer market by dropping prices sufficiently to create a mass market.

The reasons for Brazil's ability to so rapidly expand are complicated. The conventional view is that economies of scale on slave-worked latifundia allowed Brazil to create millions of coffee-addicts abroad. This is only partially true. The first problem is assuming that all of Brazilian production was on huge plantations. Although certainly some of the fazendas that developed in Sao Paulo after the 1880s were among the largest export agricultural units in the world, other regions of Brazil had medium to small units. In neither Rio de Janeiro state, Minas Gerais, Espirito Santo, nor later in Parana was the large estate the rule.

We also hesitate to attribute too much of Brazil's coffee dominance to technological improvements. There were no revolutions in agricultural production

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<sup>5</sup> Calculated from Robert Greenhill, "E. Johnston: 150 anos em café" in Marcellino Martins E. Johnston, *150 Anos de café* (Rio: Marcellino Martins & E. Johnston, 1992), p. 308; Ocampo, Colombia, p. 303, Brazil, I.G.B.E. Séries Estatísticas retrospectivas vol. 1 (Rio: IBGE, 1986), p. 84.

<sup>6</sup> Mulhall, *The Dictionary of Statistics* 4th ed. (London: G. Routledge and Sons, 189), p. 130.

techniques.<sup>7</sup> Cultivating, harvesting, and processing continued to be done manually by the same sort of slave labor Brazilian planters had used for sugar. Slave labor was not a Brazilian or even American innovation though. Slaves had already been used for coffee cultivation on the African island of Reunion and on a much larger scale in Saint Domingue. But the fazendas of Brazil were much larger and industrial-scale picking which lowered both the cost and the quality of coffee was developed. The explosion of coffee cultivation in the first half of the nineteenth century came from superexploitation of labor and land, not production machinery.

Milling was advanced by steam power only late in the century. The rate of export expansion after the advent of the railroad and the steamship in South America, between 1860 and 1900, was barely greater than it had been between 1830 and 1860.<sup>8</sup> And coffee production grew rapidly despite depending upon an increasingly aging and expensive slave labor force until abolition in 1888. Initially, at least, the expansion was due to vast, easily accessible virgin forests (meaning a sparse indigenous population that could be pushed out); proper climate; an export-oriented commercial infrastructure; a large slave force; and relative political peace. Brazil had the most peaceful transition to independence on the American continent and unlike Spanish America was able not only to maintain its colonial unit, but expand it after independence.<sup>9</sup>

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<sup>7</sup> V.D. Wickizer noted in *Coffee, Tea and Cocoa* (Stanford: Food Research Institute, 1951), p. 36 that "It is sometimes said that no important changes have been made in the coffee production methods in the last 150 years."

<sup>8</sup> Ocampo, Colombia, p. 302.

<sup>9</sup> For a discussion of the relationship between Brazil's export economy and precocious state building see: Steven Topik, "The Hollow State: The Effect of the World Market on State Building in Brazil with Reference to Mexico" in *Studies in the Formation of the Nation State in Latin America* (London: ILAS, University of London, forthcoming.)

The railroad, if not key in instigating the export boom, was important in permitting it to continue to expand. Before the iron horse, transport prices had been very expensive. By one calculation, 20 percent of the male slave force was used in mule trains and transport cost one-third of the final price. Moreover, the primitive form of conveyance often damaged the beans.<sup>10</sup> The train reduced tariffs, but not dramatically. Because of relatively little competition, bulk discounts and distance rebates were not offered. In fact, coffee rode for a considerably higher price than domestic staples. By the turn of the twentieth century, rail transport still contributed from 15 to 22 percent of production costs. But quality of coffee was better, and more importantly, cheaper, more fertile lands were now accessible in the interior.<sup>11</sup> In other words, the railroad allowed Brazilians to take advantage of their country's natural endowments (sometimes known as "forest rent") and thereby escape the geographic trap that had prevented Yemen, Java, Martinique, Dutch Guyana, and Haiti from qualitatively transforming the world market and from taking advantage of economies to scale. By 1890 Brazil had the largest rail network in Latin America (it would later be surpassed only by Argentina) and larger than all Africa or all Asia minus India. So coffee brought slavery for manual labor and state of the art transport and processing technology. The "modern" and the "archaic" were not contradictions, they reinforced each other in a hybrid.

Brazil's natural vastness and man-made accessibility also meant that once slavery

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<sup>10</sup> Stanley Stein, Vassouras (reprint NY: Atheneum, 1970), pp. 91,94.

<sup>11</sup> On rail costs: Franz Dafert, *Über die gegenwärtige Lage des Kaffeebaus in Brasilien*. Amsterdam: J.H. de Bussy, 1898. p. 49; Centro Industrial do Brasil, *O Brasil: suas riquezas naturais, suas indústrias*, vol. 2 (Rio: Imp. M. Orosco & Cia., 1908), p. 91. For rising land costs near Rio see Stein, Vassouras, p. 229 ; William Summerhill, *Order Against Progress: Government, Foreign Investment, and Railroads in Brazil, 1854-1913* (Stanford: Stanford University Press, 2001) chapter 4.

was abolished in 1888, Brazil could become the only country to attract millions of European immigrants to work in semi-tropical agriculture. It turned out that slave owners were wrong when they protested that “café e o Negro.” Brazil was easily and relatively peacefully able to make the transition from slavery to semi-wage labor.<sup>12</sup>

In addition to the contribution of the iron horse, the shipping revolution meant that swelling Brazilian coffee exports could be brought to market without shipping bottlenecks.<sup>13</sup> This was extremely important because although Brazil was so distant from its markets they were linked by the Atlantic. A host of European steamers began regular service to Brazil where port facilities were slowly improved. Until the end of the nineteenth century, the US market was furnished mostly by European sailships and then steamers. International travel was faster and cheaper than overland travel within Brazil so Brazil’s great distance from its overseas markets, being maritime, proved to be more an advantage than a handicap.

Railroads and ships allowed producers to receive a greater share of the final price while consumers enjoyed lower end costs. Because imports from abroad became cheaper, Brazil could enjoy steadily improving terms of trade; that is, the real price of coffee (at

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<sup>12</sup> W. Arthur Lewis in *Trade and Fluctuations*, p. 181 points out that Brazil (1.43 million) trailed only the United States (23.4 million) and Argentina (2.5 million) in receiving European immigrants between 1871 and 1915.

<sup>13</sup> For a discussion of commercial conditions in Brazil at the end of the nineteenth century see: Steven C. Topik, *Trade and Gunboats, the United States and Brazil in the Age of Empire* (Stanford: Stanford Univ. Press, 1997). Also, Robert Greenhill, "Shipping" in DCM Platt, *Business Imperialism* (Oxford: Clarendon Press, 1977); Paul Bairoch, "Geographical Structure and Trade Balance of European Foreign Trade from 1800 to 1970," *Journal of European Economic History* 3:3 (Winter 1974):606; Douglass North, "Ocean Freight Rates and Economic Development, 1750-1913" *Journal of Economic History* 18 (Dec. 1958): 537-555.

least in the ports where imports were mostly consumed) increased more rapidly than did its nominal price which was fairly steady until the late 1880s.<sup>14</sup> So we have the unusual situation of supply growing quickly enough to satisfy and even stimulate continually growing demand abroad without a jump in price. (While helpful for expanding the world coffee market, this meant that Brazil was essentially exporting some of its natural surplus by keeping prices remarkably low. Some of that surplus returned in the form of foreign investment.) The fact that Spanish American producers such as Costa Rica, Venezuela, and Colombia began coffee production instead of indigo, tobacco, sugar and cacao demonstrates that the world coffee price was sufficiently high to make it attractive for growers even while low enough to seduce ever more consumers. The secret was not only the low price of vast, fertile and well-watered land, but also the self-provisioning of slave and then free coffee workers. They were paid mostly in usufruct rights rather than money so that workers could reproduce and even expand despite very low monetary wages.

Strikingly, Brazil's coffee boom was slow to lower transaction costs. Brazilian coffee planters ("fazendeiros") as well as slavocrat growers in Haiti, Jamaica, and Puerto Rico were market-oriented though the slaves who worked for them had little incentive to concern themselves about the demands of the market. But even fazendeiros were buffered from the market in the interior by poor roads and communications until the twentieth century and a complicated web of intermediaries in which small growers sold

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<sup>14</sup> Nathaniel H. Leff, *Underdevelopment and Development in Brazil* vol. 1 (London: George Allen & Unwin, 1982), pp. 80-85; C. Knick Harley, "Late Nineteenth Century Transportation, Trade and Settlement" in Harley ed. *The Integration of the World Economy, 1850-1914* vol. 1 (Cheltenham U.K.: Edward Elgar Publishing, 1996), p. 236. Edmar Bacha, "Política brasileira de café" in Martins & Johnston *150 Anos de Café*,

to larger growers or mill owners who sold through factors ("commissarios") who often sold to sackers who blended the coffee and then sold to exporters who initially were consignment merchants.<sup>15</sup>

There were few coffee markets in the interior and no coffee exchange in Brazil until the 1920s so information on prices and on supply were very imperfect and favored the factors. Indeed, planters were often virtually enfeebled.<sup>16</sup> Moreover, being quite undermonetized, the world's largest coffee economy dealt in credits and notes which relied to a great degree on personal reputation and favors, not just on impersonal market forces.<sup>17</sup> This meant that Brazilians and Portuguese immigrants predominated in the interior as property owners because local political influence was important to guarantee property and labor and extended family connections were important in obtaining loans. Only in the 1890s did the Portuguese immigrants begin intruding on the interior and other foreign banks and traders moved up country after the turn of the century.

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p.20.

<sup>15</sup> For detailed studies of the Brazilian coffee market see: C.F. Van Delden Laerne, *Brazil and Java: Report on Coffee-Culture in America, Asia, and Africa* to H.E. the Minister of Colonies (London: W.H. Allen, 1885); Joseph Sweigart, *Financing and Marketing Brazilian Export Agriculture, The Coffee Factors of Rio de Janeiro, 1850-1888* (NY: ); Robert Greenhill, "E.Johnston:150 Anos em Café" in Marcellino Martins and E. Johnston *150 Anos de Café* (Rio: Marcellino Martins, 1993).

<sup>16</sup> Stein reports in Vassouras, p. 83 that "most planters were unwilling to use 'complicated processes of commercial accounting' and preferred to await reports occasionally forwarded by the more zealous commissários." This led to a situation noted by Van Delden Laerne, *Brazil and Java*, p. 212, of commissários "from being the agents of the agriculturalists, became their bankers."

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Trading in the interior required levels of commissarios also because Brazilian currency was usually inconvertible paper money which fluctuated greatly vis-a-vis the pound sterling, though internal prices remained steady. Hence the real price of the crop to someone importing in the port cities was often quite different from its value to someone in the interior who would use his receipts to buy mostly domestic goods. This again muffled the effects of price fluctuations in the interior. For example, between 1875 and 1886, when coffee prices fell by 40 percent, the 33 percent depreciation of the milreis mostly compensated. This dual market allowed Brazil to maintain its ample low-cost production.

Despite coffee's four to six year gestation period, planters were able to adjust to market conditions, but their responses were quite slow to reduce output or catch up with demand. Great price rises led to rapid expansion and geographic diversification rather than concentration. The Haitian Revolution, for example encouraged planting in other parts of the Caribbean and Brazil's Rio state. The next rapid jump in prices, in the late 1880s and early 1890s, caused a four fold jump in São Paulo's trees in fourteen years, giving it alone over half the world's production; Costa Rica, Colombia, Mexico and other Central American countries also stepped up production. High prices in the 1920s again pushed Costa Rica and Colombia to much greater output and started Africa. The price rise after the Korean War encouraged Africa and in Brazil the state of Paraná.

Reductions in production usually came from sources other than the market: political unrest such as the Haitian Revolution or Colombia's War of a Thousand Days; acts of nature like the leaf blight that after 1885 wiped out the production of Java and Ceylon; or government interventions as with the prohibitive tax in São Paulo in 1903 and

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later eradication programs. The standard deviation of coffee harvests was large (see Table 2). However, since world coffee demand has been in secular ascent for over three hundred years, this relative short-run inflexibility and unpredictability did not present a great problem.

Table 2

Fluctuations in Brazil's Coffee Crops, 1890s-1930s

(in millions of bags of 60 kilos)

Year	Avg. Crop	Upper Limit	Lower Limit
1890s	7.2	11.2	4.4
1900s	12.6	20.2	9.4
1910s	13.3	16.0	9.7
1920s	14.7	27.1	7.5
1930s	23.5	29.6	16.6

Source: United States Federal Trade Commission, Economic Report of the Investigation of Coffee Prices (Washington DC: Government Printing Office, 1954, p. 20).

While unpredictable and awkward with many market imperfections, Brazil's coffee

production system did allow the bean to become one of the world's most widely-traded commodities and a mass drink.

Because inexpensive and plentiful Brazilian production whet the appetite of ever more North American and European consumers, its remarkable increase in cultivation did not create a monopoly. Yes, in 1906 Brazil produced some 80 percent of the world's coffee. But the institutionalization of the market with scheduled large steamers, railroads, warehouses, standards, futures market, and—as we shall see—new convenience coffee products—opened North American and European ports to other Latin American producers. Rather than a zero-sum game, this was a win-win situation for coffee producers. In most years until 1929 all Latin American growers increased output. Large inexpensive Latin American production combined with plentiful sugar production allowed coffee to overshadow its competing caffeinated drinks such as cocoa, tea, mate and substitutes such as chicory and grains. Latin America turned much of the western world into coffee drinkers.

### ***Costa Rica***

Costa Rica was one of the first Spanish American countries to be a major coffee grower. It did not enjoy many of Brazil's apparent advantages. A poor, rather backward colony of the Spanish, barely monetarized with very few African slaves, little indigenous labor, relatively few immigrants, mountainous terrain somewhat remote from the coast, and comparatively little foreign capital Costa Rica was nonetheless able to take advantage of the growing demand for coffee Brazil was stimulating. Political stability; a railroad partly financed by coffee and completed with foreign investment; the parallel and interrelated

development of coffee production on self-provisioning family-labor farms and larger wage-labor estates, first in the previously settled areas and then on agricultural frontiers; relatively abundant land with ideal agroecological conditions; improved agroindustrial processing, and a gradually enhanced emphasis on finer quality coffee were the formula for Costa Rica's success.

In Costa Rica, as in Colombia and many other countries, cultivation of coffee was not monopolized by large estates, despite their importance in certain regions and the fact that land tenure was far from egalitarian. The key to control of the coffee business and its grid of social relations was closely associated with how processing was organized in this small Central American country: predominantly by the wet method, even if the dry method, which was so extensively and economically used in Brazil, was used in certain parts of Costa Rica as well. The central processing plants were located either on large farms or in towns and cities, with increasingly technical procedures and attention to quality. Yet such processing also had implications for the manner of harvesting (handpicking only ripe cherries rather than Brazil's more industrial and less discerning style), the development of transportation (first oxcarts, then railroads and trucking), and relations between coffee mill owners and their suppliers of fresh coffee fruit. These 'client' networks were not limited to the purchase of cherries, since private credit has played a major role in structuring the flow of funds and harvests, especially before nationalization of the banking system in 1949 but even afterwards, though to a lesser extent. Interactions between *campesinos* and *beneficiadores* in a given place also had other, non-economic connotations, as shown by their sociopolitical alliances or confrontations and through interpersonal relations

exemplified by *compadrazgo* (compaternity), where symbolic kinship expressed both social hierarchy and reciprocity.

Part of Costa Rica's coffee was still dry-processed in the early to mid-20<sup>th</sup> century, and even in the late 1970s this was the prevailing method in certain outlying, rather marginal coffee zones where water was scarce or transportation very difficult. However, "natural" coffee beans, from sun-dried cherries, were also produced in the core coffee-producing region, often from stolen fruit and from green or defective cherries.<sup>18</sup> The quality of these "natural coffees" was considered very inferior, and efforts were made for it to be sold only in the domestic market, then called the Bolsa del Café de Consumo Nacional.

Up to the mid-20<sup>th</sup> century, most processing centers were located on larger farms in the Central Valley and in a few remote coffee-producing regions. Farmers or merchants might take the cherries directly to a nearby *beneficio*, but as competition between the buyers became more intense, in the early decades of the 20<sup>th</sup> century, the agents of certain processing firms would go meet the oxcarts which brought coffee toward San José.

Coffee mills or *beneficios* were the key component of the Costa Rican coffee commodity chain. 'Upstream', they purchased fresh berries from a number of small- to medium-sized farmers, to whom they often lent money, usually requiring a commitment to deliver a specified amount of coffee to that *beneficio*, in addition to other guarantees. 'Downstream', several plants might supply a single exporter, whether he owned them or not.

The way processing is organized affects the structuring of production, local transportation, domestic exchanges and export of coffee in each region or country. To cite

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<sup>18</sup> Alvaro Jiménez, "Algunas ideas sobre comercialización de cafés naturales y el serio problema del merodeo" (San José: Oficina del Café, 1978).

only two examples which differ substantially from the situation in Costa Rica, most coffee ‘fincas’ in Guatemala have their own *beneficio*, and often export their coffee, while in western Colombia many small farmers, since the early twentieth century, have depulped and dried their own coffee, which they subsequently sell to local merchants acting as agents of major exporters, or -after 1927- via the Federación de Cafeteros de Colombia.

Since the mid-19<sup>th</sup> century, most Costa Rican coffee has been processed by the wet method in agroindustrial *beneficios*. This certainly helped ensure high quality, and also led to concentration of control over processing, credit networks for coffee production, and the export business. This is not to say that all Costa Rican coffee was thus processed, nor that all *beneficios* belonged to members of the coffee-exporter elite. At the turn of the century, newspaper reports stated that over half the coffee harvested in this country was poorly processed, and much of that was “dried without previously depulping, and is identical to that of Nicaragua and El Salvador, and suffers the same fate as the coffee from those countries, though not that of coffee from Brazil.”<sup>19</sup>

The number of *beneficios* grew during the second half of the 19<sup>th</sup> century, but in the course of the 20<sup>th</sup> century, those numbers have decreased as improved transportation made it possible to move cherries rapidly to central locations, where processing capacity increased accordingly. Supply networks for each coffee mill, which used to overlap locally within the Central Valley, expanded to cover much larger regions, and recently even bring coffee from several different parts of the country. Clearly, this altered the structural relations between farmers and processing firms, but also interactions among the latter. Competition for ‘clients’ was often keen, yet at the same time *beneficiadores* sought to

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<sup>19</sup> La República, January 29<sup>th</sup>, 1898, p. 3, cited by Naranjo, La modernización..., p. 41.

coordinate prices offered to farmers, or at least the advances given upon receipt of the fruit, so as to improve their collective bargaining position.

Since the late 19<sup>th</sup> century, Costa Rican farmers were becoming better informed on prices overseas through the local newspapers, which in turn received dispatches via submarine cable, instead of waiting for ships to arrive with news as before. During the turn-of-the-century crisis, coffee producers began to object more vocally to joint price-setting by the processing and export firms, “quienes se han coaligado para hacer la guerra, á los pobres agricultores... No hay duda que es un plan preconcebido...”.<sup>20</sup> Shortly thereafter, the farmers’ suspicions were confirmed as the press reported an agreement among the main processing firms in the central coffee-producing region to reduce prices in a concerted fashion. Small farmers in at least one major zone reacted by rapidly mobilizing and threatening to let their coffee dry on the tree, and a week later the price paid to them had risen considerably.<sup>21</sup>

At least one attempt was made to eliminate price differentials in favor of coffee farmers in certain specific locations, where quality and recognition abroad allowed exporters to obtain exceptionally high prices. When the processing mills attempted to set a uniform price for all coffees in 1903, farmers in that area mobilized and successfully defended their advantage, while also setting a precedent by questioning the *precio corriente* (the current price paid for coffee on the local market).<sup>22</sup>

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<sup>20</sup> “The owners of coffee mills have come together to make war on poor farmers... there is no doubt that it is a preconceived plan...” In: “El café y sus explotadores”, 1898, cited by Naranjo, *La modernización...*, p. 43.

<sup>21</sup> Naranjo, *La modernización...*, pp. 47-48.

<sup>22</sup> Naranjo, *La modernización...*, pp. 48-50.

In the 1920s, larger farmers and owners of processing plants, grouped in the Chamber of Agriculture, set the domestic purchase price of coffee for all *beneficios*, nationwide. Perhaps more than the price level itself, this joint decision irritated small and medium producers because it effectively stopped them from negotiating better prices for their coffee from one or another coffee mill. In addition to earning those very distinguished gentlemen the sobriquet of “el Trust de la Cámara de Agricultura”, that decision served as a catalyst for the establishment of an independent association of coffee farmers, which was to play a prominent role in the struggle against unilateral price-setting in the following years.<sup>23</sup>

Owners of *beneficios* were perceived by a number of small and medium-sized coffee growers or their spokesmen, in early 20<sup>th</sup>-century Costa Rica, as “el ‘trust’ de los beneficiadores”, or what an economist might call an oligopsonic group. The larger firms certainly did try to set prices among themselves and artificially create a “buyers’ market” situation. As the leader of the Asociación Nacional de Productores de Café stated in 1932, when disputes over the local price of coffee were acute and small farmers were rallying against the processing firms, some of which had also begun to take lands away from debtors unable to pay back their loans in the midst of that crisis:<sup>24</sup> However, elite solidarity was sometimes broken by a newcomer or a renegade *beneficiador* seeking to increase his participation in the processing and export business. One might even reinterpret the laws which subsequently regulated relations between coffee farmers and processing firms, and

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<sup>23</sup> The mobilization and slogans of this movement has been discussed by V. H. Acuña, “La ideología de los pequeños y medianos productores cafetaleros costarricenses (1900-1961)”, in *Revista de Historia*, Num. 16, July-December 1987, pp. 137-159. With respect to the 1921 agreement and subsequent protests, see Naranjo, *La modernización...*, pp. 233-235.

<sup>24</sup> “The owners of coffee mills have fulfilled their task as wolves.” Manuel Marín Quirós, “Discurso ante la Asamblea de Productores de Café, celebrada en el Teatro Júpiter de Guadalupe, en la tarde del domingo 27 de marzo de 1932”, in *Revista de Historia*, Num. 16, July-December 1987, pp. 133-136.

the very creation of the Instituto de Defensa del Café, as legal and institutional measures which not only de-fused confrontations between those two groups, but also institutionalized price-setting mechanisms and relations among the *beneficiadores* themselves, with governmental mediation to avoid extreme abusiveness which might, in turn, cause renewed protests by smaller coffee farmers.

In both Brazil and Costa Rica the state (provincial and national in Brazil and national in Costa Rica) came to play an ever larger role in the national and international markets. Because of Brazil's much larger position in the world market, the Brazilian state came to dominate and organize the world market. But Costa Rica was not defenseless. In the Brazilian case the coffee defense plans came to defend national state interests more than planter interests while in Costa Rica it came to protect growers, to a certain extent, at the expense of *beneficio* owners' unilateral control, while at the same time ensuring their collective interests and stable functioning of the export chain as a whole

### ***Mass consumption***

During its first centuries as a Muslim drink the market had been a narrow luxury one. Coffee had often been traded by pilgrimage caravans; transport, taxes and merchant costs were high. When Europeans spread production to their colonies in Java, Reunion, Saint Domingue, and Jamaica production and transport costs had fallen. But mercantilist-minded colonial governments had insisted on high taxes, maintaining coffee as a bourgeois beverage. Peasants and proletarians had tended to drink chicory and other substitutes for "Bohnenkaffee".

Now Brazilian slaves made the beverage available to urban workers and even

occasionally rural residents. Coffee's heroic nineteenth century occurred not only because of Brazilian production, but also because of United States consumption. The transportation revolution and lowered transaction costs accelerated the relationship between Brazil and the United States. Coffee became truly a mass product for the first time in the U.S. Brazil's ability to find transport (the railroad) and marketing economies of scale (production costs remained level with increased output because of few production economies of scale), combined with greatly reduced shipping costs, the world's most efficient internal transportation system and an elaborate marketing network in the U.S. to stimulate per capita consumption there to rise rapidly.

U.S. government policy also helped. The United States was the only major market to import coffee tax free as duties declined from a high 10 cents a pound in 1812 to 5 cents in 1814 and free for all but a decade after 1832. Consequently, per capita consumption grew from one-eighteenth of a pound in 1783 to nine pounds a hundred years later. US population's fifteen-fold explosion in that century meant that total net coffee imports grew 2,400 percent! By the end of the nineteenth century the US was consuming thirteen pounds per capita and importing over 40 percent of the world's coffee. (It would grow to over 60 percent after World War II.) Half of the growth in world consumption in the nineteenth century was due to increased United States purchases!<sup>25</sup>(Almost all the rest was in Western Europe). Coffee producers were very fortunate to find such favor in the country whose GNP was growing the fastest in the world.<sup>26</sup> U.S. consumption would continue to grow, with some fits and starts, until the

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<sup>25</sup> Calculated from Greenhill, "E. Johnston", pp. 330-331. A. Wakeman, "Reminiscences of Lower Wall St." Spice Mill, March 1911: 193.

<sup>26</sup> Bairoch, "Geographical Structure", pp. 17-18.

1960s. Thus the world coffee market, which had long been a near monopoly (Yemen, Java, then St. Domingue, and finally Brazil) also became a virtual monopsony.

Coffee's rapid expansion of the nineteenth century was due to peculiar demand conditions as well as Brazil's ability to meet that demand cheaply. Demand in the nineteenth century, in the US and Europe, was initially both income-elastic and price-elastic. Interestingly, this is not the case in the twentieth century, despite better quality, more accessible coffee and rapidly expanding discretionary incomes. The reason for the change is culture. In the early nineteenth century coffee was viewed as a luxury item, a sign of bourgeois distinction. As it became available to lower class urban inhabitants and eventually even to rural populations at a relatively low price, they chose it over ersatz coffees and teas they had previously drunk. So powerful was this appeal that the income-elasticity in developed countries between 1830 and 1900 has been estimated at 1.3. As it became an accepted part of the working class's breakfast, coffee became rather price and income inelastic. The United States Federal Trade Commission estimated income elasticity in 1954 at only .2 percent.<sup>27</sup>

Coffee was one of the few major internationally-traded commodities in the nineteenth century to enjoy a real price increase in the second half of the nineteenth century and still have per capita consumption increase.<sup>28</sup> Once its status declined in the early twentieth century, its income elasticity did also though it continued to be a necessity for many.<sup>29</sup>

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<sup>27</sup> FTC, *Investigation of Coffee Prices* (Washington DC: Government Printing Office, 1954), pp. 39-40.

<sup>28</sup> Ocampo, Colombia, p. 302-03; Bacha, "Politica brasileira de Cafe," p. 20.

### *Futures*

The freewheeling coffee market began to change in 1874 when a submarine cable tied South America to New York and London by telegraph. Information about prices and demand and supply became internationally homogeneous. Warehouses that held a substantial share of the world's visible stocks were built, strengthening the market position of importers. Exporters ceased being consignment agents, becoming instead agents of importers who controlled the trade and set the prices. Because of speculation, prices fluctuated wildly. The creation of first the Havre exchange and then the New York Coffee Exchange in 1882, which was instituted to prevent commercial corners from driving up prices as had happened in 1880, institutionalized access to information. (Hamburg, and London followed with major coffee exchanges.)

The telegraph created the possibility of an international commodity market and increased the market power of importers and processors in consuming countries. Prices and grades thereby became more generalized. As long as all purchases were on the spot, specific beans were judged. With the advent of futures, coffee became a more pure commodity in the sense that rights to coffee shipments were now bought and sold on the market floor without the buyer actually seeing the lot in question. Coffees became commodities possessing a bundle of specific, graded attributes. Indeed, with the advent of futures, buyers purchased coffee not yet blossoming on distant trees. Already in 1880 merchants were buying an idea rather than palpable beans. That year there were 61 million bags bought and sold on the Hamburg futures market when the entire world harvest was less than 7 million bags!

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<sup>29</sup> Albert A. Okunade, "Functional Former Habit Effects in the U.S. Demand for Coffee," *Applied Economics*, vol. 24(1992): 1203-1212.

### *Grading*

The United States was not a market interested in quality coffee. The long transport in carts, trains, and ships frequently caused damage of beans that were often not especially good quality to begin with because Brazil's slave system emphasized volume rather than quality

Two major problems continued to plague the trade after the establishment of exchanges in New York and Europe: difficulty in determining the quality and origins of shipments and information about the size of annual crops. The former threatened to drive away defrauded customers and the later made longer term price calculations difficult. The quality problem was rectified not by planters and traders, but by government. In 1907 the United States Pure Food and Drug Act decreed that imported coffee be marked according to its port of exit. Thus "Santos" became a specific type of coffee, as did "Java" or "Mocha." There were more than a hundred different types of coffee imported into the United States, the greatest variety in the world. Importers were now less able to adulterate and defraud buyers. No longer could Hills Brothers assert that their Santos coffee was "Mocha-Java." Of course exporters did not give up without a fight. Some enterprising exporters sent Brazilian Santos beans to both Yemen and Java so they could claim them as Mocha and Java, since those were their last ports of embarkation. That this was even attempted demonstrated both the low price of ocean freight, the differential between the various types, and a belief that the Federal Department of Agriculture would enforce the law--which it did.

Social practices in the United States very much affected the nature of demand and

the ability of roasters to respond to it and shape it. The fact that in the U.S. coffee was consumed in the home much more than in coffee houses as was the case in much of Europe, had important implications for the organization of the trade. Since coffee in the U.S. was overwhelmingly sold in grocery stores, a few roasting companies such as the Arbuckles and the Woolson Spice Company created brand names. But they could not overtake the thousands of grocers and small roasters who sold green beans or custom roasted until they found a way to prevent ground coffee from quickly losing its flavor, a way to win consumer confidence in the quality of packaged beans they could not see, and a stable price. The first problem was easily solved when vacuum sealing was invented in 1900, though it would require two decades for vacuum packing to gain wide acceptance.

But the second required taking command of the market away from importers who often adulterated coffee stocks. This was largely done through government interventions. In the United States, the Pure Food and Drug Act of 1907, based upon a British pure food law some thirty years earlier, set standards.<sup>30</sup>

To protect themselves, roasters created for the first time a national organization, the National Association of Roasters. Under attack from coffee substitute interests who decried coffee on religious grounds (Seventh Day Adventists and Mormons preached against it) health grounds (John Kellogg claimed it was bad for digestion), and moral grounds (caffeine was seen as an intoxicant), roasters joined government agents in enforcing them. Although their standards were apparently less demanding, the French, Germans, and Canadians followed suit with coffee purity laws and international

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<sup>30</sup> Oscar E. Anderson, *The Health of a Nation, Harvey W. Wiley and the Fight for Pure Food*; Lawrence M. Friedman, *A History of American Law* (NY: Simon and Schuster, 1973), 400-405.

conferences were commenced to establish international standards.<sup>31</sup>

By gaining the confidence of consumers and providing mass-produced roasted coffee due to advances in roasting technology, transport, and marketing, large industrial roasting firms began to control the market.<sup>32</sup> On the one hand, they began to integrate vertically, sometimes even buying plantations in producing countries, certainly sending their agents into the coffee interior to purchase directly from producers.<sup>33</sup> On the other, roasting, grinding and packaging technology improved in this century's first decades so that processes formerly done by the grocer or the housewife were done by the roaster. By 1935, 90 percent of all coffee sold in the U.S. was sold roasted in packages.<sup>34</sup>

As a result, value was increasingly added and an ever greater share of the value was added in consuming countries and by an ever smaller number of companies. Probably over three-quarters of the retail price of coffee in the grocery store was added in consuming countries. Since roaster profits came from using coffee as a raw material, rather than an object of speculation as it had been for many merchants, they favored stable, predictable prices.<sup>35</sup>

Although the European coffee trade was slower to turn to large mass roasters and retail sales of packaged coffee, brands such as the Pelican Rouge captured large markets in the early twentieth century.

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<sup>31</sup> Spice Mill, Nov. 1909: 702; Jan. 1911: 30; Oct. 1912:857. Tea and Coffee Trade Journal, Jan. 1911:34.

<sup>32</sup> In 1912 the Woolson Spice Company built the world's largest roasting factory in Toledo, Ohio with 500 employees and a capacity of one million pounds of coffee a week, Spice Mill, Jan. 1912: 28.

<sup>33</sup> Goetzinger, History of the House of Arbuckle, p.3; Zimmerman, Wille, p.123; Greenhill, "Brazilian Warrant."

<sup>34</sup> Wm. Ukers, All About Coffee (NY: Tea and Coffee Trade Journal, 1935), p. 388.

The gradual rise to dominance of industrial capital did not mean that the consumer market was very price sensitive and susceptible to new coffee product lines and advertising. The expansion of large roasting companies with their superior technology, greater efficiency, more reliable and cheaper product, and marketing sophistication did not expand coffee consumption as one might have expected. On the contrary, just as consolidation was beginning to occur, per capita consumption in the U.S. was stagnating. It would take forty years for US consumers to again reach the thirteen pound per capita level of 1902.<sup>36</sup>

Consumers were not very price conscious because they were long buffered from recognizing the price. If they drank in cafes, they were unaware of the type of coffee they were drinking. As the price of one sort rose, cafe owners often blended in cheaper substitute grades rather than raise their price. The same seems to have been true for grocers. Coffee was very profitable for them before the 1930s. But it occupied an unusual position. As William B. Harris of the U.S. Department of Agriculture lectured: "90 percent of the regular customers of the retail dealer are held to the store by their purchases of coffee and tea."<sup>37</sup>

Rather than risk losing their clientele, they competed on blends, not on price. They also sought to keep prices constant. Price rises were often not passed on to the consumer. Instead, cheaper blends were used or grocers reduced their profit margin.

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<sup>35</sup> Edward Green wrote to R. Johnston from Santos, 12 Oct. 1903 in the Johnston Archive, University of London, London: "There is no denying the fact that all of us in Santos formerly looked upon our stock of coffee as a speculative thing to lay with or a peg on which to hand larger speculations in Exchange."

<sup>36</sup> Michael Jimenez, "From Plantation to Cup" in *Coffee, Society, and Power in Latin America*, Wm. Roseberry, L. Gudmundson, and M. Samper eds. (Baltimore: Johns Hopkins University Press, 1995), pp. 42-43.

<sup>37</sup> *Tea and Coffee Trade Journal*, Nov. 1916:427.

Moreover, as coffee sipping became customary and even habit-forming, it was transformed into a necessity for many. As a result, coffee in the twentieth century became price and income inelastic. Thus we are presented with the irony that the international coffee market at the turn of the twentieth century, one of the world's largest commodity markets, was relatively price inelastic (within in a reasonably large range) at both the production and the consumption end, though profit-driven commercial and industrial intermediaries were extremely conscious of price. In other words, it was a quite imperfect market.

.The most complete study we have found on the influences of coffee prices, done by the U.S. Federal Trade Commission in 1954, concluded that the great price rise "cannot be explained in terms of the competitive laws of supply and demand."<sup>38</sup>

The FTC partly blamed "the inadequacy of present crop reporting systems in coffee growing countries." Planters and exporters never had a good idea of the extent of the harvest because of climatic variation; the size of stocks was kept secret; moreover, they often tried to manipulate the market with false information. Apparently, "the known existence of world surplus stocks, wherever held, seems to have a more pronounced effect on prices in a particular consuming country than the size of its domestic stocks."<sup>39</sup>

Even once producing governments controlled the crops and built warehouses in the interior, information was not forthcoming. Indeed, the Colombian government outlawed the release of information of interior stocks.<sup>40</sup>

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<sup>38</sup> FTE, *Investigation of Coffee Prices*, p. xv.

<sup>39</sup> Wickizer, *Coffee, Tea, Cocoa*, p. 87.

<sup>40</sup> FTE, *Investigation*, p. 311. *Tea and Coffee Trade Journal*, July, 1917: 31.

The FTC also complained that futures speculation drove up prices out of line with supply and demand. Although the futures market was in fact little used for actual purchases of coffee or even for commercial hedges by roasters, that is, it was dealing in pure speculation rather than real coffee, and the level of speculation was a tenth to a thirtieth of that on the cotton and grain markets, its prices did affect spot prices.

The third culprit, according to the FTC, was the concentration of the trade in a few hands. Ten exporting houses in Brazil sent out between two-thirds to 90 percent of the crops until the 1920s and continued to control over half after that.

Since Brazil was exporting between 40 and 80 percent of the world's coffee and these exporting houses operated in other producing areas as well, a few houses dominated world exports. In the United States, the top ten importers (some of whom were also exporters) imported over half the total. And increasingly, a small number of roasters dominated that trade. By the 1950s the five largest roasters in the United States roasted over one-third of all coffee and held 78 percent of all stocks.

The roasters increasingly purchased directly from producers or government agencies rather than on the spot market. Some of them, such as Nestles, tended to employ the concept of "fair price" rather than what the market would bear.

Others, such as Philip Morris or RJ Reynolds apparently wanted to use their market power to lower raw material prices as with any other commodity.

This small number of traders and roasters gave them not only oligopsonic power over prices, but over grades. Despite an apparently precise system in which all grades and sorts in New York and Europe were based on discounts or premiums on Rio number 7 and later Santos number 4 coffee, in fact as the Tea and Coffee Trade Journal reported in

July of 1917 (p.30):"The commercial classification of coffee is a matter of great complication. The factors which determine the market value of coffee are almost infinite in number." Standards varied widely and were quite artisanal<sup>41</sup>.

The companies with the largest market power could assert its standards.

### *The Valorization of Coffee*

Government intervention, which characterized the world coffee market more than any other commodity for most of this century, worked to further dampen the market's price mechanisms and brought some control back to the producing countries. Beginning in 1906 some of Brazil's states held stocks off the world market to "valorize" them. This led to a federal price support program, the Inter-American Coffee Agreement and finally in 1962 the International Coffee Agreement. Since the main objective of these cartels was to stabilize prices rather than corner the market, roasters in the consuming countries gladly joined. They were perfectly willing to accept somewhat higher prices in return for guaranteed production because two-thirds to ninety percent of value was added in the consuming countries. The coffee bean itself was a low-cost raw material. After initially strenuously opposing valorization, the governments of the consuming countries signed on. Their reasons were less economic than political, however. Coffee was a pawn in the Cold War. It was no coincidence that the United States came on board two years after the Cuban Revolution. And perhaps it was not a coincidence that the U.S. abandoned the agreement the year the Berlin Wall came down. Until 1989, when the accord broke down,

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<sup>41</sup> The Tea and Coffee Trade Journal reported in January of 1917:32 that the complications passed on to roasted coffee: "We do not believe that any two concerns use the same terms in describing their grinds and I do not believe that I have any two salesmen on the road who write up orders alike." The FTE, Investigation, p. xxii chided the industry's "rule of thumb practices."

countries were given annual quotas.

This form of state capitalism provided conditions for rapid consolidation and vertical integration in the consuming countries. As coffee processing became increasingly industrialized, economies to scale grew and an ever larger share of the value was added in consuming countries. Not only were roasting, transporting, weighing, and packaging mechanized and therefore centralized, but new products were created: decaffeinated coffee and, after World War II, instant coffee in which processing added increased value.

Marketing played an important role in the growth of bigness as did automation. Arbuckel's became by far the largest coffee roaster in the United States because it sold beans in one pound paper sacks and awarded gift premiums in exchange for returned labels. The rise of chain stores such as the Great Atlantic and Pacific Tea company, which made coffee their most profitable good, allowed wholesaling concentration though each chain still roasted its own green coffee blends. This changed in the 1950s when the super market was created. Selling a vastly larger number of goods, the supermarket depended upon small margins but large volume. For the first time, coffee companies competed on price rather than the quality of their blend. This was because the super market corresponded with two other phenomena at the same time. Giant food conglomerates such as General Foods, Coca Cola, Ralston Purina that bought up smaller successful coffee companies had less interest in coffee as a family artisanal tradition than earlier coffee roasters such as Chase and Sanborn, or Maxwell House had had. Moreover, the mechanization of coffee processing had permitted dumbing down of roasting techniques since constant heat allowed temperature and time measurements to replace the eye of the expert roaster in determining a proper roast. Second, the advent of the

automobile led to suburban living, interest in fast foods, home drinking rather than cafe drinking so that convenience became the watchword rather than quality. This facilitated the spread of a few very large, lower quality, canned, ground roasted companies. Consolidation proceeded to the extent that today four companies control 80 percent of the U.S. coffee market. Worldwide, four or five companies control half the world's instant and roast coffee markets.

Thus although coffee was the world's second most important internationally traded commodity in many years, and it was produced in over 100 countries while being consumed in virtually every country, it was surprisingly monopolized and monopsonized.

### *Conclusions*

Latin American producers changed the nature of the world coffee market. Their love of coffee was also not much affected by technology. Between the hundreds of thousands of coffee producers and the hundreds of millions of coffee consumers were a handful of exporters, importers, and roasters. Over time, the nature of the international market shifted notably. Control went from peasants to local merchants, to importers, to roasters, to multi-national corporations and, for most of the twentieth century, states. Although the market's dynamism came almost entirely from private initiatives, state intervention was necessary to institutionalize and standardize practices once the market's size outstripped merchants' ability to operate it. Both the ability of growers to meet growing demand without raising prices (by super-exploiting natural resources and labor rather than technological improvements), technical refinements by processors in consuming countries, and consumers' tastes and culture explain the rapid and huge expansion of the international coffee market. Although African and Asian coffee growers have substantially increased their production in the last three decades, Latin America

continues to be the world's leading producer and coffee remained the principal export of seven Latin American countries in the mid-1980s, and the second export of another two. Brazil is still the world's leading exporter making coffee the only major commodity that Latin American producers have dominated for two and a half centuries.