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THE GLOBAL COFFEE TRADE

I'd like to tell people in your place that the drink they are enjoying now is the cause of all our problems. We [grow] the crop with our sweat and sell it for nothing.

— Lawrence Seguya, Uganda, 2002¹

When you buy your daily cappuccino, the farmer who grew the coffee beans receives less than one percent of what you pay for it. About 6 percent of the price you pay for coffee in the supermarket goes to the farmer.²

The well-being of 25 million growers around the world hangs on the price of raw coffee. By 2003, prices on world markets had fallen to their lowest, in real terms, for 100 years.³ In the early 1980s the price averaged about US\$1.20 per pound; by 2003 it was US\$0.50.

In Nicaragua, for example, the coffee farmers have always been poor, but as a BBC correspondent described, “Since the collapse of world coffee prices they are destitute. Many have abandoned their farms on the outskirts of the city. In the Matagalpa mountains, farmers can not even recover the cost of growing their crops.” One lived with his family of five in a hut the size of a small garden shed, without electricity or running water. Even with all their money going for food, some days they had nothing to eat. The children were malnourished. The family had no money for a bus ticket to get to a doctor, let alone to pay for medical care.⁴

Mohammed Ali Indris, a 36-year-old Ethiopian coffee farmer described his situation to the humanitarian organization, Oxfam. He made \$360 in 1997 selling coffee and corn to support his household of 12, which included his deceased brother’s children. In 2002, his family was eating the corn he otherwise would have sold, and the year’s coffee sales would be just \$60.⁵

¹ “Mugged: Poverty in Your Coffee Cup,” Oxfam International, 2002. Available online at <http://www.maketradefair.com/assets/english/mugged.pdf> (September 9, 2003).

² Ibid. p. 20.

³ International Coffee Organization, “Coffee Crisis” Online at: <http://www.ico.org/crisis/main.htm> (September 22, 2003).

⁴ Nicola Carlsaw, “Child Victims of Coffee Trade Wars,” BBC News, February 10, 2003, <http://news.bbc.co.uk/2/hi/business/2745629.stm> (September 17, 2003).

⁵ “Mugged,” op. cit. p. 10.

Research Associate David Hoyt and Professor John McMillan prepared this case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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This crisis was just the latest in a global market with a long and troubled history, as Gregory Dicum and Nina Luttinger explained in *The Coffee Book*:

Coffee may be a drink for sharing, but as a commodity it invites protectionism, oppression, and destruction. Its steamy past implicates the otherwise noble bean in early colonialism, various revolutions, the emergence of the bourgeoisie, international development, technological hubris, crushing global debt, and more.⁶

The coffee trading system was, in the view of Dicum and Luttinger, “an intricate knot of economics, politics, and sheer power – a bizarre arena trod by giants; by some of the world’s largest transnational corporations, by enormous governments, and by vast trading cartels.”⁷

COFFEE SUPPLY AND DEMAND

Coffee Production

Coffee goes through many steps between the farm and the cup you drink. (See Appendix A.) Coffee trees produce a cherry-like fruit, of which the beans form the pit. Two species of coffee are used commercially: arabica, which was the original coffee, and robusta. Arabica is more difficult to grow, but produces superior coffee. Trees become commercially productive three to four years after planting. The cherries are picked by hand, then the beans removed. These “green” (unprocessed) beans are exported to roasting companies, which process them for consumption.

In the late 1990s and early 2000s, coffee was exported by 52 countries (Exhibit 1). Some countries depended on it for much of their export earnings. Coffee sales were 80 percent of Burundi’s exports, 37 percent Ethiopia’s, 36 percent Uganda’s, 22 percent of Rwanda’s and 12 percent of Nicaragua’s.⁸ Small farms grew most coffee worldwide, although in some countries much was grown by a few large landowners.

Coffee was exported as green beans. Roasting was mostly done in the importing countries. The exporting countries did not participate in value-added processing because they lacked the infrastructure needed for processing and the roasters already had efficient plants that processed large volumes; also, coffee was usually sold as a blend of beans from several countries.

The Price Fall

The disastrous (from the growers’ point of view) drop in coffee prices is shown in Figure 1. There were two views on the cause. To the nongovernmental organizations (NGOs), it reflected market manipulation by the giant processors like Kraft and Nestle. The processors argued it came from the working of a competitive marketplace, and you can’t defeat supply and demand.

⁶ Gregory Dicum and Nina Luttinger, *The Coffee Book* (New York: New Press, 1999) p. x.

⁷ *ibid.* p. xi.

⁸ *Economist Intelligence Unit*, at <http://www.viewswire.com> (September 25, 2003). The data are for 1999 (Burundi), 2000 (Ethiopia, Uganda), and 2002 (Rwanda, Nicaragua).

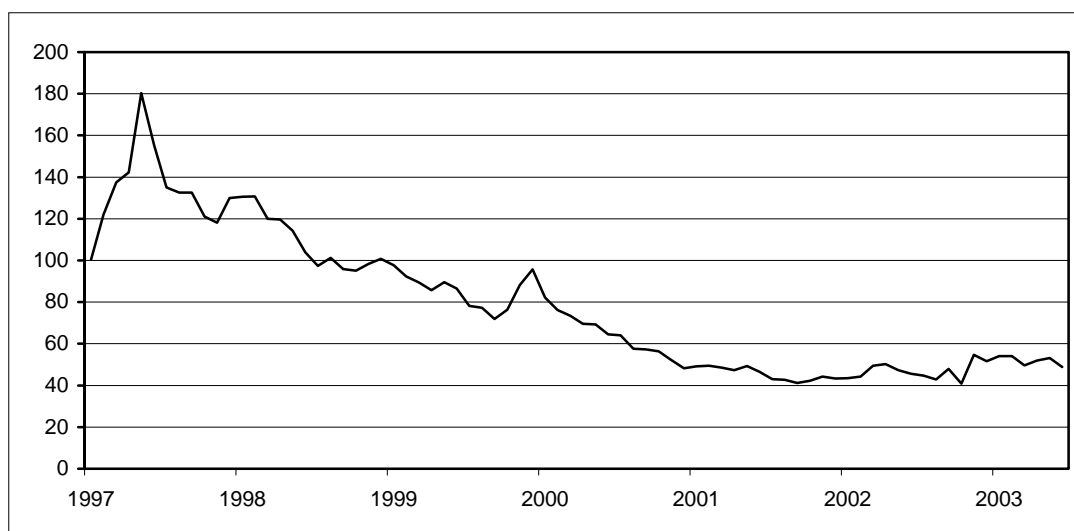


Figure 1. ICO monthly average indicator prices, in US cents per pound, January 1997 through June 2003.⁹

This fall in prices, it is generally agreed, was primarily the result of additional supply caused by the entry of Vietnam into the coffee business and production increases in Brazil. Vietnam, which exported just 44,000 bags (of 60 kilograms) in 1983 and 1 million bags in 1990, grew to become the world's second largest coffee producer, exporting 14 million bags in 2001. Brazil increased its production from 17 million bags in 1997 to 28 million in 2002.¹⁰ By 2001-2002, total coffee production was 113 million bags, while world consumption was just 106 million. In addition, the world coffee stock had an excess of 40 million bags.¹¹ (See Exhibit 2 for prices, production, and exports, 1984 to 2002.)

Vietnam's entry into the global coffee market resulted from a policy decision to start producing coffee. At that time, Vietnam was transitioning away from communist central planning, and trying to grow its way out of poverty. Brazil's output expansion resulted from changes in its production methods: improvements in mechanical harvesting, increased irrigation, and a revamping of the supply chain.¹²

According to the logic of supply and demand, an increase in supply tends to drive the price down. How much the price falls depends on how responsive demand is to price. The demand for raw coffee is based on consumers' demand for processed coffee. The price elasticity of demand for processed coffee (that is, the ratio of the proportional change in quantity purchased to the proportional change in price) in the United States is 0.1 according to two different studies, 0.2 according to another, and 0.5 according to another.¹³ The varying estimates reflect different

⁹ International Coffee Organization, <http://www.ico.org/frameset/priset.htm> (September 9, 2003).

¹⁰ International Coffee Organization, <http://www.ico.org/frameset/traset.htm> (September 9, 2003).

¹¹ "Coffee Crisis" loc. cit.

¹² TechnoServe, "Business Solutions to the Coffee Crisis," December 4, 2003, http://www.technoserve.org/TNSCoffeeReport_Master.pdf

¹³ These estimates come respectively from E. Pagoulatos and R. Sorensen, "What Determines the Elasticity of Industry Demand?" *International Journal of Industrial Organization* 4, 1986, 237-250; E. W. Goddard and T. Akiyama, "United States Demand for Coffee Imports," *Agricultural Economics* 3, 1989, 147-159; M. J. Roberts, "Testing Oligopolistic Behavior,"

data sources and judgment calls on estimation methods, but all indicate quite inelastic demand. For India the demand elasticity has been estimated to be 0.3, for Germany 0.2, for Italy 0.2, and for the Netherlands 0.2.¹⁴ To illustrate, with a demand elasticity of 0.2, a 10 percent decrease in price will result in an increase of just 2 percent in the quantity sold.

The elasticity is low because of the absence of close substitutes for coffee. Other drinks like tea or soft drinks could perhaps be substitutes, meaning that some consumers would switch from tea to coffee after a fall in the price of coffee, but the data indicate this effect is small. Substitution is measured by the cross-price elasticity: the ratio of the proportional change in tea demand to the proportional change in coffee price. This elasticity has been estimated to be zero or small.¹⁵

If, on going to the supermarket, you discovered that the price of coffee had fallen 25 percent, you might buy more than you had intended but probably not much more. The low elasticity helps explain the magnitude of the price fall. Since sales are relatively insensitive to price, an increase in supply requires a large drop in price before all the product will be sold.

Growers' Alternatives

At the green-coffee prices prevailing in 2003, many producers were unable to cover their costs. Exhibit 3 shows estimated average production costs for Arabica beans. The typical Brazilian producer, using advanced production techniques, was earning a healthy profit. Indian and Tanzanian farmers were more than covering their costs. But for farmers in countries like Ethiopia, Kenya, Guatemala, and Colombia, the cost of production exceeded the price received.¹⁶

Entry and exit are part of the equilibrating mechanism of most markets. When prices fall, marginal producers leave the industry, the supply curve shifts in, and prices stop falling. This mechanism did not seem to operate, however, in the market for raw coffee. Prices fell ever lower. As the price plummeted between 1996 and 2002, output actually continued to increase (Exhibit 2).

Coffee output adjusts little in the short term because of lags in the production process. A coffee tree does not start producing beans until some years after being planted, and then it produces for many years. For Tanzanian coffee farmers, the price elasticity of supply was estimated to be 0.1. (For comparison, the same study found tobacco's supply elasticity to be 0.8.) A study of 21 sub-Saharan Africa countries calculated coffee's short-run supply elasticity to be 0.2. For Honduras,

International Journal of Industrial Organization 2, 1984, 367-383; and S. Bhuyan and R. A. Lopez, "Oligopoly Power in the Food and Tobacco Industries," *American Journal of Agricultural Economics* 79, 1997, 1035-1043.

¹⁴ For India: R. Venkatram and Satish Y. Deodhar, "Dynamic Demand Analysis of India's Domestic Coffee Market," IIMA Working Paper #99-11-05, 1999, <http://www.iimahd.ernet.in/~satish/coffee.pdf> (October 2, 2003). For Germany: Switgard Feuerstein, "Do Coffee Roasters Benefit from High Prices of Green Coffee?" *International Journal of Industrial Organization* 20 (1), January 2002, 89-118. For Italy: Gianni de Fraja and Alessandra Staderini, "An Empirical Analysis of Competition in Brand Differentiated Oligopoly," *International Journal of the Economics of Business* 3 (1), 1996, 57-67. For the Netherlands: L. Bettendorf and F. Verboven, "Incomplete Transmission of Coffee Bean Prices: Evidence from the Netherlands," *European Review of Agricultural Economics* 27(1), 2000, 1-16.

¹⁵ Venkatram and Deodhar, op. cit.; Feuerstein, op. cit.

¹⁶ TechnoServe, op. cit.

Costa Rica, El Salvador, and Guatemala, the short-run supply elasticity was estimated to be between 0.1 and 0.2.¹⁷ A 10 percent price fall would elicit only a 1 or 2 percent output drop.

Although the farmers barely made a living growing coffee, they saw few alternatives. They had invested years in developing their trees to the point of producing fruit. Even though they could not make money by growing coffee, they could not afford the time and money to convert to a new crop. Other impediments to switching to other crops included difficult terrain, low soil fertility, lack of irrigation, insecure land titles, high costs of borrowing because of financial crises, poor rural transport and communications infrastructure, and low literacy and skills of the rural people.¹⁸

Only a limited range of crops could be grown on coffee land. Exhibit 4 shows three lists of possible alternative crops, one compiled by the International Monetary Fund (IMF), one by an NGO, TechnoServe, and one, referring specifically to Central America, by a consulting firm Chemonics. In Costa Rica in the late 1990s, for example, some coffee growers began to convert their farms to sugarcane.¹⁹

Barriers to market access added to the farmers' difficulties of switching away from coffee. A roundtable run by the World Bank and the International Coffee Organization (ICO) in May 2003 called on the rich countries to "reduce their internal agricultural subsidies and tariffs in order to allow potential diversification" in coffee-producing countries.²⁰ Nicaraguan farmers, the *Wall Street Journal* reported, were discouraged "by the experience of farmers who have grown peanuts and sesame. Those growers now find themselves on the verge of bankruptcy after trying to compete against U.S. farmers receiving generous subsidies from Washington."²¹

In Colombia, Peru, and Bolivia, the most remunerative alternative crop often was coca, the raw material for cocaine. Some grew coca as an alternative to coffee from economic necessity.²²

Will Demand Grow Over Time?

What were the long-run prospects for the coffee market? In 2002-03, the supply of coffee beans was increasing at 3.6 percent per year, while the demand was increasing by just 1.5 percent.²³ Why was the increase in demand so slow? With coffee, as with any other item, the main driver

¹⁷ Tanzania: Richard E. Mshomba, "Price Elasticity of Supply of Tanzania's Major Export Crops," *Eastern African Economic Review* 5(1), June 1989, 9-23; sub-Saharan Africa: W. K. Jaeger, "The Effects of Economic Policies on African Agriculture," World Bank Discussion Paper No. 147, 1984; Central America: Alberto Gabriele, "Elasticidad-Precio de las Exportaciones Agrícolas de Centroamérica," *Revista de la Cepal* 52, April 1994, 107-117.

¹⁸ Chemonics International Inc., "Diversification Options for Coffee Growing Areas in Central America," report to USAID, March 2002, p. 7, http://www.dec.org/pdf_docs/PNACP918.pdf (February 19, 2004).

¹⁹ Op. cit., p. 7.

²⁰ World Bank, "Solutions to the Coffee Crisis," press release, May 22, 2003, <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20112834~menuPK:34457~pagePK:34370~piPK:34424~theSitePK:4607,00.html> (September 30, 2003).

²¹ Peter Fritsch, "Bitter Brew: An Oversupply of Coffee Beans Deepens Latin America's Woes," *The Wall Street Journal*, July 8, 2002, p. A1. In 2000, consuming countries subsidized their farmers by \$245 billion, enabling them to sell products on the world market at low prices. They also imposed import tariffs on developing countries totaling \$43 billion. ("Mugged," op. cit. p. 37.)

²² "Mugged," op. cit. p. 12.

²³ "Coffee Crisis" loc. cit.

of an increase in consumption is higher consumer incomes. The measure of responsiveness of consumption to income is the income elasticity of demand (that is, the ratio of the proportional change in purchases to the proportional change in income). For coffee in the United States, the income elasticity has been estimated by one study to be 0.2 and by another study to be in the range of 0.3 to 0.9.²⁴ A 10 percent rise in income boosts spending on coffee by 2 to 9 percent. As is typical of foodstuffs, the income elasticity is (a) positive, meaning that consumers buy more as their income rises (partly via a switch to higher quality coffees), but (b) smaller than 1.0, meaning that as consumers become more affluent they devote an ever-smaller fraction of their budget to coffee.

Overall economic growth can be expected, therefore, to generate a steady increase in coffee demand. With growth in the affluent West averaging around 2 to 3 percent per year and the income elasticity being roughly 0.6, though, the growth in coffee demand is predicted to continue to be only 2 percent or less.

Coffee consumption per head varies widely across countries (Exhibit 5). In part this is due to differences in tastes. The tea-loving British consume 2.5 kilograms of coffee per year, the Americans 4 kilograms, and the wired Finns 11 kilograms. In part, however, the differences in coffee demand are due to differences in income. The poor countries consume less than the rich. Coffee-growing Indonesia consumes just 0.6 kilograms per head and Jamaica 0.5 kilograms. Even in Ethiopia, which not only grows coffee but is where the drinking of coffee originated over a millennium ago, consumption is only 1.6 kilograms a head. Could economic growth in the underdeveloped countries offer hope for growth in the demand for coffee?

Indians consume a tiny 0.1 kilograms per year. But a “quiet cafe revolution is sweeping urban India,” the BBC reported in 2002. Coffee drinking “is increasingly becoming a statement of young and upwardly mobile Indians.” Ravi Deol, chief executive of the Barista chain of coffee bars, said, “Tea drinking nations like Britain and Japan have been converted to coffee drinking, and Indian consumers are seeking similar lifestyles.”²⁵ The income elasticity of demand for coffee in India has been estimated to be 0.4: not large, but positive.²⁶ If India were to maintain economic growth over a long period around its 2001 rate of 5.4 percent, with its more than a billion population, then growth in world coffee demand could be sustained. China, with insignificant coffee consumption but with economic growth in 2001 of 7.3 percent, adds another billion potential consumers.

The distant possibility of growth, however, could not rescue the coffee growers from their predicament in 2003.

DO THE COFFEE PROCESSORS HAVE MARKET POWER?

With a large supply increase and inelastic demand, a fall in price was inevitable. Few would argue with this diagnosis. Was supply and demand, plain and simple, the whole of the story?

²⁴ Goddard and Akiyama, *op. cit.*; Timothy K. M. Beatty and Jeffrey T. LaFrance, “Income Elasticity and Functional Form,” Working Paper No. 922, Department of Agricultural and Resource Economics, University of California, Berkeley, April 2001.

²⁵ Sanjeev Srivastava, “India’s Coffee Bar Revolution,” *BBC News*, September 27, 2002, <http://news.bbc.co.uk/2/hi/business/2284944.stm> (October 2, 2003).

²⁶ Venkatram and Deodhar, *op. cit.*

Some NGOs argued it wasn't. In the early 1990s, the coffee-growing countries earned US\$10 billion to US\$12 billion in exports, while retail sales, mostly in the industrialized countries, amounted to about US\$30 billion. In 2003, the coffee growers earned just US\$5.5 billion, but retail sales exceeded US\$70 billion.²⁷ The market power of coffee processors, the NGOs said, contributed to the growers' plight. Global Exchange said the coffee crisis was "a bonanza for multinational companies."²⁸ A spokesman for People for Fair Trade, Brett Inder, said, "all the power lies with the multinationals that actually control the industry." The main cause of the price decline, he said, was not the glut of coffee beans, but the processors' use of market power.²⁹

Whereas coffee growing was fragmented among millions of farmers, almost half of the coffee worldwide was processed by five roasters. In 2000, this was distributed as shown in Figure 2.

	Share of Worldwide Green Coffee Volume
Kraft	13%
Nestle	13%
Sara Lee	10%
Procter & Gamble	4%
<u>Tchibo</u>	<u>4%</u>
Total	44%

Figure 2: The five largest coffee processors.³⁰

Kraft's flagship brand was Maxwell House. Other Kraft brands included Yuban and General Foods' International Coffees. Sara Lee's brands included Hills Brothers, Chock Full o' Nuts, and MJB. Procter & Gamble's brands included Folgers and Millstone. Tchibo sold mainly in Germany. While its competitors concentrated on ground coffees, Nestle focused on powdered, soluble coffee, sold under the brand name Nescafe.

Were the coffee processors competing intensely with each other, or were they earning supernormal profits? Although the NGOs claimed the roasters were highly profitable, the industry saw things differently. In 2000, a trade journal, *Tea and Coffee*, reported that there was "significant over-capacity" in the roasting industry. "As a result of the excess capacity and the increased competition, margins are being squeezed as the competition becomes more desperate for volume." In 2002, *Tea and Coffee* said, "The soluble coffee industry is in an unenviable position of struggling now to maintain margins and get by, but with the coming certainty that things will only get worse."³¹

²⁷ ICO, "Coffee Crisis," op.cit.

²⁸ Global Exchange, "Squeezing Coffee Farmers to the Last Drop," October, 2001

<http://www.globalexchange.org/campaigns/fairtrade/coffee/news2001/gx100001.html> (October 1, 2003).

²⁹ Stathi Paxinos, "Coffee Makers' Huge Profits Leave a Bitter Taste," *The Age* (Australia), April 28, 2003, <http://www.theage.com.au/articles/2003/04/27/1051381847779.html> (September 30, 2003).

³⁰ "Mugged," op. cit. p. 25.

³¹ Richard C. Hampson, "2000: The Year of Self-Evaluation for Roasters," *Tea and Coffee*, July/August 2000, <http://www.teaandcoffee.net/0700/coffee.htm>; Timothy J. Castle, "Is the Soluble Coffee Industry A Threat to Themselves?" *Tea and Coffee*, October/November 2002, <http://www.teaandcoffee.net/1002/coffee.htm>

Some analysts viewed coffee as a very profitable product line for the large processors. In 2000, a Deutsche Bank analyst commented on Nestle's soluble coffee business:

Martin Luther used to wonder what people actually do in heaven. For most participants in the intensely competitive food manufacturing industry, contemplation of Nestle's soluble coffee business must seem like the commercial equivalent of Luther's spiritual meditation.³²

The analyst went on to say that "nothing else in food and beverages is remotely as good," and concluded that Nestle made an estimated 26 percent profit. Another analyst estimated that profit margins were even higher, at 30 percent. Others estimated that coffee provided substantially higher margins for the large roasters than did their other food and beverage product lines, with Sara Lee's 17 percent margin from coffee at the low end of the industry range.³³

Such claims rested on guesswork, however. The major processors are multi-product firms. The production costs of their coffee operations could not be disentangled from their other product lines and so the profitability of coffee could not be calculated from their accounts. By combining economic theory with market data, though, we can try to infer the competitiveness of the retail coffee market from the companies' actions.

An immediate conclusion is that the retail-coffee industry was not acting collusively, as a monopoly. The price elasticity of demand for coffee, cited earlier, was around 0.2. A profit-maximizing cartel would not operate where demand was as inelastic as this. The 0.2 elasticity means that if the seller increased the price by 10 per cent, its resultant loss in sales would be just 2 percent, so it would earn an additional 8 percent in revenue. The higher price would bring extra profits. A cartel that cared about its profits would drive the price upwards until demand became more elastic; that is, until consumer resistance started to show. The data are inconsistent, therefore, with processed coffee being priced monopolistically.

What prevented the large processors from coordinating their pricing so as to move up the inelastic portion of the demand curve and earn much higher profits? Arguably, it was the existence alongside the big five of a sizeable competitive fringe. As of 2000, there were over 1,000 smaller coffee processors.³⁴ Most of them were tiny but their outputs added up to more than 50 percent of the total. If the major processors were to hike their prices, they would lose market share to the competitive fringe.

Retail prices moved with green-coffee prices, as Figure 3 shows. The upper line shows the U.S. supermarket price of roasted coffee, the lower line the world price of raw coffee. The lines move up and down together. The retail price was based on the cost of the raw-bean inputs.

³² Deutsche Bank analyst report "Soluble Coffee: A Pot of Gold?," May 2, 2000, quoted in "Mugged" op. cit., p. 26.

³³ *ibid.*

³⁴ Hampson, op. cit.; de Fraja and Staderini op. cit.

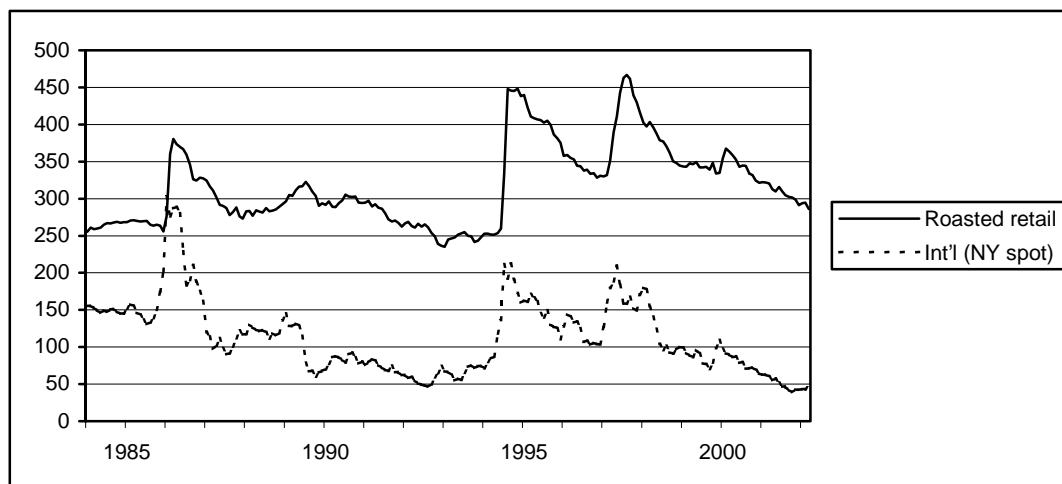


Figure 3: Raw and processed prices move together.³⁵

In percentage terms, though, the swings in raw coffee prices were larger, because the average price was lower. Raw-bean costs are just a part of retail-coffee production costs, and the other parts — the costs of roasting, packaging, and shipping — are uncorrelated with the price of beans.

If the market was not monopolistic, was it the opposite, perfectly competitive? With a textbook perfectly competitive firm, price is equal to marginal cost; the price does not reflect demand. A firm that has some market power, by contrast, sets its price with reference to both cost and demand. Its price is a markup over cost. The size of the markup depends on the demand elasticity the firm faces: the more elastic demand is — and so the more resistant consumers are to price increases — the smaller the markup. The elasticity of the demand the firm faces (as distinct from the overall market elasticity already discussed) would be large if the consumers were not loyal to brand but switched across brands in response to price differences. This suggests two ways to empirically test for the existence of market power: measuring the elasticity of the demand facing an individual firm, and measuring the size of the markups.

Were consumers loyal to a brand, or did they switch in response to price differences? The more ready consumers are to switch, the stronger is the price discipline on firms. One estimate of the firm-specific price elasticity in the United States found that some consumers stayed with their brand regardless of price, while others were price-sensitive, with an elasticity of 1.5 or more.³⁶ Another estimated it to be between 1.0 and 1.8.³⁷ A study of the Australian instant-coffee market

³⁵ Chart from: Miriam Wasserman, "Trouble in Coffee Lands," *Regional Review*, Q2, 2002, 4-12, published by the Federal Reserve of Boston (used with permission). Online at: <http://www.bos.frb.org/economic/nerr/rr2002/q2/coffee.htm> (October 30, 2003). That green-bean prices and retail prices are closely correlated is also found by Philip Nelson, John Siegfried, and John Howell, "A Simultaneous Equations Model of Coffee Brand Pricing and Advertising," *Review of Economics and Statistics* 74 (1), February 1992, 54-63.

³⁶ Adpilot, "The Next Big Thing in One-to-One Marketing," August 23, 2001, p. 11, <http://www.gmabrands.com/events2001/gemcon/onotoono.pdf> (September 30, 2003).

³⁷ Peter Boatwright, Sanjay Dhar, and Peter Rossi, "The Role of Retail Competition and Account Retail Strategy as Drivers of Promotional Sensitivity," Graduate School of Business, University of Chicago, December 2001, <ftp://gsbper.uchicago.edu/rossi/papers/explaining%20promo%20res/explaining%20promo%20res.pdf> (September 30, 2003).

found that the price elasticity faced by a firm varied from 1.0 to 2.7.³⁸ The price sensitivity facing the individual processors suggests that the market was fairly competitive.

By how much did the roasters mark up their prices above production costs? Two econometric studies of the processed-coffee market, for the United States and the Netherlands, reject the hypothesis of perfectly competitive pricing, finding that prices were statistically significantly above marginal cost. This reflects the fact that coffee is a differentiated product and there is some brand loyalty. However, the markup was small. In the United States, the estimated markup over marginal cost was 6 percent; in the Netherlands, 15 percent.³⁹ These quite moderate markups indicate the processors had some market power, but not much.

The data imply, then, that the processed-coffee market was reasonably competitive, despite being dominated by a few giant companies. Price discipline came from the hundreds of small roasters which acted as a competitive fringe, and from the many consumers who were price-sensitive.

ATTEMPTS TO OVERRIDE SUPPLY AND DEMAND

Historically, the coffee business has seen a series of short booms followed by long busts. The booms, periods in which prices were relatively high, were caused by supply reductions due either to natural factors—frosts, pests or disease in large producing regions that damaged crops—or to cartel-type behavior that withdrew coffee beans from the market. The long-term result of the high prices was to encourage new planting, ultimately bringing excess production that led to long periods of low prices. (This is described in more detail in Appendix B.)

The largest price increases resulted from frosts or disease that created short-term disruptions in supply. Prices spiked dramatically, but quickly returned to their initial levels.

The cartels were run by the major coffee-producing countries, which supported their farmers by purchasing beans and withholding them from the market. These initiatives pushed up prices temporarily, but they eventually failed in the face of new production from other countries. In this section we review one attempt by producing and consuming nations to manage the coffee market, as well as recent efforts by NGOs.

The International Coffee Agreement of 1963-1989

Prices declined in the 1950s despite efforts by Brazil and Colombia to shore them up by keeping much of their own production off the market. While Brazil and Colombia ran up large deficits purchasing surplus coffee, other countries continued to supply enough coffee to keep prices depressed. By 1959, Brazil was withholding coffee stocks that totaled nearly an entire year's exports of all producing nations. While free-riding countries were undermining prices, Brazil and Colombia could not retaliate by dumping their excess stocks, as that would have depressed prices even further, causing more harm to themselves than to the free riders.

³⁸ Ronald Bewley, "An Econometric Analysis of the Factors Affecting the Retail Price of Instant Coffee," in D. J. Slottje, ed., *The Role of the Academic Economist in Litigation Support*, Amsterdam, Elsevier, 1999.

³⁹ U.S.: Roberts, op. cit, p. 381. Netherlands: L. Bettendorf and F. Verboven, "Incomplete Transmission of Coffee Bean Prices: Evidence from the Netherlands," *European Review of Agricultural Economics* 27(1), 2000, 1-16. (The 15 percent average markup estimate is computed from columns 4-6 of Table 1, using the markup formula given on p. 11.)

The United States consumed 58 percent of the world's coffee in the 1950s. As a proponent of free markets, the U.S. disliked international commodity agreements. However, U.S. foreign policy sought close relations with countries that might succumb to the influence of communism, particularly in Latin America. Since declining economies in developing countries were conducive to unrest, the U.S. sought ways to provide relief to producing nations.⁴⁰ Healthy coffee prices for Latin American countries were “a matter of life and death,” Senator Hubert Humphrey told Congress in 1962. “Castroism will spread like a plague through Latin America unless something is done about the prices of raw materials produced there.”⁴¹

In the late 1950s and early 1960s, the coffee producing and consuming nations jointly created a system designed to stabilize prices and strengthen the economies of the producing countries. In 1962, the first five-year International Coffee Agreement (ICA) was signed at the United Nations headquarters in New York, to take effect in 1963. The ICO was set up to oversee the agreement. The ICA provided for a quota system, in which exporting countries would withhold from the market any coffee in excess of their quota. The agreement also provided funds to promote coffee consumption. Since the income of any exporting country was a function of its allotted quota, the assignment of the quotas was the subject of intense negotiation and politicking. However, the agreement worked, for a time. Prices stayed relatively stable within a target range of \$1.20 to \$1.40 per pound. Production and consumption were reasonably evenly balanced.

As prices stabilized at higher levels, some small roasters went out of business or were taken over, contributing to a consolidation of the roasting industry by the 1990s. In addition, countries that had previously produced very little coffee and were not members of the ICA, seeing that coffee could be a profitable export, increased their production. Coffee they could not sell under the ICA system they sold at lower prices, undermining the ICA.

Eventually, in the late 1980s, the United States, resuming its focus on free markets and no longer trying to prop up the Latin American economies, withdrew its support for the ICA and dropped out of the ICO. The ICA quota system ended in 1989, at which point the ICO composite indicator price dropped 27 percent in one month and continued to fall, resulting in a price slump that lasted five years and caused serious economic damage for exporting countries. In some countries, gross national product fell 50 percent or more after the collapse of the ICA.⁴²

NGO Efforts to Revamp the Coffee Market

A number of NGOs worked to change the global coffee market. Their efforts focused on improving the pay and working conditions for coffee farmers, and on decreasing the environmental impact of “technified” coffee growing.⁴³ Efforts to improve both economic and environmental conditions were referred to as promoting “sustainable” coffee production.

⁴⁰ Dicum, op. cit. p. 83.

⁴¹ Fritsch, loc. cit.

⁴² Dicum, p. 95. ICO Composite prices from <http://www.ico/frameset/priset.htm>. (September 9, 2003).

⁴³ “Technified” coffee refers to a number of practices used to increase productivity, including clearing forest to allow dense planting of coffee trees, as well as the use of chemical fertilizers. See Appendix A for a more thorough discussion of technification.

The fair-trade movement, which began in the late 1940s, sought better pay and working conditions for producers. It described itself as “a global network of producers, traders, marketers, advocates and consumers focused on building equitable trading relationships between consumers and the world’s most economically disadvantaged artisans and farmers.”⁴⁴

Coffee, first traded under fair-trade conditions in 1973, made up the bulk of fair-traded goods in 2003. A fair-trade purchasing organization worked directly with a farmer cooperative in a long-term relationship. To meet fair-trade standards, the following criteria had to be met:⁴⁵

- Price. The cooperatives were guaranteed a fair price. In 2003, a floor price of \$1.26 per pound was established, with the fair-trade price rising to 5 cents above the prevailing market price in case market conditions improved. For certified organic coffee, the floor price was \$1.41, with a minimum premium of 15 cents above the market price. Equal Exchange, a major fair-trade importer, described the objective of the pricing as follows: “A fair price includes a guaranteed minimum price regardless of how low the commodity market falls. This ensures farmers a living wage even when coffee market prices are too low to maintain acceptable living standards.”⁴⁶ Thus, in late 2003, fair-trade prices were approximately double market prices.
- Democratic organization. The farmer cooperatives had to be transparent and democratically controlled by their members.
- Direct trade and long-term relationships. The importers had to purchase coffee directly from fair-trade certified farmers and to establish stable relationships. This allowed the importers to understand the farmers’ needs, and the farmers to plan for the future, knowing that they would have a stable market.
- Access to credit. The importers were required to provide upfront financing to cover the farmers’ production costs (up to 60 percent of each order). Otherwise, farmers had to borrow at high rates in order to operate — loans that often they could not pay back from the proceeds of the harvest, driving them deeper into poverty.
- Environmental protection. Farmers had to implement plans to manage crops and protect the environment.

Farmers and importers meeting these requirements could be certified by the Fairtrade Labeling Organizations International, which would regularly visit the fair-trade cooperatives to verify that they met the standards and that they were paid a fair price. In 2001, fair-trade coffee represented about 2 percent of the worldwide market.⁴⁷

⁴⁴ 2003 Report on Fair Trade Trends in US, Canada & Pacific Rim, Fair Trade Federation, 2003, p. 3. Online at http://www.fairtradefederation.com/2003_trends_report.pdf (September 26, 2003). Hereinafter referred to as “2003 Report.”

⁴⁵ <https://www.transfairusa.org/content/works/wrk/index.jsp> (September 10, 2003).

⁴⁶ <http://www.equalexchange.com/intro/eeintro5.html> (September 9, 2003).

⁴⁷ “Mugged,” op. cit., p. 42.

In 2002, Oxfam proposed a multi-tier “coffee rescue plan,” calling for action by coffee companies, governments and governmental institutions, consumers, and investors. While this plan had many action items (see Exhibit 6), the central features were that producers be paid a fair price, coffee be labeled according to quality, fair-trade products be increased and promoted, governments work together to avoid oversupply, and low-quality beans be destroyed.⁴⁸

CORPORATE RESPONSES

Starbucks

Starbucks purchased fair-trade coffee early. In early 1995, before the coffee crisis, Starbucks announced a code of conduct setting minimum standards for working conditions on farms that supplied the company’s beans. The U.S.-Guatemala Labor Foundation, which had challenged it to act, said, “If implemented effectively, Starbucks’ Framework will be a very important first step toward supporting the efforts [of] agricultural workers around the world to improve their lives.”⁴⁹ In 2002, it bought 1.1 million pounds of fair-trade coffee. It developed and promoted a line of fair-trade coffee called “Commitment to Origins.”⁵⁰ It worked in partnership with Oxfam and the Ford Foundation to increase the supply of fair-trade coffee, made loans and loan guarantees to farmers, and participated in programs with NGOs to improve the lives of farmers and their families. It published a Corporate Social Responsibility Annual Report.⁵¹

Sara Lee

Sara Lee began selling fair-trade beans in the spring of 2001 as part of its Prebica line, sold to institutions, universities, and high-end shops.⁵² The company said that it also tried to buy at least 10 percent of its coffee from small planters and cooperatives.⁵³

Procter & Gamble

P&G resisted using fair-trade coffee until September 2003, when it announced that it would begin selling “Mountain Moonlight” over the Internet as part of its Millstone Signature Collection line of gourmet coffees. In the Millstone Signature Collection were three products: one from Nicaragua, one from Guatemala certified as shade-grown, and one from the mountains of southern Mexico. If it sold well, P&G said it would consider selling the product line in stores.⁵⁴ P&G also provided grants for community aid. In 2001, these totaled \$10 million for projects such as health centers and schools in Mexico, Brazil and Venezuela.⁵⁵

Nestle

Nestle publicly stated that low coffee prices did not work in its favor, due to the high fixed costs of factories producing soluble coffee as compared with the low costs of its competitors who sold

⁴⁸ For a full list of recommendations, see “Mugged,” op. cit. pp. 49-51.

⁴⁹ “Starbucks Releases Code of Conduct,” U.S./Guatemala Labor Education Project, *Guatemala Labor Update*, November 3, 1995, <http://www.hartford-hwp.com/archives/47/044.html> (September 9, 2003).

⁵⁰ Starbucks Fact Sheet: GE-free Ingredients, Fair Trade and Cocoa Sourcing, http://www.starbucks.com/aboutus/progress_report.asp (September 9, 2003).

⁵¹ The 2002 report is available online at: http://www.starbucks.com/aboutus/CSR_FY02_AR.pdf (September 29, 2003).

⁵² “Millstone to Offer Specialty Coffee via Internet,” *Reuters News*, September 18, 2003.

⁵³ Fritsch, loc. cit.

⁵⁴ “Millstone to Offer...” loc. cit.

⁵⁵ Fritsch, loc. cit.

ground coffee. In 2002, the company said that it bought 13 percent of its coffee directly from farmers, “ensuring that they receive the full value of their crop.”⁵⁶ However, as of September 2003 it had not adopted a policy of buying fair-trade coffee.

Kraft

Until October 2003, Kraft’s public position was that its responsibility in the coffee crisis was to increase consumption. It responded to Oxfam’s demand that the company buy 5 percent of its coffee from fair-trade suppliers by stating that, “at present, we don’t see the demand.”⁵⁷ In October 2003, however, the company announced an initiative to purchase fair-trade Coffee.⁵⁸ Kraft also participated in development projects in Colombia, Peru, and Vietnam to help farmers improve coffee quality, and contributed to programs providing educational aid and hunger relief.⁵⁹

WHERE TO NEXT?

Could the global coffee trading system be restructured to operate more in the growers’ favor, or were the forces of supply and demand, like the tides, inexorable?

In 2002 the ICO, in an initiative reminiscent of its earlier market management, proposed destroying 5 million bags of low-quality beans to try to halt the decline in prices, which it saw as being by caused by the glut of low-quality beans dragging down the price of the high-quality beans. It asked the large roasters to cooperate in helping enforce its quality-control program. Pablo Dubois of the ICO said, “One of the problems is that the buyers [for the big companies] are given instructions to screw the last cent they can out of every deal.”⁶⁰

NGOs, led by Oxfam, applied pressure to the large roasters to address the coffee crisis. One target was Kraft, which at the time of its April 2003 annual shareholders’ meeting was not purchasing fair-trade coffee, and was buying large quantities of cheap, low quality beans. Oxfam brought an Ethiopian coffee farmer, Dessalgn Jena, to Kraft’s annual meeting in East Hanover, N.J. “We need a fair price for our coffee. That’s the solution,” he said upon being invited to the podium. “Right now, Kraft’s profit is our loss.” In response, Louis Camilleri, chairman of Kraft, said the company was sensitive to the farmers’ plight, but the problem was oversupply. “Our duty is to increase demand,” he said.

Oxfam organized a worldwide protest to coincide with the Kraft shareholders’ meeting. Its supporters sent more than 50,000 email messages requesting that the company change its business practices. Oxfam asked Kraft to make the following commitments:⁶¹

1. Purchase 5 percent of its coffee from fair-trade suppliers within three years.
2. Purchase only coffee that met ICO quality standards.

⁵⁶ *ibid.*

⁵⁷ Oxfam Press Release, “According to Oxfam, Kraft Foods Refutes Accountability and Shows Lack of Leadership in Addressing Global Coffee Crisis Affecting 25 Million Coffee Farmers,” April 22, 2003.

⁵⁸ Sara Silver, “Kraft Blends Ethics with Coffee Beans,” *Financial Times*, October 7, 2003, p. 16.

⁵⁹ Sandra Guy, “Deromedi Has Put a Smile on Kraft,” *Chicago Sun-Times*, October 1, 2002, p. 45.

⁶⁰ Charlotte Denny, “Coffee Growers in Revolt,” *The Guardian*, September 17, 2002.

⁶¹ “Oxfam America Challenges Kraft to Take Leadership to Address the Global Coffee Crisis,” *Business Wire*, April 22, 2003.

3. Support and fund global initiatives that addressed the long-term structural causes of the coffee crisis.

In October 2003, Kraft announced it would blend certified sustainable-coffee beans into its mainstream European brands. Kraft signed an accord with the NGO Rainbow Alliance, agreeing to buy at least 5 million pounds of certified coffee in 2004 from Brazil, Colombia, Mexico, and Central America, paying the farmers up to 20 percent above the market price. For certification, the coffee growers had to be paid a living wage, social conditions had to be adequate, and environmental safeguards had to be met. (These certified beans were not, however, fair-trade beans, which would have been priced considerably higher as of the time of the announcement. Also, unlike with fair-trade, the coffee growers did not have to be small-farm cooperatives.) This would be the first time that beans certified for providing farmers with a living wage and meeting environmental standards would be used in regular brands. The earlier initiatives by large processors had consisted of marketing special brands. Tensie Whelan of the Rainforest Alliance said, "This step by Kraft marks the beginning of transforming the coffee industry."⁶²

STUDY QUESTIONS

1. Why does the price of coffee fluctuate so widely?
2. How can farmers respond to a chronic oversupply problem? How do policies of consuming nations impact the potential exporting-country responses?
3. Can supply and demand be overruled by a suitably designed international organization, or is an organization like the International Coffee Organization doomed to failure?
4. Evaluate the NGOs' proposals for improving the market. Are they workable?
5. Viewing yourself as a technocrat whose job is to revamp the global green-coffee market so that it operates more in the growers' favor, what changes to the rules of the marketplace and/or national policies would you recommend?

⁶² Silver, loc. cit.

Appendix A Coffee Farming and Processing

Coffee is a woody shrub that can grow to over 30 feet in height, although when cultivated it is usually pruned to about eight feet for efficient harvesting. Coffee grows naturally in the tropical forests of Africa under canopies of larger trees. It can be cultivated in countries with tropical climates, with plentiful sun, moderate rain, and warm temperatures. Almost all commercial coffee comes from two species. The original coffee is “arabica.” The other, “robusta,” is easier to grow but is a lower-quality coffee. Robusta became widely used only after World War II.

Coffee plants become commercially productive three to four years after planting. The fruit, or “cherry,” is red, with a pulp enclosing two beans. Arabica cherries ripen after six to eight months, while robusta cherries take about three months longer. Pickers harvest ripe cherries by hand, gathering 100 to 200 pounds daily. About 20 percent of this weight is beans, the rest is skin and pulp.

The pulp is removed in one of two ways. In the dry method, the cherries are spread out in the sun for 7 to 10 days until they dehydrate. The skin and dried pulp are then easily removed. In the wet method, the cherries soak in a solution that breaks down the pulp, which is then washed away from the beans with water. The wet method requires a greater investment, but is faster and results in a higher quality product. It also produces large quantities of organic waste. The beans are then processed further, producing green coffee that is ready for export.

The next step is roasting the green beans in temperatures of 450 to 550 degrees Fahrenheit. Roasting gives coffee its characteristic flavor and aroma. Different amounts of roasting are used to give the coffee the desired darkness and intensity of flavor.

In the 1950s, modern technology began to be used to increase coffee-farm productivity. This was termed “technification.” While the traditional method of growing coffee under the canopy of fruit-bearing shade trees gave farmers a variety of crops, technification meant maximizing coffee production. Land was cleared, and coffee trees planted more densely than traditionally. Technification projects were often encouraged and financed by consuming countries, which advocated them as ways for the developing countries to increase their export incomes.

In Colombia, Mexico, Central America and the Caribbean, about 40 percent of coffee acreage was converted in the early 1990s.⁶³ Technology improvements also extended to coffee processing, with methods that extracted more coffee from the bean and allowed lower quality beans to be used, thus increasing the use of robusta, and decreasing the demand for arabica.⁶⁴

While technification increased productivity, it had some costs, as the NGOs pointed out: farmers had to buy expensive fertilizer and pesticides; they become dependent on coffee because they removed alternative crops to clear space; pesticides posed health hazards to workers and the environment. The clearing of shade trees eliminated habitat for migratory song birds, decreasing their populations. Also, technification exacerbated the longstanding problems of overproduction.

⁶³ Dicum, *op. cit.*, p. 53.

⁶⁴ “Mugged,” *op. cit.*, pp. 28-29.

Appendix B

A Brief History of the Coffee Trade

Human use of coffee beans began in Ethiopia as a food, crushed and mixed into balls of animal fat as a form of early “energy bar” sometime between 575 and 850 C.E. Sometime between 1000 and 1300 C.E., coffee was first used as a hot beverage. Expanding from Ethiopia, coffee became popular within the Arab world by the 16th century, and was also popular with travelers from Europe. Coffee trees and cultivation methods were closely guarded secrets. The coffee monopoly held by Middle East and African countries weakened in the 17th century as Europeans smuggled seeds to be planted in their tropical colonies, such as in the Dutch colony of Java. As coffee spread worldwide, coffeehouses became popular meeting places. Coffee became a central part of a social experience, not just a foodstuff.⁶⁵

The coffee trade has seen a series of long busts, with oversupply and low prices, punctuated by short booms with supply shortages and high prices. A few examples illustrate this pattern. In the late 18th century, Haiti was the world’s largest coffee producer, with plantations worked by slaves. A slave revolt in 1793 destroyed the island’s coffee plantations, however, eliminating Haiti as a supplier. At that point Brazil began developing coffee, and Ceylon became a major producer. By the 1860s, Ceylon was the world’s largest coffee producer.⁶⁶

In the late 19th century, leaf rust began to destroy the coffee plantations of Ceylon, then spread to other areas of the East Indies, particularly Java, which was renowned for its superior coffee. As high-quality coffee from this region became expensive, consumption shifted to cheaper coffee from Brazil. By the start of the 20th century, Brazil was the world’s dominant producer, providing about three-quarters of the world’s coffee beans. In 1906, Brazil took advantage of its market position and began to control its exports of coffee, destroying huge quantities in order to maintain a high price. This attracted new entrants, notably Columbia, which began aggressively increasing its coffee production, with thousands of peasants starting coffee farms. The Brazilian monopoly eventually collapsed as buyers were able to purchase less expensive beans elsewhere.

By the 1930s, Colombia was a major force in the coffee market, but wanted to increase the price it received. In 1936, it joined Brazil’s price-control scheme, purchasing excess coffee from its farmers to maintain prices. This had the effect of stimulating production in Central America, Africa, and Asia, further exacerbating the excess supply. As each attempt to control prices attracted new entrants, supply outpaced demand and prices collapsed.

The International Coffee Agreement, described earlier, managed supply from 1962 to 1989. This was an attempt by coffee exporters and importers to join forces to try to create a stable market for coffee. It succeeded for a while but eventually failed.

In addition to supplier attempts to manage prices, disruptions in the coffee regions, usually caused by weather, brought sudden supply shortages, which resulted in price spikes far greater than those caused by supply management. The most extreme spike, in 1975, resulted from

⁶⁵ For a detailed description of the history of coffee use and trade, see Dicum and Luttinger, pp. 1-36, 72-114.

⁶⁶ Dicum, *op. cit.* p. 30.

various supply shocks: frost in Brazil (a common cause of price spikes), a revolution in Angola, an earthquake in Guatemala, rains in Columbia, and disease in Nicaragua.⁶⁷

The U.S. response to the 1975 price increase was that American consumers were the victims of market manipulation – a response similar to that following earlier weather-induced price increases. Conservative writer William Safire said, “The doubling of coffee prices has little to do with market forces” but was caused by Brazil’s military junta. Congress investigated, and Fred Richmond, co-chair of joint House-Senate hearings claimed, “Coffee consumers in the United States and other nations are in the grip of one of the most Machiavellian market manipulations in modern memory.” He accused Brazil of waging “a deliberate, pervasive campaign to inflate and artificially maintain coffee prices at record levels.”⁶⁸

Traditional coffee drinks were by then at the mature stage of their product life cycle, with slow or negative consumption growth. In 1970, per capita U.S. consumption of coffee was 36 gallons. In 2000, it was just 17 gallons.⁶⁹ However, small coffeehouses in ethnic neighborhoods or counterculture locations such as Berkeley and Greenwich Village had been selling high-quality coffee supplied by small roasters such as Alfred Peet. In 1971, Starbucks was formed by two of Peet’s protégés as a small whole-bean coffee store in Seattle. In 1984, when the two companies were about the same size, Starbucks bought Peet’s. Three years later, the founders of Starbucks sold their holdings to Howard Schultz, but kept Peet’s. Schultz began an aggressive expansion, changing from a coffee bean supplier to a coffeehouse, which offered consumers a pleasant experience in which to enjoy quality coffee.⁷⁰

The U.S. specialty coffee industry grew slowly in the 1970s and early 1980s, ignored by the major roasters. In 1988, Starbucks’ sales were just \$10 million. During the 1990s, however, specialty coffee establishments became popular. Even when coffee-bean prices rose in 1994 and companies increased their prices, sales continued to increase. By 1998, Starbucks’ U.S. sales were about \$3 billion in beverages plus another \$2 billion in roasted beans, accounting for 5 percent of the world coffee output.⁷¹ By the late 1990s, the major coffee roasters had begun to introduce products for the specialty coffee market.

By the end of the 20th century, coffee was the world’s second largest export commodity, behind only petroleum. About 2.25 billion cups of coffee were consumed each day.⁷²

⁶⁷ Dicum, op. cit., pp. 60, 75.

⁶⁸ Mark Pendergrast, *Uncommon Grounds: The History of Coffee and How it Transformed Our World* (New York: Basic Books, 1999), p. 320.

⁶⁹ “Mugged,” op. cit. p. 19.

⁷⁰ Dicum, op. cit. p. 145. As part of the sale of Starbucks to Schultz, the two companies agreed to stay out of each other’s home markets for four years. Peet’s was based in Berkeley, California, so Starbucks did not open stores in California until 1992.

⁷¹ *ibid.*, p. 148.

⁷² Dicum op. cit., p. ix.

Exhibit 1
Coffee Exports, by Country
(60-kilogram bags, September 2002-August 2003)

Country	Type	Exports			
Brazil	Brazilian Natural	27,681,676	Thailand	Robusta	164,504
Vietnam	Robusta	11,715,411	Zambia	Other Mild	109,686
Colombia	Colombian Mild	10,459,857	Togo	Robusta	95,076
Indonesia	Robusta	4,341,457	Panama	Other Mild	88,426
Guatemala	Other Mild	4,043,646	Bolivia	Other Mild	85,256
India	Other Mild	3,367,306	Zimbabwe	Other Mild	78,888
Peru	Other Mild	2,783,815	Haiti	Other Mild	66,789
Uganda	Robusta	2,757,420	Cuba	Other Mild	57,874
Cote d'Ivoire	Robusta	2,680,743	Guinea	Robusta	42,337
Mexico	Other Mild	2,587,976	Central African Republic	Robusta	40,506
Honduras	Other Mild	2,536,651	Malawi	Other Mild	38,443
Ethiopia	Brazilian Natural	2,234,855	Jamaica	Other Mild	26,686
Costa Rica	Other Mild	1,650,009	Ghana	Robusta	21,342
El Salvador	Other Mild	1,365,945	Angola	Robusta	12,138
Papua New Guinea	Other Mild	1,107,779	Paraguay	Brazilian Natural	11,000
Nicaragua	Other Mild	962,195	Philippines	Robusta	8,793
Tanzania	Colombian Mild	825,675	Sierra Leone	Robusta	4,742
Cameroon	Robusta	821,390	Nigeria	Robusta	1,627
Kenya	Colombian Mild	821,271	Sri Lanka	Robusta	1,134
Ecuador	Other Mild	655,696	Gabon	Robusta	458
Burundi	Other Mild	555,173	Congo, Rep. of	Robusta	0
Rwanda	Other Mild	292,310	Equatorial Guinea	Robusta	0
Venezuela	Other Mild	271,894	Benin	Robusta	0
Dominican Republic	Other Mild	142,443	Trinidad and Tobago	Robusta	0
Congo, Dem. Rep. of	Robusta	186,203	TOTAL (bags)		87,985,314
Madagascar	Robusta	180,813			

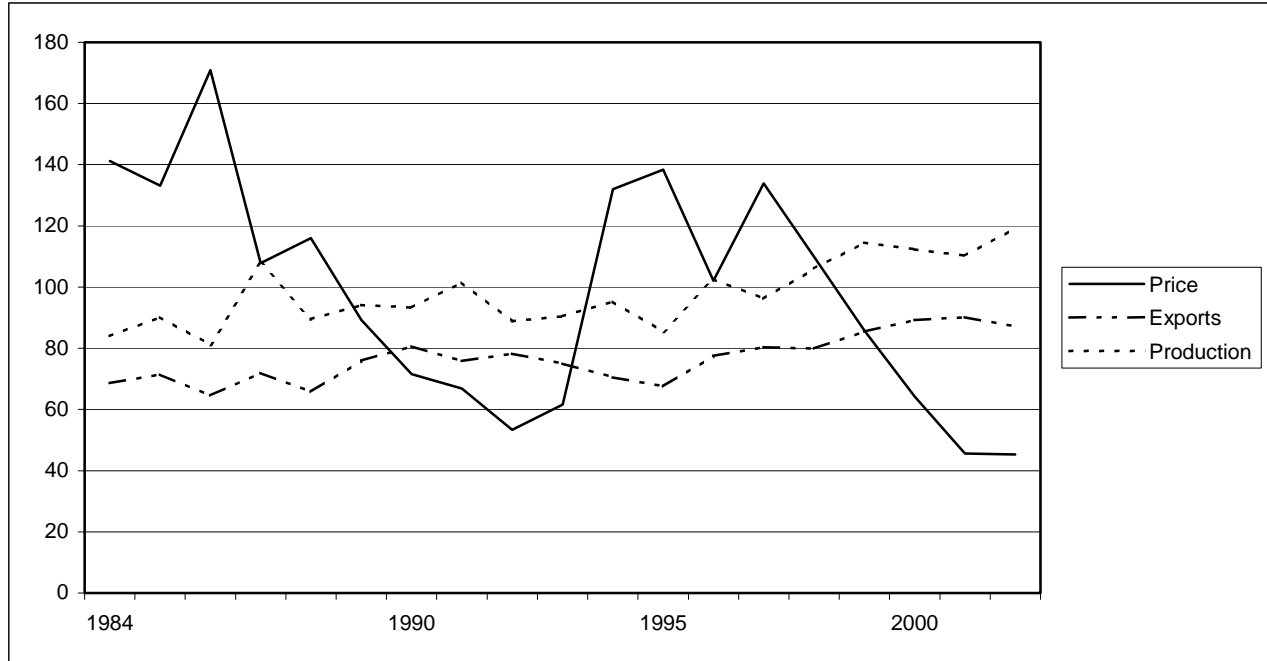
Total Exports By Type

Colombian Milds	12,106,803
Other Milds	22,874,886
Brazilian Naturals	29,927,531
Robustas	23,076,094

Source: International Coffee Organization, <http://www.ico.org/frameset/traset.htm> (October 2, 2003). Those countries with no exports produced coffee but did not report exports during this period.

Exhibit 2 Coffee Prices, Exports, and Production

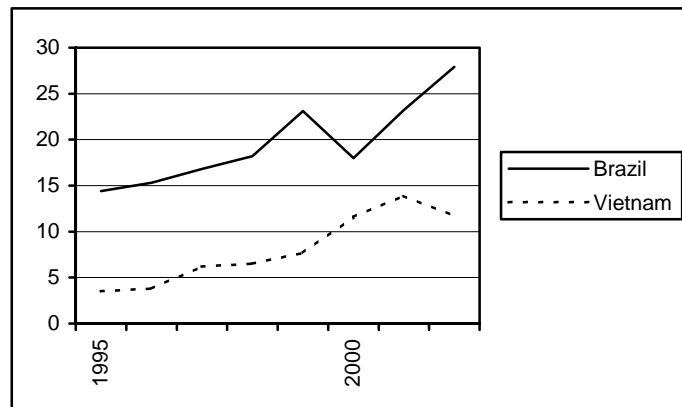
Worldwide Totals



Prices are average of monthly ICO composite indicator prices, in cents per pound.
Exports and production are from ICO member countries, in millions of 60kg. bags.

The ICA quotas ended in 1989. The price dropped from 104.5 in June 1989 to 76.7 in July. The average price for 1989 thus includes 6 months of quota prices, and 6 months of non-quota prices.

Exports from Vietnam and Brazil, 1995-2002 (in millions of bags)

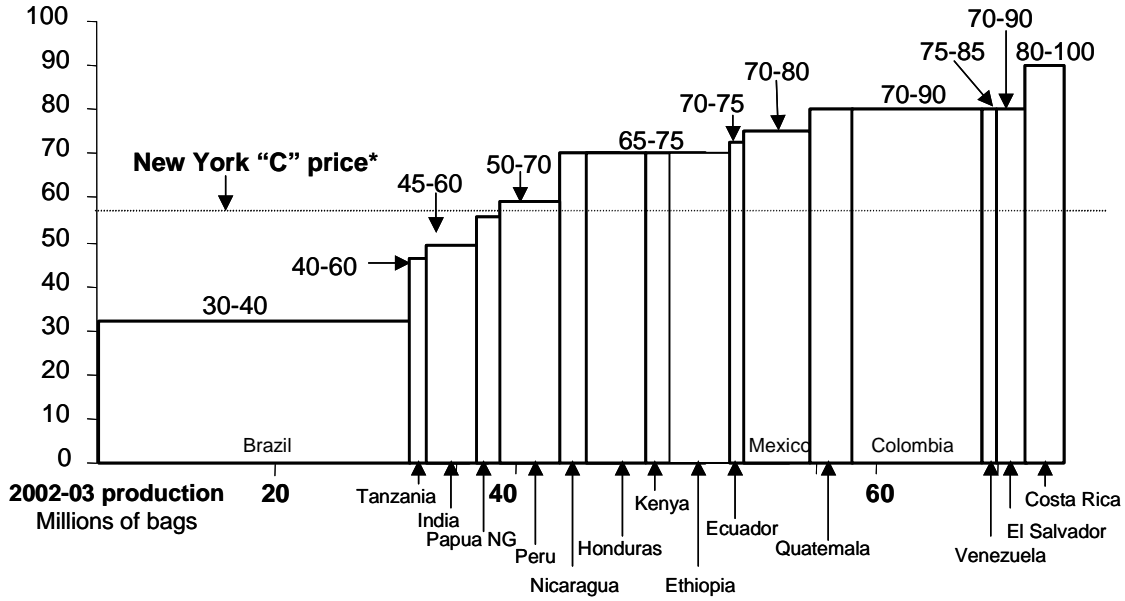


Source: International Coffee Organization (<http://www.ico.org>)

Exhibit 3 Profitability by Coffee Growing Country

AT CURRENT PRICE LEVELS MANY PRODUCERS IN HIGHER COST COUNTRIES ARE NOT PROFITABLE

Arabica FOB supply curve
Average cost (u.S. ¢/lb.), 1996-2001



* December 2003 contract as of 12/1
Source: ICO, USDA; TechnoServe; Volcafe; Judith Games Consulting; Coffee Business International; "Dealing with the Coffee Crisis in Central America," World Bank (2003); TechnoServe coffee team analysis

Chart provided courtesy of TechnoServe, Norwalk, CT, www.technoserve.org

Exhibit 4

Possible Alternative Crops for Coffee Growers

1. IMF list

- Tea (Burundi, Ethiopia, Rwanda, Tanzania)
- Bananas (Cameroon)
- Cocoa (Colombia, Uganda)
- Oil Palm (Madagascar)
- Fruit (Togo)
- Horticulture (Kenya)
- Cassava (Nicaragua)
- Rice (Cote d'Ivoire)
- Cloves (Indonesia)
- Dairy Products (Kenya)
- Meat Production (Kenya, Mexico)

2. TechnoServe list

- Fruits and vegetables
- Ornamental plants
- Cocoa
- Cattle
- Forestry and timber
- Ecotourism

3. Chemonics list (for Central America)

- Fresh fruits and vegetables
- Flowers and ornamentals
- Timber, agroforestry, and watershed protection
- Spices
- Poultry
- Fish

Sources: International Coffee Organization, "Diversification in Coffee Exporting Countries," May 8, 2002, p. 7, TechnoServe, op. cit., and Chemonics International Inc., op. cit., p. 60.

Exhibit 5
1997 Per Capita GDP and Coffee Consumption by Country

Country	Per Capita GDP (\$)	Per Capita Consumption (1)
United States	30,530	4.0
Norway	28,066	9.2
Denmark	25,596	9.0
Japan	25,508	2.9
Canada	25,039	4.5
Netherlands	24,007	9.2
Belgium/Lux	23,752	5.7
Austria	23,612	8.1
Germany	22,982	7.1
Australia	22,656	2.6
Sweden	22,536	8.5
United Kingdom	21,817	2.5
France	21,552	5.7
Finland	21,179	11.0
Mexico *	7,809	0.6
Lebanon	7,768	3.5
Panama *	7,548	1.8
Brazil *	6,906	4.2
Costa Rica *	6,861	4.1
Venezuela*	6,323	2.2
Malaysia	5,889	0.4
Colombia *	5,888	2.4
Guatemala *	4,281	1.7
Philippines *	3,681	0.7
Jamaica *	3,566	2.9
Indonesia *	3,201	0.6
China	3,158	0.0
Honduras *	2,330	1.6
Nicaragua *	2,142	1.6
India	2,030	0.1
Cote d'Ivoire *	1,788	0.2
Vietnam *	1,720	0.2
Kenya *	1,180	0.1
Uganda *	1,062	0.2
Rwanda *	200 (2)	0.0
Burundi *	100 (2)	0.0
Ethiopia *	90 (2)	1.6

Notes

1. Per capita consumption in kilograms per year.
2. For these countries, GDP is for 2001 from Encarta, accessed through <http://www.camelworld.com>.
3. Coffee producing countries are denoted by “*” following country name.

Sources: Consumption from World Resources Institute,
<http://216.239.39.104/search?q=cache:fwlrVbidFDIJ:earthtrends.wri.org/text/ENG/variables/789.htm+coffee+per+c+apita+consumption&hl=en&ie=UTF-8>

Per capita GDP from Economist Intelligence Unit EIU Countrydata, and Encarta.

Exhibit 6 Oxfam's Rescue Plan

One-Year Objectives:

1. Roaster companies committed to pay a decent price to farmers.
2. Roaster companies trading only in coffee that meets ICO quality standards.
3. Destruction of at least 5 million bags, to be funded by consumer governments and roaster companies.
4. Creation of a diversification fund to help low productivity farmers create alternative livelihoods.
5. Roaster companies committed to buy increasing amounts of coffee under fair-trade conditions directly from producers. Objective for the first year is 2 percent of total purchase volume, with subsequent increases.

Longer-Term Objectives:

1. Producer and consumer country governments establish mechanisms to correct imbalances in supply and demand to ensure reasonable prices to producers. Farmers should be represented in these discussions.
2. Cooperation between producer governments to stop more product from entering the market than can be sold.
3. Support for producer countries to capture more of the value in their commodity products.
4. Extensive financing to reduce small farmers' dependence on agricultural commodities.
5. End to E.U. and U.S. double standards on agricultural trade that squeeze developing countries into a narrow range of options.
6. Companies paying a decent price for commodities (above the costs of production).

Source: "Mugged," pp. 49-51.