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COFFEE: MARKET SETTING AND POLICIES

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All coffee is produced in the tropics, primarily by smallholders. Most is consumed in high-income countries. Latin America accounts for 60 percent of global output, followed by Asia (24 percent), and Africa (16 percent). More than half of global coffee output is accounted for by the three dominant producers: Brazil (33 percent), Colombia (10 percent), and Vietnam (10 percent). Some other African and Latin American countries, however, are heavily dependent on their exports of coffee, despite their low share in global output. For example, coffee accounts for more than half of total merchandise exports in Burundi, Rwanda, and Ethiopia and more than 20 percent in Guatemala, Honduras, and Nicaragua. More than 80 percent of coffee production is traded internationally. Historically, coffee is the second most traded primary commodity after crude oil, generating more than $15 billion in export revenue (evaluated at 1997–98 average prices and volumes). Overall, consumption volumes have stagnated in the mature markets, in which the United States accounts for about 18 percent, followed by Brazil (10 percent), Germany (9 percent), Japan (6 percent), and France and Italy (5 percent each). However, consumption has been increasing in some new (especially transition) markets.

There are two types of coffee. Arabica, grown at high altitudes in Latin America (including Brazil) and northeastern Africa, accounts for two-thirds of total world output. It has a strong aroma and low level of caffeine. Robusta, with a much stronger taste than arabica, is grown in humid areas at low altitudes in Asia, western and southern Africa, and Brazil. During the last decade, production of robusta, which is particularly suitable for instant coffee, has increased (table 16.1).[1]

During the last decade, the coffee market has gone through a number of structural changes. On the supply side, Brazil's production capacity expanded enormously, with new plantations in the north that are less affected by frosts and, because of irrigation, not affected by droughts. Vietnam entered the coffee market in a major way in the 1980s—it currently supplies more than 12 million bags, making it the world's second-largest coffee exporter. On the demand side, consumption of specialty coffees has expanded, currently accounting for an estimated 6–8 percent of total consumption. Demand for low-quality coffee beans has also increased, primarily reflecting new technologies that enable roasters to remove the harsh taste of robustas for normal coffee while continuing to

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TABLE 16.1 The Changing Structure of the Coffee Market
(thousands of 60-kg bags)

Year	*Arabica*				Robusta	Total
	Colombian Milds	Other Milds	Naturals	Subtotal		
1992	16,959	25,122	23,317	65,398	27,291	92,689
1993	13,256	23,398	28,555	65,209	26,989	92,198
1994	15,059	24,582	29,300	68,941	27,901	96,842
1995	15,503	27,525	18,545	61,573	27,193	88,766
1996	12,489	27,040	27,126	66,655	37,033	103,688
1997	13,498	27,965	23,436	64,899	32,753	97,652
1998	12,509	27,380	35,024	74,913	33,506	108,419
1999	11,821	31,698	30,178	73,697	39,706	113,403
2000	12,026	28,480	30,717	71,223	45,638	116,861
2001	13,229	26,123	28,540	67,892	42,834	110,726
2002	13,179	25,585	43,667	82,431	41,720	124,151
2003	13,352	26,318	26,217	65,887	39,945	105,232
Market share (percent)						
1992	18	27	25	71	29	100
1993	14	25	31	71	29	100
1994	16	25	30	71	29	100
1995	17	31	21	69	31	100
1996	12	26	26	64	36	100
1997	14	29	24	66	34	100
1998	12	25	32	69	31	100
1999	10	28	27	65	35	100
2000	10	24	26	61	39	100
2001	12	24	26	61	39	100
2002	11	21	25	66	34	100
2003	13	25	25	63	37	100

Source: U.S. Department of Agriculture.

meet the increasing demand for instant and flavored coffees, which primarily use robusta coffees.

For most of the 20th century the coffee market has been subject to various supply-control schemes. The most important were the price-stabilization schemes implemented by Brazil at the beginning of the century, the Inter-American Coffee Agreements implemented during and after the Second World War, the agreements administered by the International Coffee Organization (ICO) from 1962 to 1989, and more recent attempts by the Association of Coffee Producing Countries (ACPC). Although the stated objective of these arrangements was to stabilize prices, prices often ended up being higher than they would have been in the absence of the arrangements. The most influential of these schemes were the International Coffee Agreements (ICAs) under the auspices of the ICO, the last of which collapsed in 1989. Government intervention in domestic markets was also prevalent in many countries through parastatals that controlled marketing and trade in the coffee industry. Following the collapse of the last ICA, most parastatals were either dismantled or their roles diminished. Currently, the global coffee market is, to a large extent, a distortion-free market. On the trade side, import restrictions are nonexistent, except some tariff escalation in coffee products (such as instant coffee).

Global Balance and Price Trends

Brazil, by far the largest coffee producer and exporter and the second-largest consumer, accounts for one-third of global output and

TABLE 16.2 Coffee Production, Selected Years
(thousands of 60-kg bags)

Country	1960	1970	1980	1990	2000	2002	2004
Brazil	29,800	11,000	21,500	31,000	34,100	51,600	42,400
Vietnam	53	39	77	1,200	15,333	11,167	12,000
Colombia	7,260	8,000	13,500	14,500	10,500	11,712	11,600
Indonesia	1,327	2,327	5,365	7,480	6,495	6,140	5,750
India	1,225	1,914	1,977	2,970	5,020	4,588	4,835
Mexico	2,100	3,200	3,862	4,550	4,800	4,350	4,500
Ethiopia	1,687	2,589	3,264	3,500	3,683	3,693	4,000
Guatemala	1,500	1,965	2,702	3,282	4,564	3,802	3,671
Uganda	1,925	2,667	2,133	2,700	3,205	2,910	3,200
Peru	598	1,114	1,170	1,170	2,824	2,760	2,980
Honduras	291	545	1,265	1,685	2,821	2,661	2,753
Costa Rica	951	1,295	2,140	2,565	2,502	2,207	2,050
Nicaragua	437	641	971	460	1,610	997	1,500
Côte d'Ivoire	0	4,414	3,973	4,734	5,700	3,568	1,444
El Salvador	1,452	2,054	2,940	2,603	1,624	1,351	1,285
Papua New Guinea	61	426	889	969	1,051	1,118	1,210
Cameroon	855	1,180	1,860	1,450	1,113	801	1,100
Kenya	566	999	1,568	1,455	864	926	1,085
Thailand	1	19	201	785	1,692	757	950
Ecuador	594	1,255	1,517	1,830	1,005	790	750
Total	64,999	58,838	85,738	99,911	116,861	124,151	117,650

Source: U.S. Department of Agriculture.

produces both arabica and robusta coffee. It is followed by Colombia (arabica) and Vietnam (robusta), each accounting for about 10 percent of global output. Other significant producers are Indonesia and Mexico (6 percent each) and India (4 percent) (table 16.2).

The technology of coffee production has changed significantly in the past 30 years, but not all countries have shared equally in the changes. Average yields in Asia are double those in Sub-Saharan Africa, and yields in Latin America are 60 percent higher than in Africa. Annual yield growth during the 1990s was 2.6 percent in Asia, 1.7 percent in Latin America, and 1.1 percent in Sub-Saharan Africa, according to data from the U.N. Food and Agriculture Organization (FAO).

On the demand side, the United States consumes about 18 percent of global output, followed by Brazil (10 percent), Germany (9 percent), Japan (6 percent), France and Italy (5 percent each). On a per capita basis, Scandinavian countries consume about 10 kilograms a year, followed by Germany (8 kilograms), and France, Italy, and Spain with approximately 5.5 kilograms each. U.S. per capita consumption fluctuates between 4 and 5.5 kilograms; in the United Kingdom and Japan it is between 2.5 and 3 kilograms. Only five coffee producers consume a substantial portion of their output: Brazil and Ethiopia (30 percent each), Indonesia (23 percent), Mexico (19 percent), and Colombia (11 percent), which together account for about 20 percent of global output; the remaining 80 percent is internationally traded.

Vietnam's emergence as a major robusta producer altered the landscape of the global coffee market in a permanent way. In 1980 Vietnam produced 77,000 bags—less than 0.1 percent of world production. In 2000, it exceeded 15 million bags—more than 13 percent of world production. Vietnam entered the coffee market in response to a series of policy reforms in the early 1990s that changed the balance of incentives toward export crops. These reforms facilitated land ownership and liberalized input and output markets. Following the reforms, for example, fertilizer prices declined by almost 50 percent. Other reforms

(known as Doi Moi) encouraged internal migration to the Central Highlands because of easy access to new land (eventually to be used for coffee production). These reforms, combined with the 1994 coffee price spike, made Vietnam an important player in the coffee market. It is worth noting that Vietnam's coffee expansion took place without assistance from either national or multilateral funding. However, some help came from the Soviet Union and Eastern European countries in the form of technical assistance during the early 1980s. Because neither Vietnam nor these countries were ICO members, and hence not bound by any quota obligations, they could expand coffee production and trade without any restriction. The expansion was also aided by the desire of the Soviet Union and Eastern European countries to have access to coffee without paying hard currency.

Brazil has been able to maintain unprecedented output levels, averaging more than 35 million bags during the last four seasons. Extensive mechanization of coffee harvesting, along with the development of high-yielding varieties, has reduced costs of production, while shifting production to the north, away from the frost-prone areas of the south, has reduced the likelihood of weather-related supply disruptions. Extensive use of irrigation in areas such as Bahia and the Cerrado has stabilized and sustained yields. Another significant development in Brazil is emergence of semi-washed arabicas; a process that makes better coffee. About 3 million bags of semi-washed arabicas compete directly with higher-quality coffee from Central America.

Given that both Vietnam and Brazil are low-cost producers, they are unlikely to reduce coffee production. Consequently production cutbacks to restore the balance of supply and demand are now coming from the higher-cost African and Central American producers. In Central America, for example, production of the lower-altitude, lower-quality coffees that can be easily replaced in commercial blends by Brazilian arabicas have fallen sharply.[2]

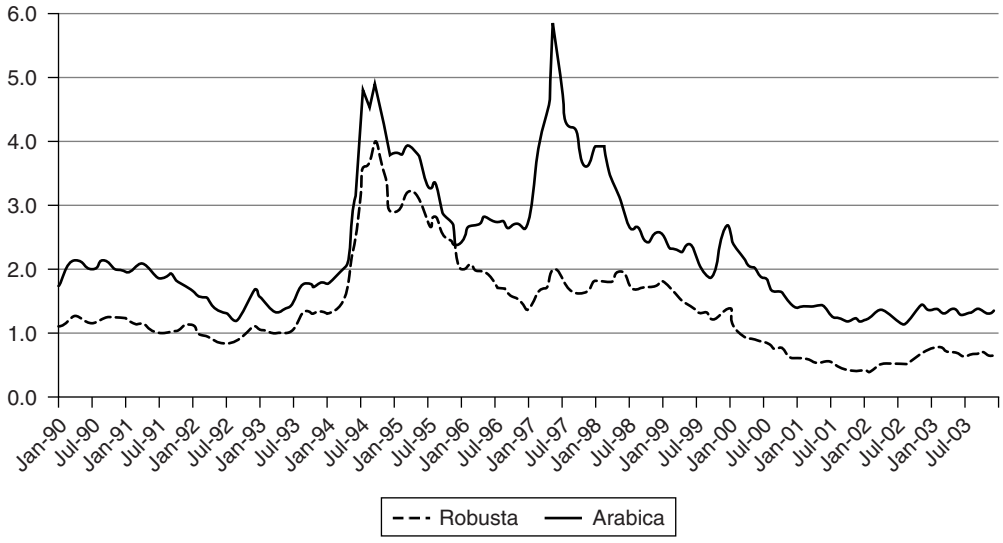
While Latin America and Asia have increased their shares in global coffee output, Africa's share has declined from 33 percent in 1970 to 18 percent in 2000. Africa's coffee output has never surpassed its peak in 1972. After remaining almost constant at 20 million bags for two decades following that peak, it has been in slow decline since then.

Numerous studies have identified several factors that are likely to further influence coffee processing and consumption patterns (see, for example, IADB/USAID/World Bank 2002, and Lewin, Giovannucci, and Varangis 2004). First, roasters are able to work with a lower level of stocks. Second, new technology enables them to remove the harsh taste of robustas, achieving the same level of quality with lower-quality beans. Third, roasters have been more flexible in their ability to make short-term switches between coffee types, implying that the premiums commanded by certain types of coffee cannot be retained for long. Finally, a small segment of the market has emerged that focuses on product differentiation, such as organic, gourmet, and shade coffee. The implication of all this is that the demand outlook is likely to be different for different coffee producers. Specifically, if any expansion in coffee demand takes place, it is likely to be at the two ends of the spectrum: lower-quality beans (reflecting improved technology and increased demand for soluble coffee) and specialty coffees (reflecting expansion to niche markets).[3] Efforts to increase coffee consumption may also come at the expense of tea consumption, a commodity produced mainly by low-income (and often coffee-producing) countries.

Coffee prices are highly volatile. (figures 16.1*a* through *d*). During the 1990s arabica prices ranged from $1.17 a kilogram in August 1992 to $5.89 a kilogram in May 1997. Robusta prices ranged from $0.82 a kilogram in June 1992 to $4.03 a kilogram in September 1994. The price volatility stems in part from weather conditions in Brazil, where frost affects crops every five to six years and severe droughts also occur periodically. While short-selling and buying by hedge funds are sometimes cited as a reason for the high volatility of coffee prices, this activity probably contributes only to short-term volatility.[4]

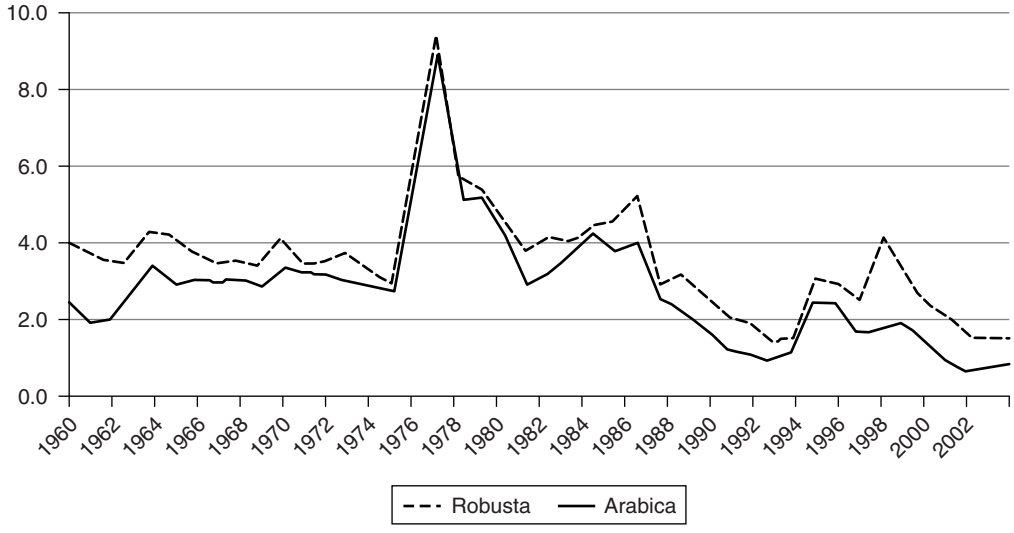
Coffee prices have declined considerably since 1998 (figure 16.1). In January 2002 robusta dropped to $0.50 a kilogram (the lowest nominal level since the $0.49 a kilogram price of May 1965 and 86 percent below its high four years earlier), while in October 2001 arabica averaged $1.24 a kilogram, a nine-year low and 76 percent below its high four years earlier. The combination of increased availability from Vietnam and Brazil, as well as domestic policies in many producing countries that retard

FIGURE 16.1(a) Nominal Coffee Prices, 1990–2003
(US$ per kilogram)



Source: World Bank.

(b) Real Coffee Prices, 1960–2003
(US$ per kilogram)



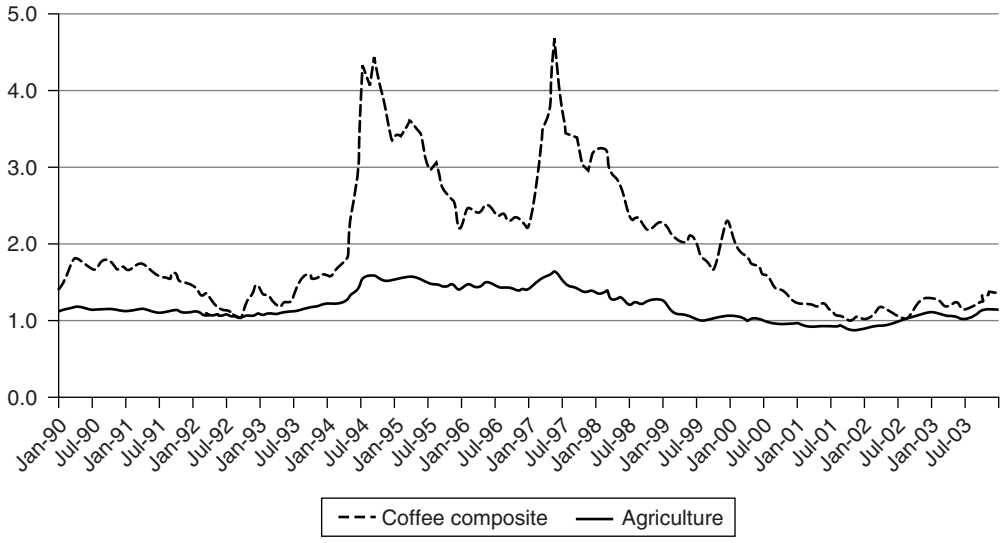
Source: World Bank.

exit from the market of uncompetitive producers, led to these historically low prices, which, in the absence of any international supply control mechanism, gave rise to the so-called coffee crisis and probably prolonged its length.

Exports from small coffee producers are a minuscule proportion of global trade in coffee but can loom large in the exporters' economies. For example, three African countries (Burundi, Rwanda, and Ethiopia) derive more than half of their total merchandise exports from coffee. The poverty implications of coffee in these countries are enormous—in seven coffee-dependent African countries, per capita gross domestic product (GDP) ranged between $112 and $336 (table 16.3).

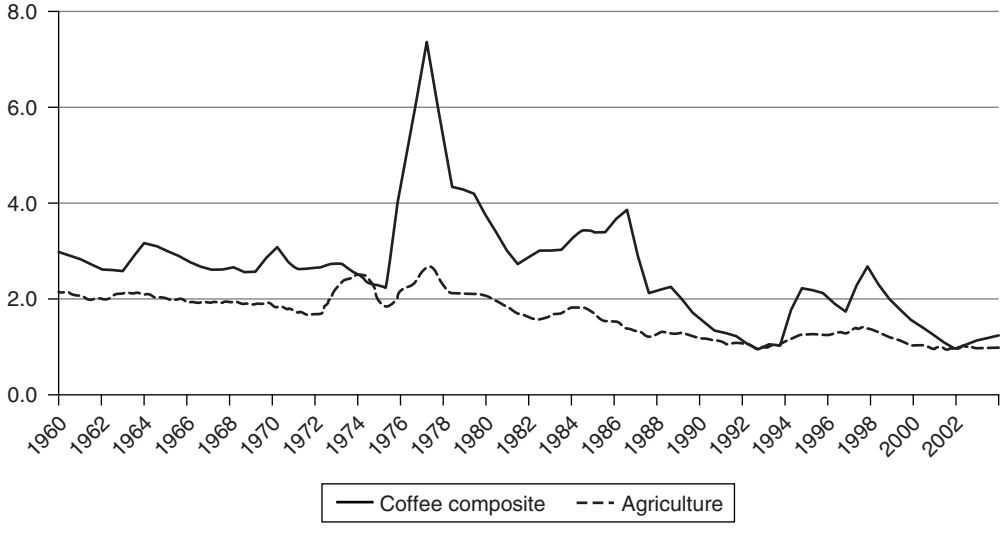
Areas with relatively high labor costs and large farms that are heavily dependent on seasonal labor, especially in Central America, can feel the effects of changing prices in a significant way (Lewin, Giovannucci, and Varangis 2004). For example, the rural labor employed in the coffee sectors of five Central American countries represented, on

(c) Nominal Price Indexes for Coffee and Other Commodities, 1990–2002
(August 2002 = 1.0)



Source: World Bank.

(d) Real Price Indexes for Coffee and Other Commodities, 1960–2003
(2001 = 1.0)



Source: World Bank.

average, 28 percent of the labor force in those countries (Nicaragua, 42 percent; Guatemala, 31 percent; Costa Rica, 28 percent; Honduras, 26 percent; El Salvador, 17 percent).

The Policy Environment

The coffee market has been subject to considerable intervention at the international and national levels. Those interventions are the subject of the next two subsections.

The International Environment

Regulation of coffee supplies at the international level has a long history (box 16.1). Calls for supply controls were made as early as 1902 following price declines due to Brazil's oversupply (Hutchinson 1909). At least three successful stabilization schemes took place in Brazil between 1905 and 1921. However, the coffee market became depressed following the crash of 1929. Attempts by Brazil to convince other coffee producers to coordinate

BOX 16.1 Coffee Supply Controls in the Twentieth Century

Calls for supply controls in the coffee market came as early as 1902 at an (unsuccessful) International Coffee Conference held in New York following price declines due to Brazil's oversupply (Hutchinson 1909). At the time, Brazil accounted for more than 85 percent of world's coffee output of 18.2 million bags. Chronic oversupplies prompted the state of São Paulo, which accounted for three-quarters of Brazil's coffee, to initiate a price stabilization scheme in 1905—called *valorization*—and to prohibit new plantings. The stockholding mechanism that regulated sales of coffee was financed by the federal government and several foreign banks. The scheme not only stabilized prices but also kept them at levels higher than demand and supply would have supported. A second valorization was undertaken in 1917 (following the disruption of coffee consumption in Europe during World War I), and a third in 1921. These schemes were very profitable for their promoters. However, greater stability in the coffee market arising from the supply controls encouraged the rapid extension of new plantings in Brazil and led to new calls for even more state intervention (Wickizer 1943: 143). Thus, São Paulo's coffee problem became Brazil's coffee problem.

Following the success of the valorization schemes, a permanent supply-control scheme was envisaged for the newly created São Paulo Coffee Institute. The institute began buying coffee after the 1927–28 bumper crop and convinced other states that had become important suppliers to join in. It withdrew from coffee purchasing after the crash of October 1929, when coffee consumption plummeted and financing dried up. The Brazilian government then attempted to convince other Latin American coffee producers (which had increased their market shares considerably) to find ways to regulate exports. Two Pan-American Coffee conferences (in Bogotá in 1936 and Havana in 1937) ended with no agreement. In the meantime, several coffee destruction schemes were undertaken by Brazil using public funds. During 1931–38, a total of 68.7 million bags were destroyed—twice the world's annual coffee output. Following inaction by other coffee producers (not surprisingly, since they were enjoying the benefit of controls), Brazil abandoned restrictions in favor of free entry and competition. However, 30 years of controls had taken a toll: Brazil's share in the export market of coffee had fallen from 87 percent in 1905 to 55 percent in 1940. Brazil's coffee problem had become Latin America's coffee problem.

Weak demand from Europe during the Second World War, coupled with the desire of the United States to keep Latin America on the side of the Alliance, led to the formation of the Inter-American Coffee Agreement. Its membership consisted of the two dominant coffee producers (Brazil and Colombia) and several smaller producers in Central America (Wickizer 1943). A second agreement was negotiated after the war. The two agreements had the same outcome. Supply restrictions and investment activity by European countries in their colonies brought African producers into the market. Latin America's coffee problem became the Western world's coffee problem.

In 1962 coffee-producing countries accounting for 90 percent of global output and almost all developed consuming countries formed the International Coffee Organization and signed the International Coffee Agreements (ICAs). The objective of the ICAs was to stabilize coffee prices through mandatory export quotas. The United States enthusiastically backed the agreement, considering it a means of increasing the income of Central American coffee producers, hoping that this would contain the spread of communism. Consumer-country support for export quotas was also encouraged by large importers, who benefited from export-tax rebates offered by the Instituto Brazilieno de Café in return for high-volume purchase commitments. Western European countries viewed the ICAs with sympathy, believing that high coffee prices were a good way to aid their former colonies (Bates 1997). To satisfy their quota obligations, governments of coffee producers bought stocks using part of their coffee tax revenues. The export-quota system, first implemented in 1963, continued intermittently until 1989.

After Vietnam entered the world market in the 1980s, with assistance from the Soviet Union, the West's coffee problem became the world's coffee problem.

TABLE 16.3 Coffee's Importance to Developing Countries, 1997–2000 Averages

Country	Percent of Merchandise Exports	Merchandise Exports (millions of current US$)	Per Capita GDP (constant 1995 US$)
Burundi	72.2	64	143
Rwanda	58.1	65	227
Ethiopia	51.5	520	112
Uganda	40.1	509	336
Sierra Leone	29.7	11	161
Nicaragua	25.4	613	435
Honduras	21.7	1,398	715
Guatemala	20.2	2,505	1,535
El Salvador	18.2	2,580	1,737
Tanzania	13.4	637	185
Madagascar	11.1	616	241

Source: International Coffee Organization.

supply-containing mechanisms failed. Brazil then introduced a number of coffee destruction schemes. Between 1931 and 1938, a total of 68.7 million bags were destroyed—twice the world's annual global coffee output. Following years of weak demand from Europe during the Second World War, Brazil negotiated two agreements with other producing countries in Latin America. Those agreements were largely unsuccessful. The countries that agreed to restrict their exports in return for Brazil's coffee stock destruction did not respect their commitments.

In the early 1960s most coffee-producing countries (accounting for 90 percent of global output) and almost all developed coffee-consuming countries formed the ICO, which attempted to stabilize coffee prices through mandatory export quotas under the International Coffee Agreements. The export quota system, first implemented in 1963, was temporarily suspended in 1972 as coffee prices soared. Quotas were restored in 1980 and suspended again in 1986 due to soaring prices. They were reintroduced in 1987 and suspended indefinitely in 1989. These agreements kept coffee prices higher than they otherwise would have been (Gilbert 1995).

Following the collapse of the last International Coffee Agreement, several coffee producers—including Brazil and Colombia but not Vietnam and Mexico—formed the Association of Coffee Producing Countries in September 1993. In the following year, export restrictions did contribute to the price increase already under way, but the agreements were overtaken by the price rises that followed the Brazilian frosts in 1994. During 2000 and 2001 the ACPC worked to persuade coffee-producing countries to retain part of their exports so as to staunch the decline in coffee prices that had started in 1998 and accelerated in 2000. Following some initial enthusiasm, ACPC's efforts failed, and the association was dissolved in February 2002, one month after robusta prices reached their historic low. The ACPC failed for several reasons, but a principal one was that in a liberalized market, the institutional structure necessary to ensure compliance in the member countries—a single-desk marketing agency—had been dismantled. There was also the problem of free-riding by nonmembers. The ICO attempted once again in 2002 to reduce coffee availability in a new agreement under which coffee producers are to remove low-quality beans from the market. Regulation 407 of the ICO states minimum specifications for export qualities, but it will depend entirely on voluntary compliance for its success.

A final consequence of the ICAs was that they gave rise to rent-seeking behavior by governments and marketing boards. The extent of this problem was revealed in the late 1980s, shortly before the collapse of the last ICA, when the Instituto Brazilieno de Café decided to auction 10 percent of its export quotas. The very high prices exporters paid for the quotas revealed to the entire domestic coffee industry the extent of the rents being

extracted. A common consequence in many countries of the end of the ICA was an end to opportunities for rent seeking—this led to significant shifts in domestic support policies in several producing countries.

Domestic Policies

Since the collapse of the ICAs, domestic policies of coffee producers have focused on the reform and liberalization of marketing systems, and more recently on helping producers survive periods of low prices, sometimes through state intervention.

Akiyama (2001) reported that only 15 of the world's 51 coffee-producing countries had private marketing systems in 1985. Twenty-five countries sold coffee through state-owned enterprises, including marketing boards and stabilization funds, and another 11 countries had mixed state and private-sector marketing bodies. Most aspects of coffee marketing and trade, especially in Sub-Saharan Africa, were handled by government-controlled agencies, which typically resulted in heavy taxation of the sector. Although the reasons behind the tax policies varied, the main ones were low price elasticity of short-run supply, implying minimal impact of taxation on supply; less social and political resistance to taxation for cash crops than for food crops; the relative simplicity of tax collection, facilitated by the single marketing channel; and support for the government budget and balance of payments through foreign exchange earnings.

Many coffee-producing countries undertook reforms during the 1990s by removing or redefining the role of the parastatals. A combination of falling prices and rent-seeking activities by some of the marketing boards led several countries to reform their coffee sectors altogether. The outcome of these reforms has been mixed and mirrors the outcome of similar efforts in other export crop sectors (Akiyama and others 2003; Shepherd and Farolfi 1999). Bohman, Jarvis, and Barichello (1996) showed that in many cases, prices paid to growers were lower under the ICAs compared with what they would have been under a free market. Krueger (1990) showed that this was the case for other commodities as well. Krivonos (2003), who evaluated the impact of reforms undertaken in 14 coffee-producing countries during the late 1980s and early 1990s, concluded that in most cases domestic prices adjusted faster after the reforms than they did before the reforms. In addition to higher prices, considerable private investment in the marketing, processing, and transportation sectors took place. Increased supply response also took place in most occasions.

At the same time, the gap created by the withdrawal of the state has not been filled in all cases—the quality of public-sector services has deteriorated. It has been often argued that the quality of coffee declined after the reforms, but this cannot be substantiated from the data. Quality may have declined after the collapse of the ICAs, since during the coffee agreements, quality improvements were the only means of increasing revenue.[5]

Uganda undertook sweeping reforms in 1990 (Akiyama 2001). An overvalued exchange rate, the inefficiencies of the country's Coffee Board, political instability, and the price decline of 1989 made reform the only viable alternative. Under the reforms, producer prices rose from 40–50 percent of export prices to 70–80 percent. The supply response has been considerable, and many entrepreneurs have entered the market. Regulation, quality control, and promotion issues were assigned to the newly established Uganda Coffee Development Authority. In addition to increased output, Uganda regained its reputation as a reliable robusta producer, commanding a premium for its exports.

Reforms in neighboring Tanzania have been less successful. Before 1990 the Tanzania Marketing Board and the cooperative unions handled all marketing (including input provision, transportation, and processing) and trade aspects of the sector. The cooperatives were also responsible for managing the large estates nationalized in the early 1970s. Some reforms were introduced in 1990, but they affected only inputs, price announcements, and retention of export earnings. More comprehensive reforms begun in 1994 allowed private traders to purchase coffee directly from growers and process it in their own factories for the first time in more than 30 years. The outcome of these reforms has been mixed. Growers receive a higher share of f.o.b. (free on board) prices, they are paid promptly, and entrepreneurial activity has increased enormously. But the Tanzanian coffee sector is still plagued by overregulation (including mandatory auction), high taxation, and ad hoc decisions by the Tanzanian Coffee Board (Baffes forthcoming).

Domestic policies in producing countries remain sensitive to international developments as well as to local pressures, and consequently distortionary domestic policies appear in many countries. Although coffee prices have been in long-term decline, the volatility discussed above can make it difficult to determine whether price changes are temporary or a genuine shift in market fundamentals. Under such circumstances it is equally difficult to determine the correct policy response. An additional complication is that the shift to lower-cost producers has been paralleled by the fact that those countries with greater market power have lower dependency on coffee export volumes. This makes defensive policymaking difficult for countries with greater dependency.

The approaches taken to recent domestic policymaking are varied. Among the larger producing countries, Brazil has long had a policy of preferential credit access but more recently has been auctioning put options to farmers at well below fair value; these options are exercisable as sales of coffee to the government. In Central America governments have bailed out the banks that had lent heavily to the coffee sector, but because most loans had been made to larger, more creditworthy farmers, the bailout failed to have much impact on the poorest, except by maintaining employment in larger estates.

Niche Markets and Changing Patterns of Consumption

The last decade has witnessed the emergence of nontraditional channels of production, marketing, and consumption of "new coffees"—gourmet (or specialty[6]), organic, fair trade, eco-friendly (shade-grown or bird-friendly), and other certified coffees. Lewin, Giovannucci, and Varangis (2004: 99) make the following distinction between differentiated and mainstream coffees:

> "Differentiated coffees are those that can be clearly distinguished because of distinct origin, defined processes, or exceptional characteristics such as superior taste or zero defects. In contrast, mainstream coffees are nearly always preground blends that are often unidentified in terms of origin. These are usually, though not always, distributed through mainstream channels such as supermarkets, foodservice, and other institutions and they compete strongly on the basis of price. Differentiated coffees are often distinguished by a closer and sometimes direct relationship with a roaster or buyer rather than being traded in bulk or via the commodity markets.
>
> Differentiated coffees can help the coffee industry compete with other beverages by leveraging unique characteristics that include: (1) geographic indications of origin (appellations); (2) gourmet and specialty; (3) organic; (4) fair trade; (5) eco-friendly or shade-grown; (6) private or corporate standards."

The expansion of differentiated coffees has two, often overlapping, dimensions. The first is social. Rising consumption of fair-traded, eco-friendly, shade-grown, or bird-friendly coffees is driven by social concerns. Consumers wish to ensure that coffee growers receive higher prices (fair trade) or to improve the effects of coffee growing on the environment (shade-grown or bird-friendly coffee). The second dimension relates to taste or preference. Here, increasing consumption derives from geographic indications of origin as well as gourmet and specialty coffees (such as Kona coffee or Kilimanjaro coffee). Consumers are willing to pay a premium for these coffees because of their superior characteristics. Quite often these two dimensions overlap in the sense that consumers may demand specialty coffee that also satisfies certain social criteria.

Certification of nontraditional coffees is complicated and often contentious. Currently, no government agency or international organization has the official mandate to certify nontraditional coffees. With the exception of organic coffee, all certification comes from nongovernmental organizations—hence some of the value of the certified coffee rests with the reputation of the certifying organization. Organic coffee carrying a legally protected trademark is regulated in the European Union, Japan, and the United States.

The rise of self-certification by large supermarket chains, often with standards below those set by the independent certification agencies, raises the issue of credibility and thus of the further expansion of niche markets. Parallel to the question of

self-certification is the emergence of institutional buyers that require producers to meet certain sustainability criteria but do not offer a price premium for doing so.

Firm estimates of the market share of differentiated coffee do not exist, but the figure is probably between 6 and 8 percent of global coffee consumption. Organic consumption in major consuming countries reached 700,000 bags in 2002–03 (or about 0.6 percent of global coffee consumption). In terms of market share the highest rates of consumption were in Denmark (2.8 percent), Switzerland (2.3 percent), Austria (2.0 percent), and Germany (1.2 percent), followed by the United States and Canada (1.1 percent each). Japan's share was 0.5 percent. In the fair-trade coffee market about 240,000 bags were traded in 2001, 43 percent of which were consumed by Germany and the Netherlands.

To summarize, several characteristics of these "new" markets must be highlighted. First, the phenomenal growth of these markets reflects, in part, a low base—implying that as a share of global output, niche markets are small. Second, supply and demand conditions will soon saturate these markets—there is increasing evidence of falling premiums for these coffees in some markets. Third, the benefits usually accrue to producers with some organizational structure, who are usually not the poorest.

Synthesis

The coffee market may have been subject to supply controls longer than any other important commodity. Apart from stabilizing (and perhaps raising) prices in the short term, these agreements brought new entrants into the coffee market. With few exceptions, the trade and marketing regimes of coffee-producing countries are largely free of domestic support or taxation measures. At the international level, there are no tariffs or quantitative restrictions, with the exception of some tariff escalation on coffee products (such as soluble coffee). This escalation is very small compared to other commodities, however.

During the 1990s Brazil expanded its coffee output to less frost-prone areas, thus reducing the probability of weather-induced supply disruptions. Vietnam emerged as the dominant supplier of robusta coffee; it now produces as much coffee as Colombia. At the same time, numerous niche markets have emerged. Currently 6 to 8 percent of coffee output is traded outside traditional marketing channels. On the other hand, new technologies have enabled roasters to be more flexible in their ability to make short-term switches among coffee types, implying that premiums for certain types of coffee cannot be retained for long.

Given the inability of the various supply-control measures to arrest the decline in coffee prices, and in the absence of any new international initiative or distorting domestic policies by dominant producers, the outlook for the coffee market rests entirely on supply and demand. Neither the supply nor the demand outlook favors a reversal of the events that shaped the coffee market during the last decade.

Per capita coffee consumption in high-income countries, where more than three-quarters of coffee is consumed, has remained virtually unchanged over the past decade, implying a near-zero income elasticity for coffee. According to recent International Coffee Organization calculations, per capita coffee consumption in Western Europe declined from 5.8 kilograms a year in 1993 to 5.5 kilograms in 1999 and in the United States from 4.5 kilograms a year to 4.2 kilograms (table 16.4). That is the same as the 1910–20 average. Annual per capita coffee consumption in the United States peaked at about 8 kilograms after World War II and declined to 6.5 kilograms during the 1960s, before returning to its 1910–20 average (Pan-American Coffee Bureau 1970).

Like tea, coffee faces strong competition from the soft drink industry. In 1970 annual per capita consumption of soft drinks in the United States was 86 liters; in 1999 it exceeded 200 liters, according to the U.S. Department of Agriculture. With the exception of a few coffee producers, low-income countries that have high income growth potential and high income elasticities for food do not consume much coffee. Efforts to penetrate new markets (China and Russia, for example) have only recently begun. Even if such efforts succeed, two points must be made. First, success is likely to come at the expense of tea consumption, which is often produced by the same countries that produce coffee (the tea industry has also engaged in efforts to increase consumption). Second, any increase in coffee consumption by developing countries is likely to come in the form of soluble coffee, which, as mentioned earlier, requires lower quality beans.

TABLE 16.4 Per Capita Coffee Consumption of Major Consumers, 1993–99
(kilograms per year)

Country	1993	1994	1995	1996	1997	1998	1999
European Union							
Germany	7.93	7.53	7.37	7.16	7.22	7.01	7.46
France	5.73	5.30	5.48	5.69	5.68	5.39	5.52
Italy	5.18	5.00	4.86	4.95	5.08	5.16	5.16
Spain	4.19	4.28	4.21	4.49	4.63	4.68	5.15
United Kingdom	2.61	2.71	2.25	2.43	2.46	2.62	2.30
EU average	5.76	5.57	5.33	5.57	5.56	5.51	5.52
Japan	2.83	2.92	2.98	2.83	2.90	2.91	3.01
United States	4.50	4.01	3.98	4.10	4.00	4.14	4.24
Average	4.88	4.64	4.51	4.64	4.59	4.62	4.69

Source: International Coffee Organization.

With the aggressive production prospects of major Asian producers, especially Vietnam; with Brazil's expansion, considerable efficiency gains, and reduced likelihood of frosts; and with weak demand prospects due to low income elasticity and strong competition from soft drinks, the outlook for the coffee market is poor. While prices are expected to recover from their current lows when the downward adjustment of supply takes place, prices are unlikely to reach the highs experienced during the boom years of the late 1970s or the mid-1990s.

Notes

1. Arabica typically commands a highly volatile premium over robusta. However, a bivariate time series error-correction model that examined the comovement of arabica and robusta prices using monthly data from January 1983 to September 2001 found extremely low comovement. In the 1990s, for example, the price differential fluctuated between 13 percent in October 1995 and 156 percent in August 1997.

2. The concentration of coffee production has increased (from 0.11 in 1970 to 0.14 in 2000), mainly reflecting the increased shares of Brazil and Vietnam. The concentration index, also known as the Herfindahl index, is defined as the squared sum of production shares of all countries. A value of unity indicates that a single country accounts for the entire production. Values close to zero indicate that a large number of countries have equal shares.

3. There has been some concern that the increasing concentration of the coffee industry has allowed for rent-seeking by the coffee industry. Evidence cited includes the very high profits made by the coffee industry in times of low prices and the "stickiness" of retail prices, which do not fall as fast as world green coffee prices. It is claimed that this reduces final demand because of higher-than-necessary retail prices, thus holding down world demand for any given level of supply. Although recent work by RIAS (2002) found no evidence of collusion or a cartel, it is also the case that the coffee industry wishes to sell the volume that maximizes profits, which appears not to be the highest possible volume.

4. Highly liquid coffee futures contracts, where the hedge fund activity takes place, are traded at the New York Board of Trade for arabica and at the London International Financial Futures and Options Exchange for robusta. Less liquid coffee contracts are traded at the São Paulo Commodity Exchange, Singapore Commodity Exchange, Bangalore Commodity Exchange, and Tokyo Grains Exchange.

5. Quality deterioration has been presented as a negative consequence of policy reforms. However, the two studies that have looked at the issue in some detail, albeit for different commodities found little or no evidence of lower quality of cocoa in Cameroon (Gilbert and Tollens 2003) and cotton in Tanzania (Baffes 2004) after the reforms.

6. UNCTAD (2002: 65) describes specialty coffees: "It is fair to say that 'specialty coffee' has become a generic label covering a range of different coffees, which either command a premium price over other coffees or are perceived by consumers as being different from widely available mainstream brands of coffee. The term has become so broad that there is no universally accepted definition of what constitutes 'specialty coffee', and it frequently means different things to different people. Given this lack of precision in definition it is extremely difficult to describe the market in a global way."

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