

### From Mocha to Java: The Coffee Story

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Coffee was first domesticated in Eastern Africa and then diffused through the Arab world, into Europe, and around the globe. Today this aromatic beverage is the product of an important cash crop in many lesser-developed countries and represents a significant set of economic linkages that extend around the world. This article traces the history of the plant's domestication and diffusion as well as some of the important economic issues regarding its trade.

Coffee is one of the most valuable resources traded in the world today. It is the second most valuable legal commodity traded, after petroleum, and it is the largest food import into the United States by value (Dicum and Luttinger 1999). It is consumed in the wealthiest countries, yet it is grown largely in the poorest parts of the globe. The growing, processing, shipping, preparation, and sale of coffee provide jobs for millions of people worldwide.

#### History

Coffee was first domesticated in what is today Ethiopia. A popular legend says that a goatherd observed his goats eating red berries and becoming very frisky. The boy tried the berries for himself, was filled with energy, and began dancing with his goats. Another story indicates that monks from a local monastery came upon the idea of boiling the berries to help themselves stay awake during long religious ceremonies. By the early fifteenth century, coffee was being cultivated in nearby Yemen. The Red Sea port city of Mocha became synonymous with coffee. Although the Arabs tried to limit the export of fertile coffee seeds or plants, in the early 1600s the Dutch were able to smuggle out plants, which they transported to their colonies in Java and elsewhere. Java is another place name that has become interchangeable with coffee. The Dutch supplied coffee to European coffeehouses, which were growing in popularity. By the late 1600s, coffeehouses were established in North American cities such as New York, Philadelphia, and Boston. The Green Dragon, a coffeehouse-tavern in Boston, was nicknamed the "headquarters of the Revolution" and was likely the place where the Boston Tea Party was planned (Pendergrast 1999).

In 1714 the Dutch gave a healthy coffee plant to the French government, and it was planted in the Royal Botanical Gardens (now the Jardin des Plantes) in Paris. Several years later, a French naval officer, Gabriel Mathieu de Clieu, acquired a cutting from the plant and carried it to the colony in Martinique, where he planted it, and it flourished. Within three years there were millions of coffee shrubs on the island of Martinique, as well as Haiti, and the king made de Clieu governor of Guadeloupe. Around the same time, the Dutch introduced coffee in Dutch Guiana (today Suriname), and seeds were smuggled from there into Brazil.

In the late eighteenth century, French Haiti became the world's largest coffee exporter on the backs of nearly half a million slaves. In 1791 and 1793, the Haitian slaves revolted and destroyed many of the island's plantations. Haiti was replaced by Ceylon as the world's leader in coffee production. However, a fungal disease called coffee rust destroyed the plants on Ceylon, and the British replanted the estates with tea, which replaced coffee as their national drink. Brazil emerged as the leading coffee producer in the 1800s and continues to lead world production today.

Brazil entered the twentieth century controlling more than three-fourths of the global production of coffee (Dicum and Luttinger 1999). Growers in Brazil created an agency, Instituto do Café, which was taken over by the government in 1926; it is now called the Instituto Brasileiro do Café (IBC). The IBC bought coffee from farmers, sold it on the world market, and controlled coffee prices by manipulating the coffee supply. As prices rose, farmers in other countries, particularly Colombia, increased production of coffee. Colombian farmers created the Federación Nacional de Cafeteros (FNC), not to control the supply as the Brazilians did but to stimulate demand. One of the most successful projects of the FNC has been the Juan Valdez advertising campaign to promote Colombian coffee in the United States and Europe. In the 1940s and 1950s, new centers of coffee production also emerged in Africa. In the 1960s, at the urging of Brazil, Colombia, and major U.S. roaster companies, a global cartel was created called the International Coffee Organization, or ICO. The ICO assigned quotas and prices for member countries. However, in the 1980s, support for free trade and a coffee surplus brought an end to the cartel's power.

### **How Coffee Is Grown**

Coffee grows on a woody shrub (genus *Coffea*, family Rubiaceae) that can grow over 30 feet in height but is usually pruned to about eight feet. It is found naturally in tropical forests of Africa, where it is towered over by the canopies of taller trees. Coffee grows best in areas with no frost, temperatures averaging 60 to 70°F, and moderate rainfall. All coffee is grown within 2,000 miles of the equator and is often grown in mountainous

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areas, usually between sea level and 6,000 feet elevation. It is a lush green plant with shiny leaves and small, white, fragrant flowers that are replaced by a fruit. The berries, which are like cherries, have a fleshy fruit that usually contains two seeds, or coffee “beans.” A mature tree will produce 2,000 cherries, or 4,000 beans, per year, about one pound of roasted coffee (Dicum & Luttinger, 1999). There are over 20 species of coffee, but two make up the bulk of coffee grown for consumption today. *Coffea arabica* is native to Ethiopia, while *Coffea canephora* (var. *robusta*) is native to the hotter, lowland forests of West Africa. Arabica and robusta coffees differ in taste, caffeine content, disease resistance, and conditions for cultivation (Dicum and Luttinger).

Traditional coffee agriculture involves shade cultivation of the shrubs under an overstory of noncoffee trees, such as bananas. This agroforestry system provides protection from soil erosion, and the noncoffee trees provide fruit, firewood, and alternate sources of income for the small-scale coffee grower. Although the Green Revolution of the 1950s and 1960s focused initially on food grains such as rice and wheat, the influence has also been felt in coffee production. Many coffee plantations now utilize an agro-industrial approach. The coffee is grown with little or no shade, with heavy inputs of pesticides, herbicides, fungicides, and fertilizers. The coffee cherries are mechanically harvested. Loss of tropical biodiversity, including migratory songbirds, and increased soil erosion has resulted. Additionally, coffee is a cash crop and often supplants food production in efforts to increase profits.

### The Economics of Coffee

Some coffee-dependent economies have suffered from the boom and bust cycles of coffee prices. Pests, disease, frosts, and drought can devastate coffee production. Poor crops cause a short-term rise in prices, which encourages other farmers to plant coffee instead of other crops. After three to five years, between planting and production, a glut of coffee arrives on the market, driving prices lower. Some countries have battled surpluses by burning excess coffee or dumping it in the ocean.

By the time a pound of coffee arrives at the grocery store or local Starbucks outlet, it has already passed through a series of economic linkages between the producer and the consumer, known as the value chain (Dicum and Luttinger). After the coffee is grown and harvested, the farmer removes the seeds from the cherry and washes and dries the beans. Then the coffee is transferred to a local mill, or *beneficio*, for processing. Because coffee is harvested between December and May, while the demand for coffee is constant year-round, some of the coffee is stored at the mill. Eventually it is shipped to the United States or Europe, where it is roasted, packaged, and transported to market. Each step, from crop to cup (grower, *beneficio*, shipping, manufacturing, retail), adds value to the agricultural

product. The “downstream activities” in this product flow (those closest to the consumer) are the activities that add the greatest value. Of a dollar spent on roasted, ground coffee in a U.S. supermarket, only five cents are paid to the grower, while nearly 70 cents goes to the wholesale roasting and packaging company (Dicum and Luttinger).

### Coffee in the United States

In the United States, coffee consumption grew in popularity during the twentieth century. Coffee is a universal beverage, enjoyed by people across different social strata. The coffee break has become an integral part of the workday. The caffeine in coffee provides energy and increased concentration to combat work fatigue. The coffee break also provides important social interaction. Coffee advertising has introduced several icons of pop culture: the figure of Juan Valdez and slogans like “Good to the Last Drop” are instantly recognized. Some popular television programs, such as *Frasier* and *Friends*, feature coffeehouses prominently.

Regional roasting companies, such as Folgers and Maxwell House, became national brands and then fell victim to corporate takeovers. For example, Maxwell House was bought by General Foods, which was bought by Philip Morris, where it was later merged with Kraft. By the late 1970s, almost 90 percent of American coffee roasting and distribution was controlled by four companies. However, at the same time, the specialty coffee industry began to grow rapidly. One specialty store, Starbucks, created a special appeal with darker-roasted arabica beans and special cafés. In contrast to the ubiquitous fast-food outlets, Starbucks created an environment of leisurely conversation. The growth continues today: every working day Starbucks opens four new outlets and hires 200 new employees (Reid 2005). The green logo that features a mermaid from a sixteenth-century Norse woodcut (Schultz 1997) can be found around the world. Starbucks represents the vertical integration of many agribusinesses, with investment in coffee plantations, processing plants, and retail outlets. Starbucks has over 9,000 direct retail outlets worldwide and has expanded into ice creams, bottled drinks, and whole-bean coffees in supermarket outlets.

Whether it is a Turkish *kahve*, Italian *caffè*, or a plain “cup of Joe,” coffee creates connections between people. From the small farmer in Colombia to the Starbucks barista, a series of economic linkages are formed as this agricultural product flows from one part of the globe to another.