ABSTRACT

This paper argues that a "new" international inequality has been superimposed over the "old" international inequality, and that this superimposition can help to explain the increasing degree of inequality in the world economy today. The old international inequality was based on the colonial division of labor, in which the periphery provided raw materials to core-based industries. The new inequality is based on control over flows of information and financial capital by core-based transnational corporations (TNCs). This argument is illustrated using the empirical example of the world coffee market, comparing the responses of market participants to two severe frosts in Brazil, which significantly disrupted the market. Following the first frost, in 1975 under the "old" international inequality, TNCs responded gradually amidst uncertainty over the frost's impacts, allowing coffee-producing countries to reap windfall profits during an extended period of high prices. TNCs responded immediately to the second frost in 1994, due to their access to information about the severity of the frost and their control over financial instruments used to set the world market price of coffee. This quick response enabled them to capture most of the excess profits resulting from a much shorter period of high prices.

Information, Finance and the New International Inequality: The Case of Coffee[1]

John M. Talbot

INTRODUCTION

This paper argues that a "new" international inequality has been superimposed over the "old" international inequality, and that this superimposition can help to explain the increasing degree of inequality in the world economy today. This argument is illustrated using the empirical example of the world coffee market. First the paper identifies the basic features of the old international inequality. Next it describes the basic elements of the new international inequality. Then it illustrates how the combination of new and old forms of inequality further disadvantages coffee producers located in peripheral and semiperipheral areas of the world economy. This is shown through comparison of the events following two severe frosts in Brazil, which significantly disrupted the market, causing all participants to adjust to the new circumstances. The differences between these two series of events show how transnational corporations (TNCs) based in the core have gained further advantages over their suppliers in non-core areas.

THEORETICAL FRAMEWORK

I use the framework laid out by Giovanni Arrighi in *The Long Twentieth Century* (1994) to distinguish between old and new forms of international

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inequality, and to identify the specific characteristics of the new form. Arrighi argued that the development of the capitalist world economy over the past 500 years can best be understood as consisting of four "systemic cycles of accumulation" with similar structures: the Genoese, Dutch, British and US. These cycles are designated by the hegemonic power that served as the center of capital accumulation during each cycle. Each cycle begins with a period of crisis of the previous regime, during which there is instability and increasing competition for capital. Then, a new regime is consolidated, initiating a period of material expansion, during which capital is rapidly accumulated by developing the means of production under the direction of the new hegemonic power. This material expansion leads to a crisis of overaccumulation, initiating a new period of financial expansion, increasing instability, and renewed competition for capital, which establishes the conditions for the rise of a new hegemon.

I argue that the old form of international inequality was established during the British cycle of accumulation, and was consolidated during the phase of material expansion of the US cycle. The establishment of a new form of international inequality dates from what Arrighi calls the "signal crisis" of the US regime, around 1970, and it is defined by the characteristics of the current phase of financial expansion.

The main achievement of the British cycle of accumulation was to draw the entire world into a single world market, or more precisely into a single social division of labor based on industrial production (Arrighi 1994:250–53). The "discovery" of the rest of the world and the initiation of world trade in products such as spices, sugar, coffee, tea, and cocoa took place during the Genoese and Dutch cycles. But a single, integrated system of international inequality was the creation of the British "cosmopolitan-imperial" regime which extended the division of labor to the areas that produced these products. As Arrighi states, "[u]nder the Genoese regime, the world was 'discovered,' under the British it was 'conquered.'" (p. 219) The essence of the old international inequality, then, is the roles assigned to the different areas in the world division of labor. The colonized areas became suppliers of mass quantities of raw materials to feed the industrial machine, and the new working class that operated it, in Britain and the other core countries of that period, and also served as markets for its products. The stimulants, such as coffee and tea, played an important role in the process, because they served to keep the working class sober and alert as they labored in the "satanic mills."

In Arrighi's framework, extensive cycles alternate with intensive cycles, so while the old international inequality was established during the British cycle of accumulation, it was consolidated under the US cycle. During the crisis period dividing these two cycles, the colonial empires of the British period were broken up, and under the US cycle the world economy was nominally divided into

"national" economies. The newly independent former colonies received their own national states and nominal sovereignty within an interstate system; however, their roles in the international division of labor as suppliers of raw materials and markets for finished products remained essentially the same. The integrated national economy of the US served as a model for these newly independent nations; as Philip McMichael (1995) has argued, this model was advanced as the "development project," carried out under US leadership during its hegemonic period, from the Second World War to the 1970 crisis. Under this model the national economies were to be managed and "developed" by the states. But under the rubric of this model, US-based TNCs became, in Arrighi's words, "so many 'Trojan horses' in the domestic markets of other states" (p.294), reinforcing the positions of the former colonies in the consolidating world division of labor and international system of inequality. To be sure, there were innovations involved. One of the most important was the spinning off of routine, labor-intensive manufacturing operations to the semiperiphery. But this was carefully managed by the TNCs and the US state so as to avoid creating any serious competition with the operations of the TNCs. It is in this sense that the old international inequality was consolidated under the period of US hegemony.

The signal crisis of the US regime occurred around 1970, marked by the US defeat in Vietnam, the breakdown of the Bretton Woods system of fixed exchange rates, and the declining legitimacy of the US anti-communist crusade. The result was a period of financial expansion. According to Arrighi, periods of financial expansion are driven by overaccumulation crises. There is excess capital in search of profitable investments in the expansion of material production and trade, driving down rates of profit. In response to this development, capital is increasingly invested in various kinds of financial deals and speculation, which yield higher profits than investments in production, as well as preserving the liquidity of capital, so that it can be shifted quickly to more profitable opportunities. One result of this financial expansion is a concentration of capital, but another is increasing instability. Arrighi argues that the US government response to this crisis was to abandon the ideal of state management of the national economy and to put its faith in the "self-regulating market," in the hopes that this would preserve the competitive advantage of US-based TNCs on the world market, and maintain US hegemony. In McMichael's terms, the "development project" gave way to the "globalization project."

My argument is that this shift resulted in the creation of a new form of international inequality that is superimposed on the old. This new international inequality is based in the financial expansion that has occurred since 1970, because control over financial capital is its foundation. But rather than just benefiting US-based TNCs, the new ideology of the self-regulating market has

enabled all core-based TNCs to tighten their control over production located in the peripheral and semiperipheral regions of the world, through their control over financial capital. This has enabled them to squeeze additional profits out of these regions to fuel their capital accumulation. This new form of international inequality is superimposed on the old—the old world division of labor that underlies the old inequality is still largely intact. The new inequality just increases the overall degree of inequality in the world. But it is also fundamentally different from the old inequality. The old inequality was based on control over production processes, while the new inequality is based on control over financial capital and closely related flows of information. This change suggests that Arrighi's call for a new research agenda focused on non-territorial spaces-of-flows has the best chance of allowing us to discern the outlines of the next systemic cycle.

This argument is illustrated through an examination of the world coffee market during the period of financial expansion. Specifically, I compare the events following two severe frosts in Brazil, the largest producing country, which accounted for between a quarter and a third of total world coffee production. These frosts disrupted the market and forced all participants to deal with a new situation. The ways in which TNCs and actors in the producing countries dealt with these shocks to the market illustrate how the new international inequality works. The process of financial expansion was at an early stage when the first frost hit in 1975, and it had minimal effects on the development of coffee prices over the succeeding 2–3 years. By the time of the second frost in 1994, the financial expansion was fully developed, and it greatly accelerated the response of prices to the shortage, to the detriment of the producing countries.

COFFEE: THE OLD INTERNATIONAL INEQUALITY

The origins of the coffee trade go back to the Arab traders who brought it into Europe from what is now Yemen, in the 17TH Century. The Dutch began planting it in Java late in the 17th Century, and the French brought it to the Caribbean in the 18th, sowing the seeds of the colonial system of coffee production. Coffee is a tropical crop, so the Europeans, who quickly became addicted to it, had to produce it in their tropical colonies. Coffee was just one of the tropical products through which many areas of the globe were drawn into a world division of labor. Sri Lanka, Java, and later, Brazil, became the main suppliers of coffee. While Britain, during its hegemonic cycle, became the major consumer of tea brought from China, and later produced in India by the East India Company, the US, as a result of its revolution against British rule, symbolized by the Boston Tea Party, became the world's largest coffee consuming country. During the period of British hegemony, the European powers obtained their coffee from their colonies: the Dutch from Indonesia, the French from West Africa, the British from East Africa, and the US from its neo-colonies in Latin America.

During the crisis of British hegemony and into the period of US hegemony, national coffee companies began to establish dominant positions in their national markets. In the US, General Foods, with its Maxwell House brand was the dominant company, but it was being challenged by the Folger Coffee Company, which was acquired in 1963 by Procter and Gamble. In France, Jacob Suchard was the largest roaster. In Holland, it was Douwe Egberts. Two large companies, Tchibo and Eduscho, held dominant positions in the German market. Zoegas and Gavalia were the major Scandinavian roasters. General Foods had begun to go international, with operations in Canada, and a large share of the British market. There was one truly global TNC, the Swiss-based Nestle Corporation, with the leading market share in Britain, a major presence in France, and a dominant position in the US market for instant coffee.

These national roasters developed distinctive national blends, based on the types of coffee the coffee drinkers in that country were used to getting from their former colonies. Thus, in France, coffee blends had a high proportion of robustas, the type grown in West Africa, while US blends were based on Brazilian coffee.[2] The Germans consumed the highest quality Central and South American arabicas, obtained through contacts with German immigrants who had gone into the coffee business in those countries. The large roasters obtained some of their supplies directly from exporters in the producing countries and the rest from national coffee importing companies. The use of blends enabled the roasters to substitute coffees within the four broad types to maintain the overall taste of the blend while purchasing the cheapest coffee available. For instance, US roasters blended Brazils with some higher quality arabicas. If arabicas from El Salvador were unavailable or too high priced, they could substitute coffee from Guatemala or Costa Rica, and the blend would taste about the same. They could cheapen the blend somewhat by replacing a small proportion of the Colombian milds with other milds, or replacing a small proportion of the Brazils with robustas, but they depended on at least some Brazilian coffee.

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2. There are four broad types of coffee distinguished on the world market. The highest quality are the Colombian milds, produced in Colombia, Kenya and Tanzania. Next are the "other milds," a broad category of arabica coffee produced in Latin American countries as well as Asian countries like India and Papua New Guinea. Below that in quality are the Brazilian arabicas, also produced in Paraguay and Ethiopia. The lowest quality are the robustas, which have a harsher taste and are often used for processing into instant coffee. They are grown in many African and Asian countries.

These national roasters used extensive national advertising campaigns to establish their brand names, and engaged in oligopolistic competition with other major roasters in their national markets through brand differentiation and cents-off promotions. Given the huge promotional efforts expended by roasters, supermarkets, particularly in the US, often used coffee as a "loss leader," an item sold at or below cost in order to bring people into the store, where they would make other purchases. Once a company had established its brand as the dominant one in a particular market, it was hard for another brand, even one with heavy financial backing for advertising and promotion, to break into that market. This was shown most clearly by the ferocious battles that took place when Folger's attacked the eastern cities dominated by Maxwell House in the 1970s. Procter and Gamble, the owner of the Folger's brand, eventually succeeded in breaking the grip of Maxwell House, but it was a long and extremely costly battle (*New York Times*, January 28, 1979, Section 3, p. 1).

Given this situation, it was almost impossible for any coffee processors located in the coffee producing countries to break into the roasting, packing and selling of coffee in the major consuming markets. For one thing, no single producing country could produce a blend comparable to those produced by the large national roasters. Each country grew one, or sometimes two, different types of coffee, and would have had to import coffee to produce comparable blends. For another, roasted coffee went stale quickly, although the vacuum can did keep it fresher somewhat longer. This put potential competitors in the producing countries at a further disadvantage, because they would have had to ship roasted coffee over long distances to the consuming markets. Further, few coffee processors in the producing countries had the market knowledge or the financial clout to compete with the national roasters' brand advertising and promotional strategies. And as the attempts of Brazilian instant coffee manufacturers to break into the US market showed, even if a manufacturer in a producing country managed to leap all of these hurdles, the major roasters were prepared to use political strategies to thwart the effort (Talbot 1997a).

The colonial role of the peripheral and semiperipheral countries in the overall division of labor surrounding the production and processing of coffee was thus firmly locked in during the period of US hegemony. The coffee producing countries continued to supply green coffee to the importers and roasters in the major consuming countries, and they processed it into final form for consumption. Attempts by states and firms in the producing countries to break into the higher value-added segments of the commodity chain achieved only very limited success. However, collective action by producing countries did bring some success. They began to organize in the 1950s, and were successful in negotiating

an International Coffee Agreement (ICA) with the major consuming countries in 1962. This agreement established an export quota system to limit the flow of coffee to the world market, thereby stabilizing and propping up the price. Because of this, coffee producers, while relegated to the lower segments of the commodity chain, did fare better than the producers of many other primary commodities, in terms of their share of the total income and profit available from all of the operations along the commodity chain (Talbot 1997b).

COFFEE: THE NEW INTERNATIONAL INEQUALITY

This situation began to change in the 1970s, as the period of financial expansion got underway and changed the economic conditions within which the coffee trade operated. The financial expansion was manifested in five interrelated changes in the coffee trade between the mid-1970s and the mid-1990s. First, the concentration of capital took the form of a major consolidation of both coffee trading and coffee manufacturing TNCs. Companies shifted from growth through investment in expanding production to growth by acquisition. Second, producing states' abilities to regulate the segments of the commodity chain within their own borders was weakened, also hampering their abilities to intervene in the world market. Third, there was an explosion of speculative trading in financial derivatives based on coffee: futures and options contracts. This growing speculative interest loosened the connection between changes in the supply of, and demand for, coffee, and movements of coffee futures prices, and increased instability in the futures market. Fourth, prices of physical coffee became increasingly linked to futures prices, thereby increasing the uncertainty in the prices at which coffee producers would be able to sell their coffee. Fifth, these changes increased the need for detailed, instantaneous information about coffee supplies and futures markets movements, creating a situation where a decisive advantage accrued to the giant, consolidated coffee TNCs. Each of these changes is described in detail below.

Consolidation of Capital

The flurry of mergers and acquisitions that was part of the financial expansion, and that was given further impetus by the Reagan deregulation of the early 1980s, was also felt in the coffee trade. By the early 1990s, four major manufacturers and about eight major trading companies controlled a majority of the coffee flowing into and being consumed in the major consuming markets in North America, Europe, Japan, and Australia.

Four TNCs now account for well over 60% of total coffee sales across all major consuming markets.[3] The largest is Nestle, the world's largest food pro-

cessing company. Nestle pioneered the manufacture of instant coffee for the mass market, and began opening plants around the world in the late 1930s. Nestle has been the world leader in instant coffee for virtually the entire post-war period, with the top-selling brand in almost every major consuming market. In the 1980s, it further consolidated its position by moving aggressively into the R&G (roasted and ground) segment of the market. In the US, Nestle bought Hills Bros. in 1983, and Hills in turn acquired Chase and Sanborn in 1984. In 1985, Nestle added MJB to its US acquisitions, and in 1987 it bought Sark's Gourmet Coffees. In Europe, it acquired Zoegas, a Swedish roaster with large market shares in Northern European markets, in 1986. But in 1999, Nestle changed strategy, selling Hills, MJB, and Chase and Sanborn to Sara Lee and discontinuing the Sark's brand. Instead, it introduced a new line of gourmet and whole bean coffees in the US market, under the old Nescafe brand name. Nestle has also been the leader in the Japanese instant coffee market since the 1960s, and has used this position to move into the rapidly expanding East Asian market.

Close behind Nestle is Philip Morris, which began to diversify out of tobacco and into food processing in the 1980s. It had a huge amount of cash on hand from tobacco profits, but saw that it was no longer profitable to invest that capital in tobacco. Philip Morris is now the largest food processing company in the US, and second in the world to Nestle. In 1985, Philip Morris acquired General Foods; GF's Maxwell House division had been the largest US coffee company for most of the post-war period, and number one in the market for R&G coffee, until Folgers passed it in the late 1980s. GF also already had significant market shares in many of the major European markets, and Philip Morris further consolidated its position there in 1990, by acquiring Jacob Suchard, one of the largest roasters in France, with a large share of the EEC market; and Gavalia, a major Swedish roaster with large shares of Northern European markets. General Foods, in a joint venture with food processing giant Ajinomoto, is also the largest coffee company in Japan.

[3] Information on the consolidation of the coffee manufacturing TNCs in the following paragraphs has been drawn from the following sources: *Tea and Coffee Trade Journal*, March 1982, p. 28; August 1982, p. 26; September 1985, pp. 30–31; July 1988, pp. 35–36; January 1989, pp. 16–22; April 1989, pp. 6–7; July 1989, pp. 6–7; September 1989, p 72; December 1989, p. 41; December 1991, p. 40; January 1992, p. 103; November 1992, pp. 39–46; December 1992, pp. 16–21; April 1993, p. 76; June 1999, p. 6; *World Coffee & Tea* March 1967, pp. 44–46; April 1989, p. 16; January 1990, pp. 28–30; January 1991, pp. 26–31; Landell Mills, April, 1991; Stopford (1992); *Boletin Cafetera*, May 15, 1993; Mattera (1992), *New York Times*, June 23, 1990, p. 31; March 9, 1999, p. C2; June 9, 1999, p. C4; *Washington Post*, September 28, 1985, p.1; *Los Angeles Times*, October 22, 1999, p. C1; *Business Wire*, June 8, 1999; December 5, 1999; December 14, 2000; *PR Newswire*, November 7, 1989; December 1, 1995.

The world's third largest coffee manufacturer is Sara Lee, the US clothing and food processing giant which owns Superior Coffee in the US. In 1989, it acquired Douwe Egberts, a Dutch roaster with large market shares throughout Northern Europe, which itself had previously merged with Van Nelle, another major Dutch roaster and food processing conglomerate. Sara Lee also has significant shares of the French and Spanish markets, and is the largest coffee roaster in Brazil. In 1999, Sara Lee moved into third position overall in the US market, by acquiring Chock Full O' Nuts, the fourth largest coffee company in the US, including Tenco, the largest supplier of private label instant coffee in the country. It also purchased Hills Bros., MJB, and Chase and Sanborn from Nestle.

The fourth coffee TNC is Procter and Gamble. In 1963, P&G acquired the Folger Coffee Company, then a major regional roaster based in San Francisco. In the early 1970s, P&G took the Folger's brand name national, by going into the East Coast stronghold of Maxwell House and engaging in a series of brutal discount pricing wars, beginning in Cleveland in 1971 (Hilke and Nelson 1989). By the early 1980s, Folger's passed Maxwell House to become the best-selling brand of R&G in the country. In 1989, P&G bought Maryland Club Foods, producer of the Butter-Nut brand, with large market shares on the East Coast. In 1995 it acquired Millstone Coffee, and in 1999, it bought the bankrupt Brothers Gourmet Coffee, to gain a foothold in the growing specialty coffee market. Procter and Gamble does not have large coffee sales outside the US and Canada, but is still the world's fourth largest coffee company by virtue of being the largest overall in the US, by far the largest consuming market.

All four of these TNCs are multi-product conglomerates, and despite the fact that they are the largest coffee manufacturers in the world, coffee is not their main product. These four companies control over 60% of coffee sales in the major consuming markets, but this statistic actually underestimates the degree of TNC control. In some of the major markets, coffee and food-processing TNCs of only slightly smaller scale also have significant market shares, for instance Tchibo-Eduscho in Germany (these two large roasters merged in 1996), Lavazza in Italy, Paulig in Finland, and Ueshima and Key Coffee in Japan. All of the second-tier European TNCs have expanded their operations since the unification of the European market, and all of them plus the four major TNCs have moved rapidly into, and are competing vigorously for, the newly-opened Eastern European

markets, particularly the more stable ones, such as Poland, Hungary, and the Czech Republic.[4]

Through the 1980s, the increasing concentration of coffee roasters and instant coffee producers in consuming markets began to lead to concentration of coffee importing firms. At the beginning of the 1970s, most commodity trading firms specialized in a single commodity, but during the 1970s, the largest ones began to expand into other commodities related to their main specialization. Tropical commodities were prominent in this movement; thus Gill and Duffus, the largest cocoa trader, moved into coffee and later into sugar, while Sucres et Denrees, the large French sugar trader, moved into cocoa and later coffee. In the late 1970s and early 1980s, the largest manufacturing TNCs, which had been directly importing some of their own coffee, particularly from the large suppliers like Brazil and Colombia, began to turn all of their importing operations over to the trading companies. High interest rates, fluctuating exchange rates, fluctuating prices in the world coffee market, and political instability in some of the producing countries, all combined to increase the risks involved in importing, and the manufacturing TNCs preferred to transfer these risks to the importers. In addition, under pressure of high interest rates in the late 1970s, manufacturers significantly reduced the stocks of green coffee they carried, relying on the importers and on improved transportation and communication systems to supply green coffee for more flexible, just-in-time production.

As the TNCs acquired significant market shares in a number of consuming markets, they began to rationalize their operations, closing roasting or instant coffee plants with small capacity or outdated equipment, and expanding their more modern plants or building new state-of-the-art facilities. These new plants were strategically located near major coffee ports (e.g., New Orleans, Hamburg, and Marseilles) and were often designed to produce for major markets in several different consuming countries. The manufacturers were thus bringing in larger volumes of coffee through a smaller number of ports, and preferred to deal with the largest importers, who could handle the volumes of coffee they required. All of these developments favored the larger trading firms, particularly those that had established multi-commodity operations. As the manufacturing TNCs consolidated, they were also able to use their oligopsony positions to demand better deals from the importers, driving down their profits. Due to all of these added

4. *Tea and Coffee Trade Journal*, August 1990, pp. 52–55; January 1991, pp. 52–56; June 1991, pp. 16–18; February 1992, p. 47; July 1994, p. 5; March 1996, p. 6; May 1996, pp. 50–62; F. O. Licht, December 23, 1993; Landell Mills, April 1991; *Boletin Cafetera*, May 15, 1993; *Financial Times*, April 29, 1997, p. 10.

pressures on the importers, when there were sharp downward price movements, as happened in 1979–80, and again in 1986–87, some traders, even some of the largest ones, were driven out of business.[5]

In 1989, the world market price of coffee crashed, following the suspension of export quotas under the ICA, and this drove many more importers, both large and small, out of business. Some of them were already in precarious positions after the1986–87 coffee price decline and the October 1987 stock market crash (F. O. Licht, November 3, 1987). Some were holding large stockpiles of coffee purchased at high quota prices, which declined precipitously in value after the end of the quotas, and had to be sold at a loss. Others were holding large speculative positions in the futures markets, and also took large losses. But most importers worked on percentage commissions, and when the price fell by 50%, so did their commissions. Thus by the early 1990s, the five largest coffee importers (Neumann, Volcafe, ED&F Man, Cargill, and Goldman, Sachs) controlled over 40% of total world imports (*Boletin Cafetera*, May 15, 1993). Since all five of these companies are privately owned, it is much more difficult to get good information on the companies and their operations than it is for the publicly-traded manufacturing TNCs. Neumann, already a large coffee trader, became the world's largest coffee importer after taking over Europe's largest coffee importer, Bernhard Rothfos, in 1988. The combined company was reorganized in 1989–90 into the Neumann Kaffee Gruppe, and now comprises over 50 companies that deal in coffee exporting from producing countries, importing into consuming countries, futures trading, shipping, insurance, and coffee processing. It reportedly handles about 15% of total world coffee imports, and is unique among the largest traders because its focus is solely on coffee.[6]

5. *Tea and Coffee Trade Journal*, January 1986, pp. 96–99; August 1990, pp. 58–61; pp. 96–99; January 1992, pp. 122–23; December 1992, p. 19; Carl Peel, "What Happened to the Greenies?", *Tea and Coffee Trade Journal*, September 1996, pp. 124–29; *World Coffee and Tea*, November 1980, pp. 14–16; January 1981, pp. 38–40, 80–81, 86–87; November 1981, pp. 12–14; November 1982, pp. 12–15; November 1983, pp. 20–22; November 1984, pp. 8–10; January 1985, pp. 30–34; November 1985, pp. 8–11; August 1990, pp. 28–30; Chalmin, 1987, Chapter 6.

6. Information on Neumann Kaffee Gruppe from *Tea and Coffee Trade Journal*, January 1988, p. 111; April 1990, p. 60; June 1990, pp. 46–49; *Financial Times*, December 2, 1987, p. 32; *Business Times* (Singapore), June 4, 1993, p. 2: company web site, <http://www.trxfutures.com>

Volcafe is the former coffee trading operation of Volkart Brothers, a large European multi-commodity trader and financial company. In 1989, the coffee operation was spun off as a separate company to a management group, and was then acquired by the ERB Gruppe, a Swiss conglomerate that deals in everything from commodity trading to banking to auto importing and distribution.[7] ED&F Man, already a major sugar and coffee importer, became the world's largest cocoa trader when it acquired Gill and Duffus. In 1994, the company went public, but in 2000, its futures trading business became a separate, publicly traded company, while the commodity trading business returned to being privately held.[8] Cargill, the giant grain trader, instantly became one of the world's largest coffee importers when it purchased ACLI Coffee in 1984; and J. Aron, the other major US coffee importer, was taken over by Goldman, Sachs in 1981. In addition to the 40% share held by these five majors, the largest *sogo shosha*, C. Itoh, Marubeni, and Mitsubishi, control most coffee imports into Japan, the third largest consuming market, and also import some coffee into the US and European markets. All of these importers are large, multi-commodity TNC traders, and several of them specialize in a range of tropical commodities. As is true for the major coffee manufacturing TNCs, although these firms are the world's largest coffee importers, coffee is generally not their most important commodity.[9]

This concentration of coffee importing and processing TNCs has gone hand-in-hand with an increasing role for financial capital. For the manufacturing TNCs, access to large amounts of capital is crucial, both for pursuit of their merger and acquisition strategies, and for financing the purchases of the huge volumes of coffee with which they deal. Because they are large multi-product conglomerates, they are better able to generate this capital in-house, and have more clout with the largest banks to be able to borrow what they need on the most

7. Information on Volcafe from *Tea and Coffee Trade Journal*, April 1989, p. 44; June 1989, p. 40; *Financial Times*, March 16, 1989, p. 45; May 9, 1989, p. 31; *New York Times*, March 25, 1983, p. D2; company web site, <http://www.volcafe.com>.

8. Chalmin, 1987, Chapter 6; company web site, <http://www.edfman.com>.

9. The exception to this is Neumann, as stated above. Sources for the information in this paragraph not footnoted elsewhere are: *Tea and Coffee Trade Journal*, December 1981, p. 46; June 1984, p. 41; September 1986, pp. 24–27; July 1990, pp. 18–20; December 1990, p. 15; January 1992, pp. 122–23; Carl Peel, "What Happened to the Greenies?", *Tea and Coffee Trade Journal*, September 1996, pp. 124–29; *World Coffee & Tea*, November 1984, pp. 8–10; January 1991, pp. 10–12; F. O. Licht December 15, 1987; June 11, 1993; Landell Mills, April 1991; Ward's, 1994.

favorable terms. For the trading TNCs, the line between banks and commodity traders became increasingly blurred as a result of the banking deregulation of the 1980s. On the one hand, the large traders were increasingly participating on the commodity futures markets, both to protect themselves against losses on their purchases and sales of physical commodities, and also as part of an integrated trading strategy designed to maximize their profits. They added financial services to their range of commodity trading activities. On the other hand, while some banks got out of commodity financing altogether, other banks began developing specialized commodity divisions to handle this aspect of their business, as it became more risky and complex. As banking was deregulated, some banks also began to trade in financial instruments, including commodity futures, to protect their loans, and also to increase their profits. And some financial services companies, such as Goldman, Sachs, became importers of physical commodities as well. The end result was a set of giant trading and financial companies that had three important advantages in the world market conditions of the 1980s and 1990s. They had the ability to shift funds from one commodity to another in response to price changes and profit opportunities. Second, they had access to large amounts of capital, both in-house and from major banks. This not only allowed them to purchase the huge lots of coffee demanded by the consolidated giant roasting TNCs, but also to be able to take quick advantage of opportunities to take over other coffee traders who might find themselves in financial difficulties. Finally, they also had the capital and the expertise to play the commodity futures markets, not only to hedge their coffee purchases, but also to increase their profits. For some, the trading of financial instruments became almost as important to their bottom lines as the trading of physical commodities.[10]

Weakening of Producing States

Most states in the coffee producing countries exerted some control over coffee growing, processing and exporting that occurred within their own borders. Coffee was an important source of foreign exchange for most of these countries, and as a major export, also a potentially large source of government revenues. In Latin America, most producing countries had state coffee agencies that performed a variety of functions. Typically they had agricultural extension and research services for growers, but they also attempted to protect growers by set-

10. *Tea and Coffee Trade Journal*, January 1986, pp. 96–99; August 1989, pp. 2–3; *World Coffee and Tea*, November 1983, pp. 20–22; January 1985, pp. 30–34; November 1986, p. 13.

ting minimum prices at which processors and exporters could buy coffee from the growers. Most of these agencies also regulated exports by issuing export licenses to exporters and setting minimum export prices. African countries typically had state marketing boards that held a monopoly over coffee exporting, in addition to providing agricultural extension and regulating the internal market. Brazil's state coffee agency, the *Instituto Brazileiro do Café* (IBC) was a typical Latin American agency, but it also performed several additional important functions. It regulated the coffee roasting industry that produced for Brazil's large internal coffee market. It maintained the massive Brazilian coffee stockpiles, using them to regulate the internal price of roasted coffee and also to promote the Brazilian instant coffee industry that produced for export, by selling coffee from the stockpile cheaply to these industries. The Colombian agency, the *Federacion Nacional de Cafeteros* (FNC), was unique. It was an independent organization, jointly controlled by the state and the large coffee growers, with broad responsibilities for regulating the coffee sector. In addition, it also exported coffee, in competition with the private exporters, and aggressively sought new markets for its coffee. It is probably best known for its invention of Juan Valdez, used to promote the image of Colombian coffee in the consuming countries.

The state agencies used their regulatory power to extract revenues from the coffee sector, so that coffee growers usually only received a percentage of the world market price. In Latin American countries this percentage was usually fairly high, but in the African and some Asian countries, the marketing boards extracted significant revenues from the coffee sector, and this percentage was often less than half. However, there were advantages to this arrangement for the growers. In a world market where prices tended to fluctuate wildly, the state agencies could cushion the growers from these price swings by adjusting the percentage of the world market price that was returned to growers. Thus when world market prices were high, they could return a lower percentage to the growers and keep the additional revenue to allow them to maintain a steady price to growers even when the world market price dropped.

After the crisis of the 1970s, the US government decided to abandon the ideal of national regulation of nationally-based economies that had governed its international economic policies in the post-war period. In its place, the US began a push to "free" markets, in order to open them up to US-based TNCs (Arrighi, 1994). This new "Washington consensus" was forced on many peripheral and semiperipheral countries through structural adjustment programs during the debt crisis of the 1980s (McMichael 1995). The effects of structural adjustment on the state coffee agencies were delayed by the existence of the ICA, because the agencies needed to regulate their coffee sectors in order to comply with the

export quotas. But after the ICA quotas ended in 1989, many coffee producing countries were pressured by the US and the international financial institutions to reduce the roles of their state agencies in the coffee sector. In particular, many of the state marketing boards were forced to end their monopolies on coffee exporting, and open the trade up to private exporters. After the world market price crashed in 1989, following the lifting of export quotas, the US and the international financial institutions gained an unlikely ally: coffee growers. World market coffee prices remained at historically low levels for several years, and the coffee agencies and marketing boards were forced to significantly lower the prices paid to growers. Many growers then seized on the fact that they had only been receiving a percentage (sometimes very low) of the world market price, and began to actively campaign for reducing the power of the coffee agencies and abolishing the marketing boards. In Brazil, President Collor, in a fit of free market zeal, abolished the IBC, but given the central role of the IBC within the complex Brazilian coffee sector, this move wreaked havoc. Within a couple of years, there were calls by all segments of the coffee industry for renewed regulation, and a new National Coffee Department was created. The Colombian FNC, which enjoyed a high degree of legitimacy with coffee growers, kept its role in the sector, but even it was severely weakened by the period of low prices following the 1989 crash, and was forced to sell off some of its assets.

Thus, at the same time that the coffee TNCs were consolidating their control over the coffee markets in the major consuming countries, the abilities of states in the producing countries to manage their own coffee sectors, and to influence world market prices, was declining. The overall balance of power was shifted decisively in favor of the coffee TNCs.

Increased Financial Speculation

The third way in which the period of financial expansion was manifested in the coffee trade was in the expansion of trading in financial derivatives based on coffee. Coffee futures have been traded in New York since the founding of the New York Coffee Exchange in 1882. Sugar futures were added in 1916, and in 1970 it merged with the New York Cocoa Exchange to assume its present identity as the New York Coffee, Sugar, and Cocoa Exchange (CSCE) (*World Coffee and Tea*, March 1982, pp. 22–24). The coffee futures contract traded on the New York exchange is called the "C" contract, based on Central American arabica coffees. A futures contract for robusta coffee futures began to be traded on the London Commodity Exchange in the 1970s; this exchange has been reorganized several times and is now the London International Financial Futures Exchange (LIFFE). But until the 1980s, the major participants in coffee futures trading were import-

ers and roasters, who used it mainly for hedging, or protecting themselves against sudden price changes.[11] This is clearly shown by the relationship between the trading volume on the CSCE and the status of the ICA quotas; when quotas were in effect and prices were relatively predictable, trading volume went down. Trading volume began falling in the early 1960s, as the first ICA was being negotiated. By 1966, after the ICA had been in effect long enough to stabilize prices, the exchange was forced to close trading on the "C" contract because the trading volume was so low. Just as some members of the trade were beginning to suggest that the futures market might be unnecessary because of the stabilizing effects of the ICA, a frost hit Brazil in 1969. This destabilized prices, despite the fact that quotas were still in effect, and trading picked up again. By 1971, strains within the membership of the Agreement were making its renewal uncertain, and trading volume kept increasing, spurred on again by the suspension of the quotas in 1972. By 1973, trading volume had surpassed its late-1950s peak, and the 1975 Brazilian frost drove it to record highs. Trading volume fell off somewhat as prices declined in the late 1970s, and as quotas were reinstated in 1980, it fell off again.[12]

Trading was stimulated again in 1985, when a drought in Brazil began to drive up prices and introduce instability into the market once again. But by this time, a number of other changes had occurred, which increased the centrality of the futures markets. The first change was part of the general proliferation

11. A coffee futures contract is an agreement to deliver a lot of coffee (37,500 pounds on the New York Exchange, five metric tons in London) at a specified future date at a set price. A coffee importer who had just purchased 37,500 pounds of coffee from a producing country, at a fixed price, for delivery in, say, three months, would hedge, or protect himself against the price of coffee going down during that three month period (and thus having to resell the coffee at a loss), by selling one futures contract. This contract would obligate someone else to take delivery of the coffee in three months, at a price high enough to cover the fixed price plus his costs for the transaction. If the price of coffee went down, he could still resell the coffee without losing any money. If the price of coffee went up, he could make a profit on selling the coffee, but would have to use some of that profit to buy back the futures contract he had sold, at a higher price. The importer thus trades off the possibility of making a profit on a price increase for insurance against a loss caused by a price fall. The transaction works exactly the same way, but in reverse, for someone who contracts to sell coffee and wants to protect himself against a price rise. Note: the male pronoun is used here because the vast majority of coffee traders are still male.

12. Kay Roggenkamp, "Coffee Futures Volume May be Damaged by Coffee Agreement," *World Coffee and Tea*, September 1981, pp. 30–34; *World Coffee and Tea*, November 1983, pp. 18–20.

of financial instruments and derivatives in the mid-1980s: the introduction of trading in options on coffee futures contracts by the CSCE in 1986. Since these options contracts were considerably cheaper than the futures contracts themselves, they allowed smaller traders and roasters (and speculators) to participate in the market.[13] But they also gave the TNCs (roasters, importers, and financiers) another instrument to juggle into their integrated trading strategies. The second change in the market in the mid-1980s was the rise of the commodity funds, huge conglomerations of financial capital seeking the highest and most rapid profits available, by trading in financial, oil, metals, and agricultural futures markets. The funds were another way in which smaller speculators, who found trading in coffee futures and options alone too risky, but who could not afford to invest in a diversified portfolio of commodity futures, were drawn into the financial markets. Due to these changes, futures trading remained heavy through the late 1980s, despite the reinstatement of quotas in 1987–89. And since the end of quotas in 1989, the volume of futures and options trading has taken off, posting new record highs each year.[14]

These developments decisively shifted the balance of trading on the coffee futures exchanges, from hedgers who were involved in the coffee trade to speculators who were in it only to make a profit.[15] This is demonstrated in Table 1, which

13. An options contract is the right (but not the obligation) to buy or sell one futures contract at a set price. As a hedging instrument, it works in basically the same way as a futures contract. Thus an importer who has purchased physical coffee and wants to protect himself against a price decline, would purchase a "put" option, the right to sell a futures contract at a given price at some future date. If the price of coffee falls below that price, the importer could exercise the option and sell the futures contract at an above-market price to recoup his losses on the physical coffee. If the price rises, the importer would not exercise the option and it would expire; he would lose the cost of the option, or the premium, which is analogous to a premium paid to buy insurance. See ITC (1992) for more details. However, one futures contract is a contract for delivery of 37,500 pounds of coffee; at $1.20 to $1.45 per pound in the late 1980s, this was a very expensive contract (although the contracts are actually purchased on margins, for a small percentage of this total). In contrast, a coffee option was selling for around 10 cents per pound at the same time.

14. *Tea and Coffee Trade Journal*, August 1981, pp. 12, 33; September 1986, pp. 17–19; January 1992, pp. 23–24; Carl Peel, "What Happened to the Greenies?" *Tea and Coffee Trade Journal*, September 1996, pp. 124–29). *World Coffee and Tea*, September 1984, p. 10; November 1986, pp. 20–22.

15. John Heuman, "Futures Markets: Commodity Funds, Speculators, and Influences," *Tea and Coffee Trade Journal*, November 1999, pp. 46–49.

Table 1 – Total Volume of Coffee Futures Trading, New York and London, and Total World Imports of Green Coffee, 1980–1995, In Millions of Tons

	Exchange		Total Futures Contracts	Gross World Imports
	New York	London		
1980	15.2	5.5	20.7	4.1
1985	11.1	5.1	16.2	4.5
1990	30.2	5.8	36.0	5.3
1991	30.2	6.5	36.7	5.1
1992	36.6	4.8	41.4	5.5
1993	44.1	4.4	48.5	5.3
1994	45.2	6.2	51.4	5.4

Source: ITC (1996), Table 14, p. 72.

compares the volume of futures contracts traded on the New York and London exchanges to the volume of physical coffee traded on the world market. If futures contracts were being traded simply to hedge purchases of physical coffee, then total futures volume would be expected to be about two times the volume of physical coffee traded, assuming that the buyer and the seller in each purchase fully hedged their positions. Table 1 shows that the total volume of futures traded exploded from five times the volume of physical coffee in 1980, to nearly 10 times the volume in 1994. If options contracts, which were not traded in 1980, are added in, the total volume of futures and options traded in 1994 was the equivalent of 73.0 million tons of coffee, or almost 15 times the volume of physical coffee (ITC, 1992; 1996). Thus, by the mid-1990s, the vast majority of trades made on the coffee futures markets were made for purely speculative purposes, and were not connected to sales of physical coffee.[16]

The shift from hedging to speculation was also accompanied by a shift in the type of speculation, from that based on fundamental analysis to that based on technical analysis. Speculators who play the coffee futures market based on fundamental analysis rely on projections of future supply and demand, to forecast whether coffee prices are likely to rise or fall in the coming months, and buy or sell futures accordingly, hoping to profit when the futures prices rise or fall. Technical analysis, in contrast, attempts to predict market movements in the future solely on the basis of past market movements, independent of supply and demand

16. Ibid.

conditions. Technical analysts look at the combination of moving averages of prices, trends in total volume, and trends in open interest (the total number of outstanding futures contracts at a given time), to predict whether the market is likely to move up or down. Since they rely on charts of these indicators to make their forecasts, they are often referred to as "chart" traders. The development and refinement of chart trading during the 1980s meant that many small speculators could engage in commodity speculation without knowing a great deal about the commodities they were speculating in. And while the commodity funds use both kinds of analysis, they tend to rely more heavily on charting. Since the funds are also invested in many different financial instruments, they may sometimes move capital into or out of the coffee futures markets because of their judgements of the profitably of coffee futures relative to other instruments. All of these developments meant that large amounts of money were being shifted in and out of the coffee futures markets, for reasons that were often only marginally related to the actual global situation of supplies of, and demand for, coffee.[17]

Finally, the increased volume of trading on the futures exchanges, and the changing nature of the trading, also increased the volatility of futures prices. Speculators followed developments in the coffee market hour-by-hour, if not minute-by-minute. A forecast of cold weather in the coffee growing regions of Brazil, possibly portending a damaging frost, might set off a wave of buying by fundamental analysts, raising the price. The surge in volume and price could trigger a wave of buy orders from the technical analysts, who often had their computers set up to issue an automatic buy or sell order if market trends met certain conditions. Then, a couple of large speculators who decided to sell their contracts to take a quick profit might trigger a wave of sell orders, driving the price back down. A market movement like this could easily take place in the course of one trading day, a 4 hour and 45 minute period on the New York exchange, without any change at all occurring in the overall world supply and demand for coffee, simply in response to speculation that there *might be* a frost in Brazil.

Linking of Physical Coffee Prices to the Futures Market

Another major development linked to the expansion of trading in financial derivatives was the computerization of trading, and this ultimately revolutionized the business. First, reporting of futures trading was completely computer-

17. Ibid.; ITC, 1992, Chapter 14. The older "coffee men," who have been involved in the trade for decades, often look down on the younger speculators, who, they say, don't even know what a coffee tree looks like, and couldn't find Colombia on a map.

ized, so that the details of each transaction made on the trading floor could be flashed to computer screens around the world almost instantaneously. All of the major roasters and importers were linked into this system and kept continuous watch on the movements of the market. Second, deals in physical coffee were increasingly transacted by computer. In the early 1970s, offers to sell coffee were made by exporters through cables sent to the offices of importing companies, with replies expected by the end of the day or by the next morning. By the mid-1980s, these offers were mostly made by computer messages, with replies expected within the hour.[18]

Third, since the current futures prices were immediately available to the traders on their computer screens, and they received offers to buy coffee in the same way, they began to use futures prices to set the prices for their sales and purchases of physical green coffee. Since the "C" contract specified a generally accepted quality standard, prices would be set at a differential to the "C" contract, depending on whether the coffee was of higher or lower quality than the standard Central American coffees on which the "C" contract was based. This linkage made it easier for traders to agree on green coffee contract terms and then immediately hedge the transaction, by buying or selling the appropriate futures contracts. But it also increased the uncertainty involved in the transaction. Exporters could agree to sell a certain amount of coffee at a fixed differential, and then watch the futures price, waiting for what they thought was a peak in the futures price to contact the importer and fix the actual price for the coffee. Of course, neither party to the deal knew whether the futures price would go up or down after the price of the physical coffee was fixed. But the importer did not really care, as long as he had hedged his purchase. Usually, he had already contracted to sell this coffee to a roaster, with price also to be fixed against the exchange, and made his profit by charging the roaster a higher (or lower) differential that he was paying the exporter.[19] In the mid-1970s, almost all coffee was sold at prices fixed when the sale was made; by the mid-1990s, as much as 90% of coffee was sold at a fixed differential to the futures exchanges, with the actual price to be fixed later, by either the buyer or the seller.[20]

This development made the futures market the key price determination mechanism for the entire industry. In the mid-1970s, when hedgers dominated

18. *Tea and Coffee Trade Journal*, June 1985, pp. 19–24; *World Coffee and Tea*, November 1980, pp. 12–13; June 1984, pp. 8–9; personal interviews.

19. For example, the importer would buy coffee from the exporter at a differential of five cents under the "C" contract, and sell it to the roaster at three cents under.

20. ITC (1992); *World Coffee and Tea*, January 1987, p. 62; personal interviews.

speculators on the futures exchanges, the price of physical coffee drove the price of futures contracts. By the mid-1990s, when speculators dominated on the exchanges, the price of paper contracts drove the price of physical coffee. Of course, the price of futures contracts was constrained by the fact that they were contracts for the actual delivery of physical coffee at some time in the future. Therefore, a speculator holding a futures contract had to either liquidate it before the start of the delivery month, or be faced with the prospect of having to take delivery of 37,500 pounds of coffee. This insured that the price of a futures contract always converged on the price of physical coffee as the delivery month approached, and kept a linkage between futures and physicals prices. But the developments over this period significantly weakened the linkage of futures prices to the underlying supply and demand conditions for coffee. The combination of pegging the price of coffee to the futures markets and the increased weight of the commodity funds in these markets has probably increased the overall instability of world market prices for coffee.[21]

Increased Need for Information

By the mid-1990s, anyone who was trading in physical coffee needed to have access to up-to-the-minute information from all over the world. On any day that the futures exchanges were open, they needed to keep an eye on market movements, so that they would not be surprised by sudden price movements that could affect their business. They needed information about weather conditions in several major producing countries, where severe weather that damaged the crop could shift overall world supply conditions. They needed crop forecasts from these countries, because even in the absence of severe weather, an unusually large or small crop could change conditions (coffee trees tend to produce in two-year cycles, where a heavy crop one year is followed by a lighter one the next). They needed information about political conditions and government policies in producing and consuming countries that could change tariffs or interrupt the flow of coffee. They needed information about economic conditions in consuming countries and exchange rate fluctuations that could change the demand for coffee or its import price. Many of these information needs were also present in the mid-1970s. But under the market conditions of the mid-1990s, they were much more pressing. The market was more unstable; it was moving much faster

21. World Coffee and Tea, January 1987, pp. 65–6; Marazzi, 1984; Kuchiki, 1990; John Heuman, "Futures Markets: Commodity Funds, Speculators, and Influences," *Tea and Coffee Trade Journal*, November 1996, pp. 46–49.

in response to news as well as to rumor. It had a tendency to overreact in one direction, and then overcompensate in the other. Because coffee trading firms were operating under integrated strategies involving buying physical coffee, hedging, and speculating, anyone missing out on a major market move stood to potentially lose a lot of money.

Under these conditions, information itself has become a commodity in the coffee trade, as it has in most other sectors of the economy. News services and wire services provide a wide variety of political and economic news from around the world, as well as weather reports. One daily publication, *Complete Coffee Coverage* provides news specifically related to the coffee trade. Other newsletters giving more in-depth analysis are produced by the largest trading houses, such as ED&F Man in the UK, or by firms specializing in commodity analysis, such as F.O. Licht in Germany. All of these services are available on a subscription basis, and most subscriptions are quite expensive. The business of providing statistical data, market analysis, and charting programs for commodity market speculation has itself become a growth industry. There are several different statistical packages for performing chart analysis available on the market, and other services providing the raw data from commodity futures markets to input into these packages. Keeping on top of all of this information requires money and time—money to buy access to it, and time to digest it. In this situation, the largest trading houses that dealt in multiple commodities and combined physical purchases with financial speculation were clearly in the most advantageous position. They had the capital to access the information, the manpower and expertise to analyze it, and they also had the capacity to develop their own in-house fundamental and statistical analyses of the market (ITC 1992).

But the most important advantage held by the largest trading houses was the capacity to develop their own in-house information systems. By the mid-1990s, the major trading houses had established their own exporting subsidiaries in the major exporting countries. Two important developments created the opportunity for this to happen. The first was the wave of structural adjustment and market liberalization programs forced on developing countries during the debt crisis of the 1980s. This reduced or did away with many restrictions on foreign ownership and control of trading firms within the producing countries. It also led to the ending of the coffee export monopolies of many state marketing boards in African countries. This opened up coffee exporting opportunities to privately owned firms for the first time, and in some of these countries, there were few capitalists or private firms with the capital and expertise to move in and take advantage of this opening. The second development was the price crash following the lifting of export quotas in 1989. In addition to driving many green coffee importers in the consuming countries out of business, this crash also put many

large exporting companies in the producing countries into financial difficulties, leaving them ripe for takeover by the major importers. For example, Neumann now has export companies in Brazil, Colombia, Peru, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Burundi, Cameroon, Ivory Coast, Kenya, Rwanda, Tanzania, Uganda, Indonesia, Papua New Guinea, and Vietnam. Volcafe has export companies in Brazil, Colombia, Peru, Costa Rica, Guatemala, Honduras, Nicaragua, Mexico, Kenya, Tanzania, Uganda, Indonesia, and Papua New Guinea. The large trading houses could thus get up-to-the-minute information from their own operatives inside these countries, who were familiar with the situation on the ground there, without having it filtered through some external service.

RESPONSES TO THE BRAZILIAN FROSTS

With all of these developments laid out, we are ready to turn to an examination of the events following the two severe Brazilian frosts of 1975 and 1994. The first one took place near the beginning of the period of financial expansion, at a time when the old international inequality was firmly in place, but the new one was just beginning to become established. Thus the responses to the first frost reflect primarily the effects of the old form of inequality. The second frost, almost 20 years later, came at a time when the new international inequality was firmly established, and thus the responses to the second frost illustrate the ways in which the new international inequality is superimposed on the old.

Two key pieces of information that affect the underlying fundamentals of the coffee market are crop forecasts and information on the amount of coffee being held in warehouses in the producing countries. These are two pieces of information that are much less accessible to traders and roasters located in the consuming countries than many of the other kinds of information discussed above. And this information is much more readily available to officials in the producing countries, giving them a potential advantage over the TNCs. Comparison of the events surrounding the two frosts shows how this advantage was eroded by the changes in the coffee trade from the mid-1970s to the mid-1990s.

The 1975 Frost

On the night of July 17, 1975, a killer frost struck the coffee growing regions of Brazil, hitting hardest in the more southern areas of Parana, Minas Gerais, and Sao Paulo states. Most of the frosts that strike this area are called "white frosts," which kill the leaves of the coffee trees and the flowers that will become the next year's coffee crop. But this was a "black frost," one that turns the sap black and kills the entire tree. Even so, Brazil's 1975–76 crop was not severely damaged; the main harvest had begun in April and was about ⅔ completed, and many of

the coffee cherries remaining on the trees were mature enough to survive the frost. But the dead trees would produce no crop in the 1976–77 harvest year, and even if new trees were planted immediately, they would not begin to bear for another four years. Brazil at this time accounted for about a third of total world coffee production; its production in the 1974–75 season had been about 26 million bags of 60 kg. each. The frost had struck at a particularly bad time. There were civil wars raging in Ethiopia, another producer of arabica coffees of a similar quality to Brazil's, and in Angola, the second–largest producer of robusta coffee. Uganda, another large robusta producer, was also in chaos under Idi Amin. Traders and roasters in the US had been betting on a bumper crop from Brazil that would lower prices, and they had held off buying, so had relatively low stocks on hand.[22]

The IBC, the state agency that regulated the coffee industry, temporarily suspended exports immediately after the frost. The IBC regulated exports by setting a minimum registration price–all exporters had to register their exports, and the IBC would refuse registration for any coffee to be exported at less than its minimum price. In the wake of the frost, prices would obviously be higher, and the IBC didn't want to sell any coffee at too low a price, and needed to assess the situation before raising the registration price. On July 23, a week after the frost, the IBC announced that more than 50% of Brazil's 1976–77 crop had been wiped out by the frost. It also announced that it had 15 million bags of coffee in stocks, and that growers and exporters held an additional 6 million bags. These stocks could be used to replace some of the output lost to the frost. On August 1, it lifted the temporary ban, and raised the minimum export price from 50 to 80 cents a pound. Other coffee exporting countries had already posted similar large increases.[23]

The main independent US source for information on crop damage and stock levels was the US Department of Agriculture's Foreign Agricultural Service (FAS). They produced regular crop forecasts for a variety of tropical crops produced in Third World countries, including coffee. There was an agricultural

22. *Tea and Coffee Trade Journal*, September 1975, pp. 20–24; *World Coffee and Tea*, September 1975, pp. 14–16, 31, 39; October 1975, pp. 18, 50.

23. *Tea and Coffee Trade Journal*, September 1975, pp. 20–24; *World Coffee and Tea*, September 1975, pp. 14–16, 31, 39; October 1975, pp. 18, 50; *Business Week*, September 8, 1975, p. 21; *New York Times*, July 24, 1975, p. 10; August 4, 1975, p. 29; August 7, 1975, p. 46; August 22, 1975, p. 43.

officer stationed in the US Embassy in each of the major producing countries to keep tabs on the agricultural situation. Immediately after the frost, an official from the FAS flew to Brazil, and with the agricultural officer stationed there, began a field survey to assess the damage. On August 21, the FAS reported that the 1976–77 crop had been more than 50% damaged. Their preliminary forecast for the crop was between 8 and 11 million bags. The IBC's forecast was for a maximum of 8 million bags.[24] There were also questions about the amount of stocks held in Brazil. While the export quotas under the first two ICAs were in effect, from 1962–1972, Brazil had built up massive stocks, probably amounting to well over 70 million bags, more than one year's total world consumption of coffee. But after a series of minor frosts in the late 1960s and early 1970s affected production, Brazil had drawn down those stocks dramatically. Coffee can be stored for 6–7 years under optimal conditions, but after that, its quality has deteriorated to the point where it is no loner usable. So even if the total of 21 million bags in stocks that the IBC had announced was accurate, it was unclear how much of it was of exportable quality.[25]

Meanwhile, the situation set off a buying frenzy that some traders labeled "frost panic," as traders and roasters bought up whatever coffee became available, even though the real supply shortage was not likely to be felt for another year. Everyone expected the price to go higher, and wanted to buy as much as they could before it did. And roasters began to raise their prices. The upper line in Figure 1 shows the average retail price of coffee, which followed the wholesale price closely, because retailers' margins on coffee tended to be very small. The first to announce an increase was General Foods (Maxwell House), the largest roaster. It increased its wholesale price by 20 cents a pound on July 28, and the other major roasters soon followed suit.[26] As prices continued to rise through 1976, retailers and consumers began to hoard coffee, following the same logic as the traders and roasters–buy it now, before it gets more expensive. Coffee roastings in the US were up 15.6% in the first half of 1976, compared with the same period a year before. By October 1976, the national average retail price of a pound of coffee had risen to $2.12, up from $1.27 in June 1975, before the frost,

24. *Tea and Coffee Trade Journal*, September 1975, pp. 20–24; *World Coffee and Tea*, September 1975, pp. 14–16, 31, 39; October 1975, pp. 18, 50; *New York Times*, August 22, 1975, p. 43; *Business Week*, November 15, 1976, p. 154.

25. New York Times, August 4, 1975, p. 29; November 23, 1975, Section 3, p. 7.

26. *New York Times*, July 29, 1975, p. 35; September 30, 1975, p. 56; January 17, 1976, p. 37; January 24, 1976, p. 43; February 3, 1976, p. 33.

and there appeared to be no end in sight. By the end of 1976, Folger's had broken the previously unimaginable $3.00 barrier, raising its wholesale price to $3.08.[27] By early 1977, consumers were fed up after almost a year and a half of steadily increasing prices, and there was talk of a coffee boycott. One of the most prominent organizers was Elinor Guggenheimer, New York City Consumer Affairs Commissioner, a self-proclaimed 14–cup a day addict. There were also calls for a Congressional investigation into the soaring prices.[28]

Table 2 below shows the effect of the frost on Brazilian production and exports. If 1974–5 is taken as a baseline, the frost wiped out about three-fourths of Brazilian production in 1976–77. This production shortfall in Brazil's 1976–77 crop year began to be manifested in world production for the 1975–76 coffee year (which overlapped the Brazilian crop year for the six months of April–September 1976), causing a decrease of about 25%. Brazil maintained its export level by drawing down stocks, but by the 1977–78 coffee year, that was no longer possible, and its exports fell below 10 million bags, leading to a world export shortage of about 10%.[29] The response of prices of both physical coffee and coffee futures to this situation followed a similar trajectory; the lower line in Figure 1 shows the trend of the ICO indicator price, an average of the different grades of physical coffee in major importing ports. Before the frost, the ICO indicator price had been hovering in the low 60-cent range, and the "C" futures contract in New York was trading in the 40–50 cent range, for the first half of 1975. The ICO indicator jumped to the mid-80s and the futures price to around 80 cents immediately after the frost, and prices stayed there through 1975. Both rose steadily through 1976, the ICO indicator from 95 cents in January to $2.05 in December, and the "C" contract from around 90 cents at the start of the year up to about $2.20 by the end. Both prices continued to rise in early 1977, with the ICO indicator price peaking at $3.15 in April, and the futures price topping out

27. *New York Times*, August 18, 1976, p. 55; October 13, 1976, p. 63; November 2, 1976, p. 39; December 9, 1976, p. 70; December 21, 1976, p. 57; December 24, 1976, p. D5; January 7, 1977, p. D1.

28. *New York Times*, December 28, 1976, p. 31; December 29, 176, p. 55; January 4, 1977, p. 12; January 5, 1977, p. D1.

29. Brazil is also a major coffee consuming country, with annual consumption estimated at around 7 million bags at this time. For the first time in history following the frost, Brazil actually imported lower quality robustas from Angola and other African countries, for internal consumption and for use in its soluble coffee industry. This allowed it to export a higher percentage of the coffee it produced and benefit from the higher prices.

Table 2 – Brazilian and Total World Production and Exports of Green Coffee Around the 1975 and 1994 Frosts, in Thousand Bags (60 kg.)

	Production		Exports	
Year	Brazil	World	Brazil	World
1973–74	16,240	75,455	15,273	57,425
1974–75	26,290	74,770	14,808	56,643
1975–76	22,444	56,226	13,014	56,868
1976–77	6,663	68,997	14,741	52,382
1977–78	16,048	74,371	9,268	50,882
1978–79	20,853	81,140	13,217	63,372
1979–80	21,296	76,601	14,192	60,335
1993–94	28,500	93,223	17,022	72,044
1994–95	28,000	98,126	16,544	65,371
1995–96	16,800	89,743	12,728	75.033
1996–97	28,000	102,665	18,619	83,085

Sources: For 1973–80, International Coffee Organization, *Quarterly Statistical Bulletin on Coffee*, No. 19, July–September 1981. Brazilian production is for crop years, April 1–March 30; world production and both export figures are for coffee years, October 1–September 30. For 1993–97, USDA, Foreign Agricultural Service, *Tropical Products: World Markets and Trade*, various issues, 1994–99. The figures for both production and exports refer to coffee years, October 1–September 30.

at $3.40 on April 14. From that point, it was all downhill. Folger's was the first to respond, dropping its wholesale price on May 12 from $4.43 to $4.18 per pound. General Foods followed with a 25 cent cut the next day. Physical and futures prices continued to fall until hitting a low of about $1.25 in February 1979.[30]

The producing countries tried to stop the decline of prices during 1977 and 1978, and pulled off a temporarily successful manipulation of the futures market, by executing a series of "short squeezes."[31] The first occurred in July 1977 and worked as follows. The main players were the IBC and the Compania

30. CRB, *Commodity Yearbook 1983*, p. 97; International Coffee Organization; *New York Times*, May 13, 1977, p. D7; May 14, 1977, p. 27.

Salvadorena de Café. They bought July futures contracts during June, 1977 (in market parlance, they "went long"). This entitled them, if they so chose, to take delivery of specific grades of Central American or Colombian coffee in New York at the end of July, from the "shorts," traders who had sold July futures contracts. But they knew that there was very little coffee available in New York of the quality certified by the CSCE as deliverable against the New York "C" contract, and they prevented any more from arriving, by buying it and shipping it to Europe. The "shorts" had sold futures contracts for hedging or speculative purposes, and had no intention of actually delivering coffee. They had intended to liquidate their positions, by buying futures contracts back from the "longs." But the "longs" were not selling. The only other option the "shorts" had was to find suitable coffee somewhere and somehow get it to New York, to fulfill their obligations under the futures contracts. But the "longs" already held this coffee. In this situation, the "longs" could practically name their price for allowing the "shorts" to liquidate their positions, and make a handsome profit on the deal. Similar operations were carried out on the London exchange, and the operation was repeated for the December 1977 futures contract. At that point, the Commodity Futures Trading Commission (CFTC) stepped in and ordered the "longs" to liquidate their positions in an orderly fashion (*New York Times*, December 30, 1977, p. 1).

In 1978, eight Latin American producers formed the Bogota Group (Brazil, Colombia, El Salvador, Costa Rica, Guatemala, Honduras, Mexico, and Venezuela), and established a fund of $140 million to carry out similar operations during 1978. In 1979, they made a killing on the July futures contract because of an early frost in Brazil. The Group coordinated its buying of the futures contract with the IBC's announcement of its estimate of the damage caused by the frost, which was probably artificially inflated. They were holding futures contracts bought at low prices before the announcement, and when the market reacted to the news, futures prices jumped. They reportedly made over $300 million on this operation. In May 1980, the group incorporated as Pancafe, but at that point, there was too much surplus coffee floating around to make such a short squeeze profitable. Brazilian production had recovered, and new trees planted in other countries as prices began to increase in 1975–76 were beginning to produce. Pancafe lost money and was disbanded later in the year, as part of the agreement to reinstate export quotas under the ICA.

[31.] Information on this manipulation comes from Edmunds (1982) and Greenstone (1981).

The 1994 Frost

On the night of June 25, 1994, a severe frost struck the southern coffee regions of Brazil. It was immediately described as the worst since the 1975 frost. Then, about two weeks later, on July 10, another frost hit. It killed additional coffee trees that had only been weakened by the first frost, as well as striking new areas not hit by the first frost. Once again, the main effect was not on the 1994–95 harvest, which was well underway, but on the following year's crop. Brazil's production in the year preceding the frost had been about 28 million bags, similar to its level of production before the 1975 frost, but by this time, Brazil accounted for only about a quarter of total world production. The frost had struck at a particularly bad time. When the ICA quotas had been lifted in 1989, world market prices had crashed, hitting historic lows in 1992. Some growers in many countries had switched from coffee to other crops, and those who continued to grow it had cut back on maintenance and fertilizers. The Brazilian crop was already suffering because of a prolonged dry spell preceding the frost, and this probably increased the frost damage. The 1994–95 crop was expected to be smaller than that of 1993–94, and exportable production was expected to be below total world demand for coffee for the third straight year, resulting in a further drawdown of stocks. Prices had already begun to turn upward in 1994 because of the expected shortage and because of a coffee retention plan announced by the newly formed Association of Coffee Producing Countries (ACPC), in an attempt to raise the world market price.[32]

Speculation about the amount of damage to Brazil's crop abounded. Early estimates from sources in Brazil began to circulate almost immediately at the CSCE, and they put the damage from the first frost at 10 million bags. The earliest official estimate was by the private forecasting organization Accu-Weather, which estimated the loss from the first frost at 30–40% of the 1995–96 crop, with the second frost destroying an additional 10–15%. The Brazilian National Coffee Department (NCD), the successor to the IBC, released its estimate of a production decline of 40% on July 27. The FAS representatives were in the field assessing the damage caused by the first frost when the second one hit. The FAS did not release its estimate until August 12, and it was for a decline of 30–40% in the 1995–96 crop. The NCD forecast was for a harvest of about 16 million

[32.] *Tea and Coffee Trade Journal*, August 1994, p. 5; *World Coffee and Tea*, August 1994, p. 5; September 1994, p. 5; October 1994, p. 5; *New York Times*, June 28, 1994, p. D1; June 29, 1994, p. D1; July 12, 1994, p. D13; *Financial Times*, June 28, 1994, p. 30; July 12, 1994, p. 1; USDA, FAS, *Tropical Products: World Markets and Trade*, June 1994.

bags, while the FAS estimated 17–20 million. The Brazilian government officially disputed the FAS forecast, saying that it was underestimating the frost damage. Then the German commodity analysts F.O. Licht weighed in with their estimate of 18 million bags on August 26.[33]

Coffee prices responded to the frosts immediately. On Monday, June 27, the first day of trading after the frost, coffee futures rose 25%. The next day, the coffee roasters reacted. Folger's raised the price of its 13–ounce cans by 40 cents, and Maxwell House's went up by 35 cents. There was a second price increase in early July, even before the second frost hit, and a third one shortly after the second frost. The upper line in Figure 2 shows the trajectory of retail coffee prices in the US. The July increase in the wholesale price of coffee was a record-breaking 42.8%, driving the US Department of Labor's Producer Price Index up by 0.5% for the month, and raising fears of renewed inflation. Once again, these price increases generated consumer protests, and Richard Kessel, Executive Director of the New York State Consumer Protection Board wrote two letters to Attorney General Janet Reno urging an investigation of the manufacturers' price increases. They had come so rapidly that they could not possibly reflect actual cost increases, he argued.[34]

Coffee futures prices were extremely erratic. After climbing for more than a week after news of the first frost, they began to fall as traders second-guessed the initial reports from Brazil about the extent of the damage. Then they rose on a forecast of more cold weather in Brazil, and fell when the Brazilian government announced an auction of some of its coffee stocks. Then the second frost hit, prompting a new round of increases. After another week of increases, GNI, a London broker, in its "International Futures and Options Briefing" newsletter, said that the reports of frost damage had been exaggerated, and a CFTC report showed that large speculators were buying heavily, betting on further increases.

33. *World Coffee and Tea*, August 1994, p. 5; October 1994, p. 5; *Financial Times*, July 12, 1994, p. 1; August 13, 1994, p. 2; August 16, 1994, p. 13; August 27, 1994, p. 12; *Journal of Commerce*, July 28, 1994, p. B8.

34. The 13-ounce cans were a legacy of the 1975 frosts; as coffee prices climbed over an extended period following that frost, the TNCs tried to disguise the extent of the price increases by switching from a standard one-pound can to the 13-ounce size. So Folger's 40-cent increase actually amounted to an increase of almost 50 cents per pound. *New York Times*, June 28, 1994, p. D1; *Financial Times*, July 16, 1994, p. 9; *Buffalo News*, June 29, 1994; *Arizona Republic*, June 30, 1994, p. C1; *Journal of Commerce*, July 25, 1994, p. B6; *Business Week*, August 1, 1994, p. 20; *Chicago Sun-Times*, July 14, 1994, p. 52; August 11, 1994, p. 4; *PR Newswire*, July 2, 1994.

These reports sent prices down again for several days. Then, when Brazil's NCD released its official estimate of the damage, prices soared again, because it was worse than anyone had expected. As the date approached for the release of the FAS official estimate a couple of weeks later, prices fell again, as traders expected it to be more optimistic than the official Brazilian estimate. When it was not much more optimistic, prices rose again. And so on.[35]

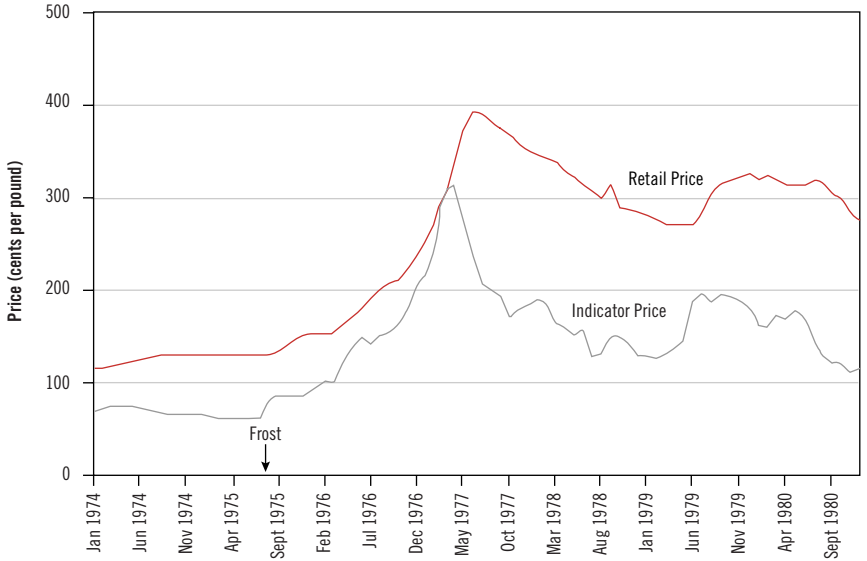
Table 2 above shows Brazilian and total world production and exports for this period. The final production figure for 1995–96 turned out to be closer to the Brazilian NCD estimate than to FAS's. Brazil made up some of the difference from stocks, and its exports were only about 4 million bags lower than in 1994–95. Total world exports were actually higher in 1995–96 than in 1994–95, as other countries, particularly Colombia and the Central American countries increased their exports. They had been building up stocks since the ACPC retention plan had gone into effect in late 1993, and they were able to take advantage of the higher prices and sell off these stocks. By 1996–97, world coffee production had recovered from the period of low prices in 1989–92, and was adequate to meet world demand for the first time in four years. The lower line in Figure 2 shows the ICO indicator price during this period. After a rapid run-up following the frosts, it slowly drifted downward over the next two years.

Comparison

There are several reasons why the reaction of prices to the 1975 frost was more drastic than to the 1994 frost. One was the severity of the frost. The 1975 frost caused more lasting damage to production in Brazil than did the 1994 frost; after the latter one, production recovered to previous levels within a year. Another reason was that Brazil accounted for a lower percentage of total world production in 1994 than in 1975, so the impact of the frost on world coffee supplies was smaller. In addition, there was panic buying at all levels following the 1975 frost: importers, roasters, retailers, and consumers were all hoarding coffee, and that prolonged the run-up of prices. This also caused a steeper decline after prices peaked, because everyone used up their extra supplies before buying more. The Congressional Research Service estimated that this panic buying was the primary factor that drove prices up about twice as high as they would have

35. *New York Times*, June 28, 1994, p. D1; June 29, 1994, p. D1; June 30, 1994, p. D17; July 8, 1994, p. D11; July 9, 1994, p. 43; July 11, 1994, p. D2; July 12, 1994, p. D13; July 26, 1994, p. D16; August 16, 1994, p. D13; *Washington Post*, July 12, 1994, p. C1; *Financial Times*, July 20, 1994, p. 30; July 28, 1994, p. 28; August 13, 1994, p. 12; August 16, 1994, p. 17.

Figure 1 – ICO Indicator Price for Green Coffee and Average Retail Price of Roasted and Ground Coffee, Monthly Average, January 1974 – December 1980



been if they had been based solely on availability of supplies (*New York Times*, November 14, 1977, p. 53). A major reason for the panic buying was uncertainty– no one knew how much coffee would be available, and after many months of price increases, people started to expect the worst. Importers were willing to pay more to be sure of obtaining coffee, and passed the higher prices up along the rest of the commodity chain. As importers and roasters paid the higher prices, they drove futures prices up by hedging their purchases.

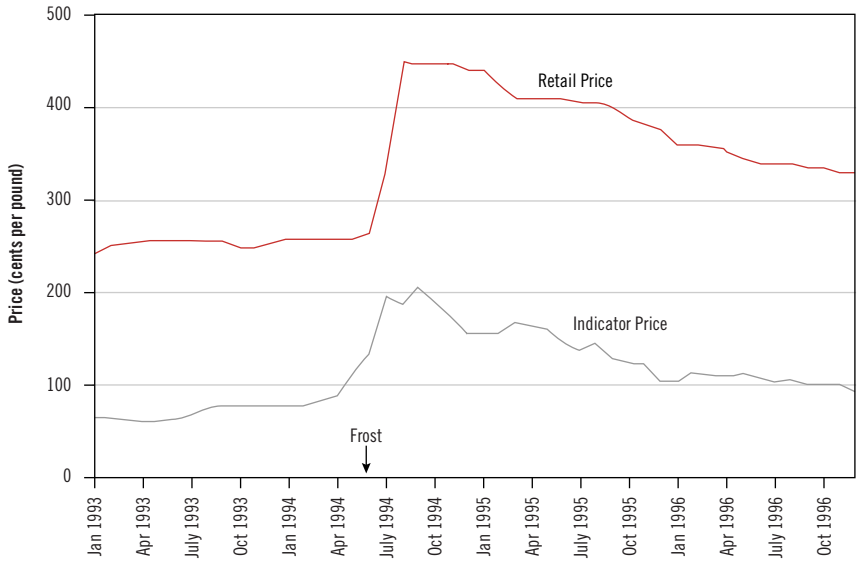
The dynamic following the 1994 frost was completely different. Futures prices jumped immediately, and roasters followed with immediate wholesale price increases that would cover their increased costs of buying green coffee in the future. Traders and roasters had their sources in Brazil, who were closely monitoring the situation. They had a better idea of the extent of the frost damage and of the size and condition of Brazil's coffee stocks than they had been in 1975. In fact, there was almost too much information about conditions in Brazil available in 1994. In addition to the NCD and FAS, there were numerous estimates of the frost damage floating around in 1994. Commodity traders like ED&F Man and GNI published their estimates; analysts such as F.O. Licht published theirs; and even Accu-Weather released one. This plethora of information, and the fact that

commodity funds and other speculators carried much more weight in the futures exchanges in 1994, caused a highly volatile situation in the futures prices. And this was translated into volatility of actual green coffee prices, because by that time the futures price determined the physical price. Despite this volatility, there was no prolonged run-up of prices to cause hoarding. The market was moving much more rapidly; after quickly climbing to a peak only a few months after the frost, futures and green coffee prices quickly began drifting downward. However, wholesale and retail prices remained high.

Another major difference was that there was no attempt by producers to manipulate the market once prices began to decline in 1994, as they had done in 1977–79. The volume of trading on the CSCE was around 10–12,000 contracts per month in 1978; by 1995, it was around 160,00 per month. The expense of trying to squeeze the market in 1995 would have been astronomical. And once again, information systems were much better in 1994. Brazil and El Salvador were able to pull off their operation in 1977 in relative secrecy. There were rumors floating around, but no one really knew what was happening at the time. The details only came out a few years later. Such a level of secrecy would have been impossible in 1994, particularly regarding the buying of large quantities of physical coffee and shipping them from one place to another. In fact, by 1994, the largest traders were in a better position to manipulate the market than states or firms in the producing countries. Their integrated strategies involved both buying physical coffee and speculating, and these could be combined in a variety of ways to their advantage. For example, they might sell futures contracts to lower the price slightly, and then quickly fix the price of some physical coffee that they had bought at the lower price. With the huge amounts of coffee they dealt with, even a movement of a fraction of a cent could generate a significant profit.

But the most striking difference between 1975 and 1994 is revealed by comparing Figures 1 and 2, showing the trajectories of prices surrounding the two frosts. In Figure 1 shows retail coffee prices generally following the trajectory of physical green coffee prices, with a lag. The gap between the two lines narrows from the beginning of 1974 through the point where green coffee prices are roughly equal to retail prices, in March 1977. This shows that, while retail prices were increasing, coffee producing countries were able to increase the share of these prices that they retained. Since it took several months for green coffee to get from the producing countries to the supermarket shelves, the coffee manufacturers were never losing money, but they were being squeezed. However, the gap between the two lines is considerably wider after the prices peaked than it was before. This shows that the roasters more than made up for it on the downside of the price spike. They lowered their wholesale prices, but by a smaller percentage than green coffee prices were falling. The wider gap after the frost already begins

Figure 2 – ICO Indicator Price for Green Coffee and Average Retail Price of Roasted and Ground Coffee, Monthly Average, January 1973 – December 1996



to show the increasing market power of the TNC roasters, who were able to increase their margins even in a falling market.

Figure 2 shows a different pattern. First, the gap between green and retail coffee prices is much larger before the frost in this Figure. This means that producing countries were receiving a much lower percentage of the total income available from coffee sales in the early 1990s than they had in the 1970s. Second, roasters' responses to the increase in green coffee prices were much faster in 1994. In 1975, the first increase in wholesale price was announced by General Foods, eleven days after the frost. In 1994, Folger's increased its prices three days after the first frost struck, and the only reason it took that long was that the frost hit on a Saturday night. There were no futures traded for more than a day after news of the frost was first reported. Futures prices jumped on Monday, the next trading day, and the roasters raised their prices on Tuesday. The phenomenal 42.8% increase in wholesale prices for the month of July stands out in Figure 2, so that the lower line briefly approaches, but comes nowhere near, the upper. Even as green coffee prices were increasing in 1994, producing countries were not able to significantly increase their share of total income. Part of the reason for this was that green coffee and futures prices reached their peak so quickly after the frost,

and began to trend down. And, as was the case following the peak in 1977, the gap between the two lines only grows larger again after prices peak. The differences between these two Figures are literally a graphic illustration of the way the balance of power had shifted away from states and firms in the coffee producing countries and toward the giant coffee TNCs.

CONCLUSION

I have argued that a new form of international inequality has been established, superimposed on the old form. The old form was established during the period of British hegemony in the late 19th Century. It was based in a global division of labor that assigned different areas of the world to different roles in an industrial production system. The position of colonial, semiperipheral, and peripheral regions of the world in this division of labor was primarily one of suppliers of raw materials to the industries of the core countries, and of consumers of their output. This old international inequality was consolidated during the period of US hegemony from World War II up to about 1970. It was updated and modernized for a world that had undergone decolonization. Some routine, labor-intensive manufacturing processes were spun off from the core to the semiperiphery, but they were under the control of core-based TNCs and integrated into their global production systems. Most of the periphery, and sections of the semiperiphery, remained suppliers of raw materials to the core. The old system of international inequality was still firmly in place. After the crisis of the US regime of accumulation, around 1970, a period of financial expansion was initiated. I have argued that during this period, a new form of international inequality has come into being. While the old form relied on control of production processes and the flow of goods, the new form is based on control of capital and flows of information. This new form has been superimposed on the old form, thereby increasing the overall degree of inequality in the world. I have illustrated this argument by considering the case of coffee.

Coffee was one of the central commodities involved in the establishment of the old inequality. It was one of the first commodities produced in mass quantities in the colonies for consumption in the industrial core. A large number of peripheral countries came to depend, and still depend, on the money earned in their roles as suppliers of green coffee to the major consuming markets in the core. Although coffee producers were able to organize, and fared better than the suppliers of many other raw materials, they were still in a disadvantaged, unequal, position in the world division of labor, and were kept there by the economic and political power of the TNCs. The coffee TNCs controlled the flow of coffee into the core markets, its manufacturing, and its distribution. They used this position

to maintain control over a large share of the income and profits generated by the global production system that provided the coffee. After the first frost, producers were able to take advantage of the shortage and the uncertainty to increase their shares of these income and profits. This proved to be only a short-term advantage, and the TNCs were able to more than make up for their losses in the longer term, after prices had begun to come down. But even in a declining market, the producers were able to play the futures markets in order to make a profit and slow the decline somewhat.

Developments during the financial expansion have exacerbated the situation of coffee producers. The TNCs are larger and more powerful, and they have consolidated their hold over the core markets. The states in producing countries are weaker, less able to control the growing and processing of coffee that are carried out within their borders. While a few firms based in the semiperiphery have risen to the status of global TNCs, able to compete with the core-based TNCs, they are the exceptions, and the latest evidence suggests that even they are being squeezed out (Anderson and Cavanagh 2000). During the financial expansion, control over capital and information has become an even more important source of power than control over production and flows of goods. And the coffee TNCs have used this control to further extend their advantage. The price that producers get for their coffee is now tied to the value of paper contracts that depend as much, if not more, on rumor and speculation than on the actual supply and demand conditions for coffee. And with their vast networks of capital and information flows, the TNCs are in a much better position to capitalize on this situation than are coffee producers. During the second frost, the coffee TNCs were able to pull off a pre-emptive strike, raising their prices so quickly that not only did producers not even derive any temporary benefits from the shortage, but their share of overall income and profits declined even further. This is the effect of the new international inequality.

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