Research Department
Federal Reserve
Bank of
San Francisco

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Business & Financial Letter

Black Magic

The first known coffee advertisement in 1652 claimed that coffee "quickens the spirits and makes the heart lightsome,. . .is good against sore eyes,. . .excellent to prevent and cure the dropsy, gout, and scurvy." While medical research has not borne out the full range of these claims, and has, in fact, even discovered some unwelcome side-effects of the delectable beverage, there is something about coffee that keeps people buying and drinking it no matter what the price. In technical terms, its demand is price inelastic—when the price of coffee goes up by a given percentage, consumers' purchases will decline by something less than the percentage increase in price. Specifically, when retail coffee prices rise by 10 percent, purchases tend to fall by only 2 to 4 percent.

Java Man in Rio

But coffee prices have risen by much more than 10 percent recently. In fact, since the Brazilian freeze of 18 months ago, prices of the basic raw material (green coffee) have risen in New York by a massive 255 percent. But sharp price fluctuations are not unusual for this commodity. With sharp changes in production, coffee prices tend to run in roughly 20-year cycles. The last cycle began its upswing in the late 1940's, peaked in the mid 1950's and continued downward until 1972. No one need guess where we are today.

Governments in producing countries can take actions to stabilize prices, but the game is a tricky and potentially expensive one. Brazil found this out in the 1930's, when its attempts to stabilize prices led it to burn some 80 million bags of coffee, equivalent to two full years of world consumption. Its actions were understandable, however, in the light of an old rule of thumb which says that unilateral action by a producing country (such as holding crops off the market) can be successful if its share of the total market exceeds the price elasticity of demand for the relevant commodity. Brazil could benefit from unilateral action around the turn of the century, since it then produced 70 percent of the world's coffee—in other words, its market share of .7 exceeded the price elasticity of .2 to .4. However, as other Latin American and African countries joined the coffee game, Brazil's market share slid back to the present figure of 30 percent, so that it now has less freedom of action than heretofore.

Percolating prices

Before 1950, the wholesale price of green coffee generally fluctuated between a nickel and a quarter per pound, with the last super-low prices being in the six-to-seven-cent range in 1940. Last week, green Brazilian coffee was going for $2.25 a pound in New York. The basic reason was the chilly night of July 17, 1975—a night that will live in infamy—when an unwelcome Brazilian frost not only devastated the current crop, but also destroyed a large portion of the coffee trees themselves. The Brazilian crop fell

(continued on page 2)

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from 28 million to about 11 million (60 kilogram) bags, according to U.S. Department of Agriculture estimates. Very dry conditions in early 1976 reduced the crop further to 9.5 million bags (USDA estimates) or as little as 6 million bags (Brazilian estimates). Production has held up remarkably well elsewhere, despite weather problems and civil strife in other producing areas. But in the aggregate, Brazil's severe decline has more than offset an increase in non-Brazilian production, leading to a 1976/77 world crop of 64.7 million bags—about a 14.6-percent decline from a year ago.

Drip grind

While such a production decline should certainly be accompanied by some rise in prices, there is still a question why prices have risen as fast as they have. A recent estimate of the price elasticity for green coffee pegs it at about -0.32. Other things equal, a decline in production of 14.6 percent thus would be accompanied by a price increase of about 46 percent. Of course other things are not equal. Incomes and prices generally have risen in consuming nations, and certain market factors (such as declining stocks and rising export taxes) have further pushed green coffee prices upward. Making generous adjustments for these factors yields an estimated price increase of about 130 percent since the freeze—considerably less than the 255-percent rise actually encountered.

Why the difference? First the villain theory. Admittedly, Brazil has made purchases of about 900,000 bags of coffee from El Salvador and the Malagasy Republic, tending to boost prices even more, but much of this coffee was later repurchased by El Salvador when it realized that its own quota under the International Coffee Agreement could be reduced by virtue of the Brazilian sale. Also, Brazil no longer has a large enough market share to be able to raise its own income through a unilateral reduction in world supply. Only if all the major coffee producers, acting in unison, withheld coffee from the market could all countries benefit from a price rise. And unlike the case of oil, there has been no evidence of any overt cartel-like activity.

A second possible explanation is the inventory situation. After declining for a decade, coffee inventories could be very low by the end of this year. While there is no actual shortage today—i.e., production plus inventories can fill traditional consumption requirements—two more years of low Brazilian production could pretty well deplete world stocks and lead to an actual shortage. Some wholesalers and retailers (and consumers) may be building up their own stocks in anticipation of such a shortage, and their actions would give an additional boost to current prices. (The extent of those buying pressures would be hard to evaluate, however.) Yet on balance, green-coffee prices are definitely higher than one would expect given basic supply and demand factors. Indeed, we may note that the futures market has been pricing future deliveries of coffee at less than current prices.

Drink more milk

The immediate future is not bright for the consumer. Though green-coffee prices are unlikely to rise any further (barring any further weather or disease damage), the previous price escalation has yet to work its way through the system. Since the July 1975 freeze, green-coffee prices have risen by 255 percent, but wholesale prices by only 117 percent and retail prices by a meager 88 percent. Wholesale prices should not rise as much as green-coffee prices, since the prices of the labor, metal, energy and other factors which combine with the green coffee to make tinned, ground coffee have risen relatively slowly over the past 18 months.

But even if wholesale prices now froze in their tracks, retail prices probably would continue to rise. In San Francisco, for example, a major brand of coffee is currently wholesaling for $3.08 a pound and retailing for only $2.59. When supermarkets replenish their stocks with the more expensive stuff and add on their usual 14-percent margins, consumers could be paying $3.51 a pound. (Average grocery mark-ups are about 19 percent, but coffee, the traditional loss leader, normally carries a lower margin.)

What can consumers do? Retire Danny Thomas and Joe DiMaggio? Boycott the habit-forming drug? A serious boycott with, say, a 30-50 percent decline in consumption would bring prices down—at least for the duration of the boycott. However, the beneficiaries of the low prices would be the addicts who kept right on drinking, while as soon as the boycott was over, prices would begin to rise again. Besides, it would take a heroic effort to marshal a large boycott against coffee. Compare the situation with the sugar episode of 1974. When sugar prices soared in that year, food processors switched to corn sweeteners and consumers to honey. But only a few consumers will eagerly switch from coffee to even its distant caffeine cousins—tea and cola. And cocoa, another possible alternative, has its own problems right now.

Coffee, indeed, has no very close substitutes. This does not mean that consumers will not drink less when prices rise—our price elasticity estimates show that they will. In 1954, when retail coffee prices climbed 43 percent in 18 months' time, consumers began to squeeze an additional 20 cups from each pound of coffee. Still, it is doubtful that coffee drinkers will now allow their brew to be much diluted beyond its present 60 cups per pound.

So, the scenario for the rest of 1977 might look like this: no further rise in green-coffee prices, a relatively modest rise in wholesale prices, and perhaps another 40-percent climb in retail coffee prices. The boycott may not be very effective, though per capita consumption of coffee should continue to decline as it has for the past decade and a half.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 1/26/77	Change from 1/19/77	Change from year ago Dollar	Change from year ago Percent
Loans (gross, adjusted) and investments*	92,092	- 673	+ 4,271	+ 4.86
Loans (gross, adjusted)—total	69,761	- 450	+ 4,897	+ 7.55
Security loans	1,273	- 224	+ 492	+ 63.00
Commercial and industrial	22,686	- 190	- 706	- 3.02
Real estate	21,750	+ 43	+ 2,092	+ 10.64
Consumer instalment	12,336	+ 42	+ 1,664	+ 15.59
U.S. Treasury securities	9,386	- 225	- 980	- 9.45
Other securities	12,945	+ 2	+ 354	+ 2.81
Deposits (less cash items)—total*	91,759	- 1,418	+ 3,554	+ 4.03
Demand deposits (adjusted)	25,655	- 654	+ 1,868	+ 7.85
U.S. Government deposits	389	- 204	- 130	- 25.05
Time deposits—total*	64,467	- 518	+ 1,735	+ 2.77
States and political subdivisions	5,929	- 19	- 1,575	- 20.99
Savings deposits	30,870	- 3	+ 7,122	+ 29.99
Other time deposits‡	25,620	- 284	- 2,856	- 10.03
Large negotiable CD's	9,438	- 507	- 4,419	- 31.89

Weekly Averages of Daily Figures	Week ended 1/26/77	Week ended 1/19/77	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves (+)/Deficiency (-)	+ 64	- 51	+ 33
Borrowings	8	3	5
Net free(+)/Net borrowed (-)	+ 56	- 54	+ 28
Federal Funds—Seven Large Banks			
Interbank Federal fund transactions			
Net purchases (+)/Net sales (-)	+ 688	+ 1,263	+ 1,291
Transactions with U.S. security dealers			
Net loans (+)/Net borrowings (-)	+ 188	+ 351	+ 234

*Includes items not shown separately. ‡Individuals, partnerships and corporations.

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