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The Rise and Decline of Rent-Seeking Activity in the Brazilian Coffee Sector: Lessons from the Imposition and Removal of Coffee Export Quotas

by

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Summary:

Brazil, the world's largest coffee exporter, encouraged efforts in the 1960s to form the International Coffee Agreement (ICA), which restricted total coffee exports via country export quotas. The quotas led to significant domestic quota rents in producing countries. This paper analyzes the effects of rent seeking in Brazil. The Brazilian Institute of Coffee (IBC), which was responsible for coffee policy, was the focus of rent seeking. The paper models the policy instruments used by the IBC, shows how rent seeking affected policy, industry efficiency and the distribution of rents, explains the causes and effects of IBC reforms in the late 1980s, and draws lessons from the experience.

Key Words: South America, Brazil, International Coffee Agreement, rent seeking, export tax rebates

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1. INTRODUCTION

Rent seeking has been analyzed theoretically and empirically in a growing number of studies that seek to better understand the frequency, nature, and importance of this activity. Research initially focused on static effects, as when actors compete for a fixed amount of rent, e.g., Krueger (1974). A standard concern is that actors will compete through unproductive rent seeking activity, resulting in economic waste potentially equal to the initial rent (Bhagwati & Srinivasan, 1980). Rent seeking also has dynamic aspects (Krueger, 1990; Bohman *et al*., 1996). Krueger (1990) analyzed the evolution of politically-imposed controls involved in the American Sugar Program from 1948 to 1987, attempting to understand the interactions between markets, politicians and observed controls. Bohman, *et al*. (1996) analyzed how the quest for domestic coffee quota rents altered coffee policies in Indonesia, affecting coffee sector efficiency and income distribution. These studies find that the strength and activities of different rent-seeking actors, individually and in coalition, may vary over time.[i] Rent seeking, and the governmental response to it, is likely to cause give and take in policy formulation. Changes in policies affect resource allocation, market structure and industry efficiency, as well as who receives the rents. Market distortions can result in economic losses that are substantially larger than the rents being sought. Accordingly, it may be more important to focus on how rent seeking activity affects policies than on the wasteful competition for rents.

This paper analyzes static and dynamic effects of rent seeking in the Brazilian coffee sector throughout the period of International Coffee Agreement (ICA) export quotas, using a detailed chronology of policies, information from key respondents, and data analysis to test whether and how ICA quotas led to policy distortion and economic loss. The ICA was an agreement between the principal coffee exporting and importing countries that sought to raise the prices at which member country exporters sold coffee to member country importers. The ICA imposed a global export quota in 1963, divided among member country exporting countries. The quota lasted, with two temporary suspensions, until July 1989. Brazil was the world's largest coffee exporter, the strongest proponent of the ICA, and received the largest country quota.

Brazil believed that it gained from the ICA quota. The research reported here suggests that it did not. Imposition of the quota created a sizeable domestic quota rent, which stimulated rent seeking. Government efforts to protect Brazil's quota and its bureaucrats' efforts to capture domestic rents for themselves led Brazil to alter, expand and prolong the use of coffee export tax rebates that were initially justified as a means to price discriminate and thus increase export revenues. These rebates transferred an important share of Brazil's domestic quota rent to foreign importers as well as to other rebate recipients. Use of the rebates also reduced government revenues. The rebate system was periodically reformed, but remained a focus of rent seeking activity until abolished. Brazil also developed a system for allocating coffee quotas among exporters that transferred domestic quota rents to quota recipients, causing exporters (and potential exporters, including producers' associations) to compete for an allocation of the quota. Rent seeking activity wasted resources and a focus on rents reduced efforts to improve industry efficiency.

Because the ICA quota ended in mid 1989, we can observe the effects of rent seeking by analyzing the changes that followed the quota's elimination as well as those that followed its implementation. One hypothesis is that important policies and institutions that developed in response to rent seeking would diminish or disappear once the quota ended. In fact, in early 1990, the coffee export tax was eliminated and the Brazilian Institute of Coffee (IBC), the semi-autonomous institute that had controlled coffee policy throughout the period, was abolished.

Coffee sector data are analyzed to test hypotheses regarding the effect of rent seeking. The also paper draws on extensive interviews conducted during July 1994, five years after the quota regime ended, with coffee traders in New York and in Brazil, as well as with coffee producers, producer group leaders, economists, ex-IBC staff and government officials in Brazil. Follow up interviews after the paper was completed were used to reconfirm the views expressed. The interviews provide qualitative information on the rent seeking activities during the ICA that explain important policy shifts, including changes in the quota allocation system over time, the use of export rebates, the abolition of the IBC, and changes in domestic market structure and industry efficiency.

The second section reviews previous work on rent seeking and rent sharing. The third section presents a brief history of Brazilian coffee policy. The fourth section explains the ICA and presents a model of the Brazilian coffee sector that explains the size of the domestic quota rent. The fifth section shows how Brazilian policy instruments affected the distribution of the domestic rent among competing actors. The sixth section analyzes the effect of rent seeking on the IBC's use of coffee export tax rebates and its allocation of coffee quota among exporters. The seventh section analyzes institutional and policy reforms in the IBC during the late 1980s, and explains why these reforms ultimately led to abolition of the IBC and a nearly *laissez faire*

coffee policy. The eighth section explains how the ICA quota caused a decrease in industry efficiency and how efficiency recovered after the quota was terminated. The ninth section reviews Brazil's coffee strategy and its results since the end of the ICA. The final section contains conclusions and a discussion of lessons from the Brazilian experience.

2. PREVIOUS RESEARCH ON COMMODITY AGREEMENTS AND THE ICA

Prebisch (1950) and Singer (1950) independently presented evidence to support the hypothesis that the price of commodities was decreasing over time relative to the price of manufactured goods. The Prebisch-Singer hypothesis worried many economists, as well as commodity producing countries, and numerous studies subsequently analyzed commodity price behavior. Increasingly, analysis has focused on the cyclical behavior as well as the long term trends of commodity prices (e.g., Deaton & Laroque, 1990; Cashin & McDermott, 2001), with evidence that any trend is dominated by the frequency of very large price movements. Newbery and Stiglitz (1981) showed theoretically that commodity price instability can significantly reduce exporting country welfare.

A number of commodity agreements, including the IGA, were negotiated in the 1960s. These agreements generally sought both to increase and to stabilize the international price of the commodity. Most subsequent studies of international commodity agreements have focused on these goals, i.e., how such agreements affected the commodity terms of trade and export revenue instability (e.g., Gilbert, 1987; Maizels, 1987; Anderson & Gilbert, 1988). Less research has been done on how commodity agreements actually affected producing country economic welfare, though an increasing amount of evidence is available showing that the ICA was harmful, mainly because of the way it affected domestic policies.

McMahon (1989) found that Kenya imposed a ban on new coffee plantings following implementation of the ICA quota, increasing the incomes of existing producers and reducing production efficiency. Lopez and You (1993) found that the ICA quota increased the market power of a preexisting cartel of Haitian exporters. Temu (1991) found that coffee exporters in Papua New Guinea achieved policies that allowed them to capture most of the ICA domestic quota rents during the 1980s.

Bohman *et al*. (1996) found that the ICA quota created a large quota rent in Indonesia, causing rent-seeking that (i) redistributed coffee income away from the Treasury and farmers toward bureaucrats, politicians, and exporters, and (ii) reduced coffee marketing efficiency and created waste. Individual exporters lobbied to obtain a larger quota allocation and tried to conceal the existence of the rents. Bureaucrats created even greater welfare losses via their efforts to elicit side-payments from exporters. These efforts forced exporters to market coffee rapidly, once an export quota was obtained, increasing uncertainty and reducing the price Indonesia received on world markets. Bohman *et al*. (1996) estimated that Indonesia's total losses due to rent-seeking exceeded estimates of the potential gain that could have been achieved from the ICA.

The ICA stabilized the international price (Akiyama and Verangis, 1990), raised prices when quotas were in effect (Akiyama and Verangis, 1990; Herrman, Burger and Smit, 1990; Palm and Volgelvang, 1991; Bates, 1997), but may have had a net negative effect on prices measured over both quota and non-quotas periods (Akiyama and Verangis, 1990) because the ICA induced increases in coffee stocks during quota periods that were released onto the market in non-quota periods. Further, when ICA quotas were in force, they systematically reduced producer prices in coffee exporting countries relative to what they would have been without

quotas as governments tried to avoid the need to accumulate still greater stocks (Bohman & Jarvis, 1996).

3. HISTORICAL EFFORTS BY BRAZIL TO INCREASE THE INTERNATIONAL COFFEE PRICE

In the early 1900's, coffee played a leading role in Brazil's economy and Brazilian exports accounted for 80% of the coffee traded internationally. The government recognized that it had market power and accordingly manipulated the international price by accumulating coffee stocks in years of high production, with the intent to sell stocks in years of low production. Initial success with this policy (known as Valorizacao) persuaded policy makers that intervention would routinely succeed. In the years that followed, Brazil used export taxes, multiple exchange rates, support prices, stockpiling, the destruction of stocks, the eradication of coffee trees and other policy instruments to reduce exports, control domestic supply and raise the international price. As it did so, other countries expanded production and exports.

In response, Brazil sought agreements with other exporters to jointly restrict exports, thus achieving a higher price without continual loss of Brazil's export share. A number of agreements resulted, but none lasted long prior to the ICA (Bacha, 1992). The ICA, however, had the support of the major consuming countries, particularly the US and Great Britain, who saw it as an aid mechanism to benefit coffee producing countries and coffee producers within those countries.[ii] Large roasters (coffee importing and processing firms) also supported the ICA. Although their support is often attributed to a desire to ensure steady supplies and stabilize prices, Bates (1997, Chapter 6) indicates that the large roasters had just entered into agreements with Brazil and Colombia, from which they obtained price discounts. The roasters apparently

saw the ICA as a means to enforce market discipline, which would help ensure a price advantage, via their discounts, over their competitors. Thus, the ICA grew out of historical Brazilian efforts to manipulate the international market, but was encouraged by developed country geopolitical concerns and by tacit alliances between large coffee exporters and large roasters. The broader concern with a possible historical decline in commodity that encouraged several commodity agreements in approximately the same period (Gilbert, 1987) does not seem to have been as important.

Brazil also developed internal mechanisms to formulate and implement Brazilian coffee policy, creating the Brazilian Institute of Coffee (IBC) in 1953. It granted great power to the IBC, reflecting coffee's importance and the widespread national view that manipulating coffee production and exports was key to Brazil's economic success. The IBC developed various discretionary schemes over time, each of which caused inefficiency as well as scope for private gain, but these schemes were widely supported. By the time the ICA was negotiated, the focus of Brazilian coffee policy had shifted from defending farmer incomes to maximizing foreign exchange earnings, achieving exchange rate stability, and increasing federal tax revenues to finance import substitution (Bacha, 1992). The ICA was expected to facilitate these goals.[iii]

4. BRAZIL'S ICA QUOTA CREATED A DOMESTIC RENT

The ICA, which was renegotiated every six years, imposed a global quota on coffee exports to the member consuming nations, distributed in the form of individual quotas for exporting nations. Policing was undertaken by importing nations. A secondary, nonmember market existed because some coffee-importing countries elected not to join the ICA. The ICA allowed member exporters to sell to nonmember importers, but technically only at the same price

that prevailed in the member market. In fact, large price discounts were offered on exports to the nonmember market whenever ICA quotas were in effect (Herrmann, 1986; Bohman & Jarvis, 1990).

Quotas were first imposed in 1963, remaining until 1972, when the ICA lapsed due to disagreement among members. The ICA was renegotiated in 1976, but quotas were not imposed because prices were high as a result of a severe Brazilian frost. Under the ICA, quotas could be imposed, varied, or lifted depending on the level of world coffee prices. In October 1980, quotas took effect again as prices fell, remaining in force until March 1986, when, due to rising world prices following a Brazilian drought, they were again lifted. Quotas were re-imposed in October 1987, remaining until July 1989.[iv]

Following imposition of a global ICA quota, the ICA assigned Brazil a share of the quota, denoted in Figure 1 as a fixed amount, q_A, which it could sell on the member market at price P_A. The analytical framework used is developed in more detail in Bohman and Jarvis (1990), Bohman *et al*. (1996), and Bohman and Jarvis (1996). Brazil could sell additional coffee on the nonmember market at a much lower price, P_N. I define the potential domestic unit quota rent as $P_A - P_N$, this being the unit rent created if Brazil followed policies to maximize economic surplus.[v] The potential total domestic quota rent was $R = (P_A - P_N)q_A$. This rent could be captured by the government, allocated to other actors, or dissipated, depending on the policies chosen.[vi] The total domestic quota rent averaged about $635 million annually from 1981 through 1988 (see Table 1, column 9). The quota was terminated in June 1989; the estimated rent during the first six months of 1989 was about $160 million.

[Insert Figure 1 and Table 1 here.]

5. BRAZILIAN COFFEE POLICY

(a) Overview of Sector and Institutions

Coffee was mainly produced by small and medium size farmers who sold their beans to private middlemen or to the IBC. The IBC established a Minimum Guaranteed Price (P_{MG}) at which it stood ready to purchase all coffee offered by farmers. However, the IBC bought mainly for storage. Farmers usually found it profitable to sell coffee to private exporters at P_D, the open market price, which normally exceeded P_{MG}.

Private exporters sold Brazilian coffee to consuming country importers. Exporters bought beans from farmers or through wholesalers and sorted the beans by quality. Exporters sold low quality beans to instant coffee manufacturers or domestic roasters and sold high quality beans to foreign roasters, mainly in Europe and North America. The role of multinational traders (e.g., Cargill) and coffee roasters (e.g., Nestle) varied over time and is discussed in Section 8. A high degree of concentration existed among exporters. Farmer cooperatives sold to exporters and rarely exported directly.

The IBC regulated export prices through numerous policies, especially the export tax (known as the *contribution quota*) and the minimum export registration price (P_{MR}). The government established P_{MR} as the basis for determining the amount of foreign exchange that exporters had to deliver to the Central Bank. After 1985, P_{MR} was also used as the basis for levying the *ad valorem* export tax. Throughout the period studied, Brazil's coffee producing states levied an additional coffee sales tax, t_s, on all sales, domestic and foreign. The IBC also provided export tax rebates (*Avisos de Garantia*) to importers. The purposes and effects of the export tax, the export tax rebates, and the minimum guarantee price are described in sections 5b and 6a.

(b) Framework to Measure the Value and Distribution of Quota Rents

The IBC had responsibility for allocating quota to domestic exporters, giving it additional justification for market intervention and putting it at the center of rent-seeking activity. The IBC effectively decided the disposition of the quota rent insofar as it also set the export tax and export tax rebates. In practice, although the rent was partly captured by the government through the export tax, an important residual rent was left for capture by exporters to whom quota was allocated. Another part of the rent was shared with foreign importers via export tax rebates that transferred domestic quota rent to rebate recipients. The interaction among policy instruments is briefly set forth below.

Exporters with a quota allocation purchased coffee at P_D, the producer price, measured inclusive of exporters' marketing and processing costs, and sold coffee on the member market at $P_{A'}$. In Figure 1, the demand curve for Brazilian coffee, D_B, intersects q_A, the amount of coffee exported to the member market, at P_A, Brazil's counterfactual member market price in the absence of export tax rebates. P_A was bid up to $P_{A'}$ as a result of the rebates, which reduced the net price of Brazilian coffee (Jarvis, 2003). Thus, the observed unit quota rent (per bag sold) on member market sales was $r_g = P_{A'} - P_D$.

The export tax must be subtracted from the observed unit quota rent to obtain the residual rent per bag obtained by exporters. The export tax, which was generally not levied on sales to the nonmember market, captured rent for the Treasury that the exporter otherwise would have received. In contrast, the sales tax was levied on all exports, thereby depressing the producer price below the nonmember market price, P_N. Sales tax revenues were not part of the potential quota rent, as defined. Recipients of export quota earned the residual or net rent, r_n, with $r_n = r_g - t_{cq}$, where t_{cq} is the per bag export tax.

The Federal Government, via the IBC, collected the export tax, but also paid export tax rebates (*Avisos de garantia*) to foreign importers from 1965 to 1988. The total annual value of export tax rebates, ***A***, is known. See Table 2. The average annual unit rebate paid per bag of coffee exported to the member market, α, can be calculated by dividing ***A*** by q_A, where q_A is the number of bags exported to the member market. The government's net export tax revenue per bag was $t_{cq} - \alpha$.

[Insert Table 2 here.]

Foreign importers participated in the domestic quota rent as a result of the export tax rebates that the IBC provided. Importers did not gain the full amount of the rebate since the rebate made the purchase of Brazilian coffee more attractive and led importers to bid up the gross price of Brazilian coffee. Thus, if the unit rebate was α, foreign roasters enjoyed a net gain equal to α', where $\alpha' = \alpha - (P_{A'} - P_A)$.[vii]

The economic gain enjoyed by different actors from their participation in the domestic quota rent was their unit gain multiplied by quota exports:

1) Exporters: $R_E = (r_g - t_{cq} - t_s)\, q_A$
2) Foreign roasters: $A' = [\alpha - (P_{A'} - P_A)]\, q_A$
3) Federal Government, including IBC: $T = (t_{cq} - \alpha)\, q_A$

The shares received by the different groups that competed for rents are shown in Table 3.[viii] Foreign importers captured 48 percent, nearly half the total rent. The IBC (government) captured 35 percent and domestic exporters captured about 13 percent. Farmers participated in the rent only if the producer price, P_D, exceeded the non-member market price, P_N. Indonesia and Kenya implemented schemes to achieve this end (Bohman *et al*., 1996). Brazil did not.[ix] If

IBC officials received side payments linked to exporters' or roasters' gains, IBC officials participated in the rents. Such payments cannot be measured and, if they existed, are included in the estimated gains of exporters and foreign importers.

[Insert Table 3 here.]

The aggregate gain of the participants, achieved by summing equations 1) through 3), equals the total potential rent, R:

4) $R = R_E + A' + T = q_A[(r_g - t_{cq}) + \alpha - (P_{A'} - P_A) + (t_{cq} - \alpha)]$

$= q_A[r_g - (P_{A'} - P_A)] = q_A[P_{A'} - P_N - P_{A'} + P_A] = q_A (P_A - P_N)$

The calculation for the total potential rent nets out the effect of any increase in the Brazilian price that was caused by the export rebates.

Estimates of the observed rent, the estimated potential rent, and its various components for 1981-89 are shown in Table 1. Only the exporters and importers who agreed on each sale knew the actual price paid for exported coffee. The government thus could not report data on $P_{A'}$. However, the minimum registration price, P_{MR}, is known. Traders in Brazil and New York believe that the government generally adjusted P_{MR} to approximate $P_{A'}$.[x] I used $P_{MR} - P_D$ to estimate r_g, an approach also used by Alimandro and Rabello de Castro (1983). The resulting estimates of r_g are approximations, but produce results that are broadly consistent with other available information.

(c) The Distribution of Rents over Time

The ICA quota was in force during 1981-1985, though 1981 was atypical because the IBC emitted a very large number of export tax rebates in 1980 and in 1981, resulting in negative net tax revenue and a net export subsidy in both years. ICA quotas were temporarily removed in March 1986, and restored again in October 1987.[xi] Theory suggests that domestic rents should

have disappeared when the quota lapsed and the estimated rents are indeed small. In 1987, the IBC began to auction part of the export quota. The IBC also gradually changed the standard coffee contracts to reduce and then eliminate the export tax rebates. These policy changes eliminated the transfer of rents to foreign importers and allowed the IBC to capture a growing share of the quota rent. After the ICA quota ended in mid-1989, there was no quota rent. The export tax was reduced to six percent and producers' share of total coffee revenues rose from about 50 percent of coffee export revenue during the early 1980s to about 80 percent after 1989 (Tables 1 and 3).

6. RENT SEEKING AND RENT SHARING WITH FOREIGN ROASTERS

This section describes the efforts of each major actor to capture a larger share of the rent during the early 1980s quota period, with brief reference to the historical context.

(a) Export Rebates and Rent Sharing with Importers

When the ICA was being negotiated in 1963, Brazil accepted a quota that was smaller than its then current exports. When the quota came into effect, Brazil further restricted exports to achieve a higher member market price, believing it had market power even within the member market (Bacha 1992). However, Brazil soon changed this policy, based partly on a theoretical framework developed by Delfim Netto (1959) and further elaborated by Delfim Netto and de Andrade Pinto (1965), who argued that although world coffee demand was inelastic, the demand for Brazilian coffee was highly price elastic. Accordingly, Brazilian exports could be profitably increased to the quota limit via a price discount. Further, since the coffee importing and roasting industry was highly concentrated, Brazil believed that it could "exert its capacity to discriminate among buyers according to their respective bargaining power" (Bacha, 1992).

The IBC secretly began to sign preferential contracts with a few large importers, providing them with a unit refund (per bag purchased). This refund, denoted an export tax rebate since it was paid from export tax revenues collected by the IBC, was provided in exchange for a commitment from the exporters to purchase a larger amount of coffee, spread evenly throughout the year.

Figure 2 depicts the idea in a simple, approximate manner, using notation slightly different from that in Figure 1. Demand for Brazilian coffee is divided into two components, one from the largest foreign importers, D_{II}, who I assume purchased about 40 percent of Brazil's member market exports prior to initiation of the export tax rebates, and the other from all other exporters, D_I. See Figure 2a. When the price is P_T, total member market exports equal $q_I^0 + q_{II}^0$, which is assumed less than the Brazilian quota. Provision of a unit export tax rebate, α, to the largest importers is assumed to expand sales to these importers from q_{II}^0 to q_{II}^1, sufficient to fill Brazil's quota.[xii] In order for Brazil to be able to increase exports with less revenue loss than would have occurred had the price (the export tax) been reduced on all coffee exports, the (negotiated) demand of the largest importers had to be more price elastic than the demand of other importers.[xiii, xiv]

[Insert Figure 2 here.]

Because trade in Brazil was undertaken by private exporters, the IBC had to develop a mechanism to ensure that a favored roaster who signed a long term contract could purchase coffee from any exporter and pay only the agreed discounted price, while also ensuring that the exporter received the actual market price. The mechanism adopted was a negotiable, U.S. dollar-denominated certificate called an *Aviso de Garantia*. This certificate (the export tax rebate) was issued by the IBC to a roaster on completion of a purchase and the certificate could be redeemed

by the roaster on its next purchase, reducing the effective price of coffee.

Jarvis (2003) estimates that use of the export tax rebates may initially have improved Brazilian welfare. Brazil was not filling its quota when use of the *Avisos* began in 1965 and the rebates did expand exports by about 10 percent.[xv] Jarvis concludes that Brazil's potential gain was about $42 million, which it apparently split fairly evenly with the large importers who received the rebates as the number of *Avisos* issued from 1966 through 1969 averaged $21 million per year. Nonetheless, the amount paid out in rebates grew rapidly after 1969, averaging $86 million per year in 1970-72, even though there was no further increase in exports. The amount of rebates increased further to average $260 million per year in 1973-79. A reasonable conclusion is that rent seeking activity caused the amount of export tax rebates issued to increase sharply. We know that newly appointed IBC presidents frequently canceled existing long-term contracts and then immediately signed new contracts (see Bacha, 1992, for examples), a pattern consistent with rent-seeking activity.[xvi]

Indeed, widespread allegations of irregular practices caused the IBC to abandon the secret discriminatory contracts in 1979 (Bacha, 1992). The government considered abandoning the Minimum Registration Price and other aspects of the government's coffee management policy, including export rebates, and moving toward a free market system. However, this recommendation was rejected "at the highest level of government" (Bacha, 1992). The IBC instead initiated new "standard contracts" that allowed *all* importers to obtain export tax rebates. Again, the rebate was tied to the difference between the Minimum Registration Price and a weighted average of the international prices of Brazil's competitors (Other Milds and Robusta).

Since all exporters were given rebates, a new justification was needed for their use. Instead of using the rebates to achieve price discrimination, the IBC said that rebates were

needed to offset distortions caused by other policy instruments. The IBC argued that it needed the Minimum Registration Price (P_{MRP}) as a basis for taxation and foreign exchange deliveries and said that producers sold at this price. However, it said, since the administratively determined P_{MRP} was likely to be intermittently higher than the international price, export tax rebates were needed to ensure that private exporters could remain competitive at all times.[xvii] This argument was widely accepted, though it seems to have no theoretical or practical validity. The government had no control over the prices at which coffee was sold internationally and, as previously noted, did not even collect data on actual transactions. Private exporters did not sell at P_{MRP}, but at whatever was the market-clearing price for Brazilian coffee. Exporters had to pay a somewhat higher export tax and/or purchase foreign exchange on the black market when P_{MRP} exceeded the market price, and those considerations influenced the amount exporters paid producers. However, imposition of a Minimum Registration Price did not impede sales. Thus, the export tax rebates were not essential to Brazil's competitiveness, even within the prevailing distorted policy context.

The shift to standardized contracts provided export tax rebates to a wider set of importers and the dollar value of the *Avisos* issued annually continued to increase during the 1980s.[xviii] Numerous anecdotes suggest that irregularities continued as well. Brazilian traders interviewed said that 1) fictitious Brazilian offshore companies were established as importers precisely to be eligible to receive *Avisos*, 2) some relatively small importers did not know and were not informed of their right to receive *Avisos* and that IBC bureaucrats and/or the exporting firm retained the unclaimed *Avisos*, and 3) firms receiving *Avisos* could sometimes ask the IBC to reissue them in different denominations and, at the time of reissue, the total amount could be increased in exchange for a bribe.[xix]

Brazil had initiated a second policy in 1979, which contributed to the increase in the amount of a*visos* issued in the early 1980s. Brazil was expecting a return to ICA quotas, which had been suspended since 1972, and was negotiating its ICA quota with other ICA members, including the consuming countries. In this context, Brazil introduced new contracts "in a rush and with strong concessions to the big roasting houses, to guarantee that 1979 shipments would not be lower than Colombia's 11 million bags, as this [would have] strongly negatively affected Brazil's negotiating position at the ICO" (Bacha, 1992).[xx] The new contracts contained a "Price-Fall-Guarantee," i.e., a cost-free hedge, which promised importers an export tax rebate equal to the difference between the purchase price and the lowest 10-day moving average FOB price occurring in the period between the date of purchase and the expected transit time from Brazil to the purchaser's homeport.[xxi] Unfortunately for Brazil, the international price declined sharply soon thereafter, causing the IBC to pay out US$1.3 billion and US$2.0 billion in export tax rebates in 1980 and 1981, respectively. These amounts significantly exceeded the export tax revenue collected in those years. Thus, Brazil found itself implementing a net export subsidy on member market exports that were constrained by an export quota.[xxii]

As a result, though rent seeking may have contributed to waste and corruption of the most common form, the export tax rebates had the more profound effect of transferring large amounts rents to foreign importers. This assertion hinges importantly on an estimate of how the emission of *Avisos* affected the international price of Brazilian coffee. A discussion of that issue lies outside the scope of this paper, but is contained in Jarvis (2003). Briefly, during 1965-1971, the export tax rebates may have led to an expansion of exports, achieving benefits that exceeded the cost of the *avisos* issued. Accordingly, any rent transfer was small. During 1972-79, no quota was in effect and the export tax rebates reduced Brazil's tax revenues, but as the export tax

may have been higher than optimal, the tax rebates could have been welfare improving. Accordingly, the export tax rebates were not a rent transfer. During 1980-88, however, a quota was again in effect and was constraining exports, so the more than $6 billion issued in *avisos* had no effect on member market export volume, but did sharply reduce export tax revenue. Brazil thus transferred a great deal of rent unless the large issue of *avisos* caused importers to bid up the nominal export price by the full amount of the unit export tax rebate. Results from an econometric model indicate that the emission of $1 in unit export tax rebates (per sack) increased the gross international price of Brazil's coffee by about $0.50, so that the other $0.50 was transferred to foreign importers. The emission of roughly $6 billion in *avisos* between 1980 and1988 thus transferred nearly $3 billion of domestic quota rents to foreign importers and other *aviso* recipients.[xxiii]

The considerations that lay behind the initiation of export rebates in 1965 are only partly known. Possibly, they were only intended to allow price discrimination, as suggested by Delfim Netto (1959). However, Bates (1997) presents evidence that rebates were implemented, first in Colombia and then in Brazil, at least partly to share the benefits of the ICA global quota with large international coffee roasters in tacit exchange for their political support during negotiation of the ICA.[xxiv] The results reported here are consistent with his hypothesis. However, none of the Brazilians with whom I spoke in 1994, including ex-government officials, indicated that *avisos* had been used to benefit foreign importers. As noted, they explained the use of *avisos* as a measure to offset other policy distortions and ensure Brazil's competitiveness in international markets. They did not think any rent transfer was justified and systematically expressed concern to protect Brazil's price against the efforts of large roasters who were thought to be using market power to reduce Brazil's price. I conclude that even specialists did not fully understand the

implications of this complex, but very important policy.

It appears that rent seeking caused the export tax rebate policy to mutate over time until its use had been dramatically altered and its original rationale lost. I am persuaded that it was official policy to provide a few large roasters with small discounts in the 1960s, as a form of price discrimination by which total exports could be increased and also as a means to obtain these roasters' political support for the ICA. Disciplined implementation of this policy would have led to much smaller benefits for roasters and these benefits would have been balanced by gains to Brazil. Instead, growing discounts were provided to an expanding number of importers, the justification for the rebates changed, costs rose, and the benefits to Brazil disappeared.

(b) Government Revenues and their Disposition

The IBC levied the export tax, which ranged from five to 37 percent during the 1980s quota regime.[xxv] As shown in Table 1, the IBC collected $5.4 billion from export taxes during 1981 – 1985. However, importers redeemed export tax rebates valued at $4.6 billion during the same period. Thus, the IBC's net revenues for this period were only about $800 million and it suffered net revenue losses in 1981 and 1982. That the IBC was established to formulate and use coffee policy for Brazil's economic development, and yet failed to contribute significant revenue during the early 1980s when the government was suffering from a fiscal crisis, is both ironic and reflective of the broad deterioration in the federal government's fiscal control in this period.[xxvi] Note that State governments received more revenue than the Federal Government during 1981-1985. The state sales tax of 13.625 percent was levied on all coffee sold to the domestic and foreign markets.[xxvii]

In 1987, the IBC established a fund, FUNCAFE, to which all coffee tax revenue was pledged and which was to be used only for coffee sector development, including the support of coffee prices. In establishing FUNCAFE, the IBC hoped to persuade producers not to oppose efforts to generate additional IBC revenues, which were badly needed to support coffee prices (Dauster, 1994, personal communication). In 1987, the IBC raised the export tax from five to 27 percent and, later, to 36 percent. Export tax rebates were eliminated and the IBC initiated auctions for coffee export quota. In response, the IBC's net revenues rose significantly. Nearly all of this revenue was used to purchase additional coffee stocks.

(c) Exporters' Residual Rents

Table 1 shows the estimated residual rents obtained by coffee exporters during 1981-1988. These averaged about $110 million annually, but varied depending on market conditions and government policy.[xxviii] In 1980 and 1981, the IBC allocated quota mainly according to a formula based on past exports to the member market, thus ensuring considerable continuity in the allocations of individual firms. In 1982, additional criteria were used. Each licensed exporter received a "basic" quota (10,000 bags),[xxix] plus an important "supplementary" quota proportional to past exports. Exporters also received a smaller "stocks" quota in proportion to the level of coffee stocks held.[xxx] These components accounted for 13, 67 and 20 percent, respectively, of the total quota.

Alimandro and Rabello de Castro (1983) estimated that the total quota rent in 1982 was about $260 million, assuming a residual rent of $20 per bag, a figure based on interviews with exporters. The performance quota amounted to $174,200,000. A relatively small number of Brazilian exporters, approximately 35, obtained most of the quota allocation. The largest 10 exporters received 49 percent, an average of $8.5 million each. Approximately 150 registered

exporters received a basic quota that was worth about $225,000 per exporter, or $33.8 million in total.

The high value of quota induced intense rent seeking and the effort by several producer cooperatives to obtain a share of the quotas is particularly interesting. Many coffee producers were members of a cooperative. Cooperatives generally did not export, acting mainly as collection points and processors, and were not allocated any quota. In 1981, producer cooperatives argued that they should be entitled to a quota allocation since they too held stocks -- the stocks that they had collected from their members prior to sale to exporters. Exporters fought this effort, arguing that cooperatives had not increased their stocks, which were the basis for linking quota allocation to stockholding. As part of their lobbying effort, the producers' cooperative commissioned the study by Alimandro and Rabello de Castro (1983).[xxxi] This study, though never published, circulated widely. It argued, as noted above, that exporters were benefiting from receipt of quota and argued that producers ought to share in this benefit. The IBC granted some concessions to cooperatives in 1982, a move that outraged exporters, but the IBC rejected proposals for more far-reaching changes.[xxxii]

Exporters continued to receive substantial residual rents through 1987, since much of the quota was still allocated free to them. In late 1987, the IBC did auction 10 percent of the quota. The high auction prices, which averaged over $23 per bag during the first four months of 1988, confirmed that exporters were receiving substantial residual rents.[xxxiii] As a result of the auctions' success, the IBC announced in May 1988 that it would auction 40 percent of the quota and, in October 1988, it announced that all quota would be auctioned. Revenue from these auctions totaled about US$460 million.[xxxiv]

(d) Rent Seeking by IBC Bureaucrats

Many of my informants suggested that exporters who had access to inside information about policy changes earned income additional to the substantial residual rents described. For example, IBC officials allegedly leaked information to certain individuals or firms regarding planned IBC actions such as adjustments to the minimum registration price, the minimum guarantee price, and the suspension or commencement of export permits. Since each of these policy actions affected prices in Brazil and/or New York, prior receipt of such information could be used for personal gain. As a result of concerns regarding IBC market manipulation, the "B" futures contract for Brazilian coffee on the New York market was de-listed.

7. REFORM IN THE IBC

Following on more than two decades of inefficient management, including resistance toward greater reliance on market mechanisms, the IBC underwent dramatic reforms beginning in 1987. The reasons for the reforms, their immediate effect on the coffee sector, and their ultimate effect on the existence of the IBC provide insight into the process of policy reform in the presence of large rents.

In early 1986, the president of the IBC proposed *Operacao Patricia*, a secret effort sponsored by the IBC under which 18 Brazilian export firms attempted to purchase 1.5 million bags of Robusta coffee on the London market to prop up world prices. Colombia sponsored a similar operation for Arabica coffee in the New York market. The Brazilian operation was insufficiently capitalized, purchased less than half the amount anticipated and, when it failed, prices tumbled (Bacha, 1992). The IBC lost heavily. The export houses involved then also claimed large losses (Castelo-Branco, 1988; FEBEC, 1989) and asked for IBC reimbursement.

Operacao Patricia is a complex issue illustrating many aspects of the relationship between the IBC and Brazilian exporters. Some of the sponsored exporters may have played the market themselves while they made purchases on behalf of the IBC, believing that, since they were raising world prices with funds guaranteed by the IBC, their own purchases would be indirectly guaranteed as well. It is not clear whether exporters made money on their own account even though they lost money on the IBC account, or vice-versa. Regardless, IBC sponsorship of a clandestine operation without strict accounting and supervision indicated large scope for irregular activities.

In the aftermath of the *Operacao Patricia* losses and the scandal that followed, Jorio Dauster was appointed President of the IBC. A diplomat, Dauster previously had been Brazil's chief negotiator for the ICA. He was widely respected, at home and abroad. Exporters as well as producers supported his appointment. He took office in January 1987, while ICA quotas were still suspended.

Dauster knew of the widespread irregularities within the IBC, of the tight and profitable connections between the IBC and the major export firms, especially those in Rio de Janeiro, and believed that a general overhaul was needed of Brazil's coffee policy. He believed that international roasters had gained too much from long term supply contracts, in part because there had been no effective way to penalize roasters who did not meet their purchase commitments, and felt that domestic policy had long favored exporters at the expense of producers (Dauster, 1994, personal communication).

The considerable autonomy vested in the president of the IBC gave Dauster great latitude to alter policy. Dauster promised an honest administration, indicating that he would investigate and resolve immediately any claims regarding favoritism or other irregularities. He ended long

term contracts and *Aviso* emissions, limiting the redemption of existing *Aviso* certificates to five percent of the value of purchases. He told exporters that quotas would be allocated strictly as indicated in published formula, with independent auditing. He reduced IBC staff and sold airplanes, cars, and other fixed assets to achieve operating efficiencies. Finally, he created the National Council for Coffee Policy (CNPC), formed by representatives from the major domestic coffee interests (consumers, producers, exporters, domestic roasters and soluble producers), to advise the IBC president (Bertone, 1992; Bacha, 1992; Dauster, 1994, personal communication).[xxxv]

That Dauster could achieve such change in a short time was another striking indication of the IBC's independence and its president's power. Several individuals interviewed indicated that the scandal associated with *Operacao Patricia* facilitated these reforms, causing a call for institutional changes and the forced departure of many higher-ranking IBC officials. The prior shift from a military government to a democratically elected government also favored reform as it made it more difficult to control information and to suppress scandals. Dauster was also very clever. For example, while he hoped the CNPC would eventually allow balanced, private-sector participation in coffee policy formation, he understood that the CNPC's representatives had opposing interests in many areas. Including them in the same advisory body ensured no single interest group could dominate, giving him greater leeway to implement his own policies.

An important example was his decision to initiate an auction system for coffee quota. Dauster needed revenue to purchase the 1987 crop, which was being harvested. The 1986 Brazil crop had been reduced by drought, leading to a sharp rise in international prices. When prices surpassed the trigger level, ICA quotas had been lifted. However, the 1987 crop was expected to be the largest in Brazilian history, international prices were declining as a result and Dauster

knew that ICA quotas would soon be re-imposed. Because Brazil's production would greatly exceed its quota, the IBC would have to purchase large amounts of coffee. The government was suffering a fiscal crisis and had no funds for this purpose. Indeed, the Minister of Finance did not want to publicly confront whether to provide additional funds for coffee stock purchase. This situation gave Dauster latitude to implement policies that would produce revenue for the IBC.

After ICA quotas were reinstated in October 1987, Dauster proposed that the newly formed CNPC choose an acceptable mechanism for allocating quota. As Dauster expected, the Council's members were unable to agree. He announced that he would use the previous system to allocate 90 percent of the quota, but would auction 10 percent on a trial basis. The exceptional prices paid for quota at the initial auctions revealed the exporters' residual rents for all to see, allowing Dauster to move gradually to auction the entire quota.

Not surprisingly, Dauster's policies turned many exporters against him. His reforms ended both the residual quota rents, the emission of *Avisos* and the other sources of illicit income that some exporters had enjoyed through their association with the IBC. Dauster also set conditions for the reimbursement of losses claimed by exporters who had participated in *Operacao Patricia*; these conditions required exporters to prove their losses in ways that few were prepared to do. The exporters lobbied forcefully, but unsuccessfully for his removal.

In mid-1989, long-standing differences between the major coffee consuming countries and the coffee producing countries and among the coffee producing countries themselves, came to a head during negotiations for the next ICA. The coffee consuming countries (principally the United States) that had long supported the agreement were no longer were willing to do so. Dauster concluded that it would be impossible to develop an acceptable new agreement and

agreed with the consuming countries that it was more sensible to terminate the quota system immediately rather than continue it until it formal ending date (September 30, 1989). When the agreement ended, he reduced the export tax to six percent, thereby further raising the revenues captured by producers.

The situation changed more drastically when, in early 1990, the newly elected Brazilian president, Collor de Melo, suddenly abolished the IBC. When beginning this study, I had hypothesized that the IBC was abolished because it was a corrupt institution whose power had been greatly diminished when ICA rents were terminated. The story was more complicated than expected. Official declarations indicate that the IBC was abolished as part of a process of broader economic reform. Color de Mello promised during his campaign to promote economic liberalization, reduce harmful government interference and abolish institutions that were corrupt and inefficient.[xxxvi] The IBC remained in the minds of many Brazilians one of the most corrupt and inefficient government institutions and its closure was thus a useful symbolic act. Though Dauster had reformed the IBC, ending corruption, these reforms were not widely known. In addition, since the ICA had ended, no organization was needed to oversee Brazil's participation or to allocate the domestic quota.[xxxvii] This made abolition of the ICA a politically useful and relatively costless decision. Further, in an ironic turn of events, a group of coffee exporters encouraged abolition of the IBC. Frustrated in their efforts to oust Dauster as IBC president, they hoped by abolishing the IBC to end Dauster's influence and subsequently reestablish an organization that they could control. Thus, the IBC's abolition was linked to government efforts to eliminate rent-seeking and liberalize economic policy, but the disappearance of the ICA quota and the associated rents also played an important role. I suspect that each factor was required for its abolition.

8. RENT SEEKING AND DYNAMIC INDUSTRY EFFICIENCY LOSSES

Rent seeking raised firm costs and reduced marketing efficiency. The ICA quota and the IBC policies that it engendered provided a relatively small set of domestic exporters with substantial residual rents, but simultaneously reduced their incentives to develop efficient trading capabilities. For example, the IBC restricted the number of exporting firms that could receive quota, thereby reducing competition, until 1987.[xxxviii] The results were predictable. Those firms grew in size, but devoted their personnel increasingly to public relations and lobbying, which was often of greater value than marketing or trading expertise. Multinational firms had been among the largest exporters of Brazilian coffee prior to creation of the ICA, but played a diminished role in the 1980s.

This reduced competition and, equally important, reduced the number of Brazilians trained in trading skills. Multinational firms had competitive advantages in coffee trading based on economies of scope from other commodity trading activities, economies of scale related to access to capital and often possessed more sophisticated trading skills.

Tying quota allocation to the number of bags stocked also caused firms to increase stocks, thereby increasing real exporting costs. Similarly, imposition of the Minimum Registration Price required firms to make more involved calculations to determine what they could pay producers for coffee and to engage in black market transactions to deliver foreign exchange. IBC policy instruments changed frequently on an ad hoc basis, also causing firms to suffer higher costs from uncertainty.

When export quotas were lifted and free entry to exporting reoccurred, export firms increased their efficiency. Some firms exited; new firms entered and some firms specialized

rather than provide a full service business. Greater emphasis was placed on achieving domestic value added, e.g., improved service, recognition of coffee quality differentials, and sorting. The total marketing margin decreased significantly, resulting in relatively higher prices for producers and an improved comparative advantage in coffee for Brazil. Thus, an end to rents and rent seeking promoted dynamic efficiencies in the export sector.

Comparing the performance of the exporters in Rio de Janeiro versus those in Sao Paulo and the state of Minas Gerais also illustrates the influence of rent seeking. The IBC was located in Rio, which made that city the center of rent seeking activities. Given the importance of rent seeking to firm profitability, a large number of exporting firms had their headquarters in Rio. Export firms could have located more rationally in the states of Sao Paulo and Minas Gerais where coffee production is situated. There was also a striking attitudinal difference between exporters in Rio and other locations, particularly in their views of the IBC and Dauster's 1987 reforms. Without exception, Rio traders believed that Dauster's reforms were misguided, while Sao Paulo traders believed they were positive for the coffee industry. Traders located outside Rio also exhibited more sophisticated knowledge of commodity trading, were more likely to be vertically integrated, and were more engaged in developing specialty markets for quality coffee.

9. BRAZILIAN COFFEE STRATEGY SINCE THE END OF THE ICA

After abolishing the IBC, Collor de Melo eliminated the coffee export tax, leaving the sector essentially free of government intervention for the first time since the early 1900s.[xxxix] Despite several sharp swings in world coffee prices that prompted domestic and international efforts to resurrect government intervention, Brazil's policy has been to increase efficiency and productivity, focus on market strategies, not market intervention, and increase domestic coffee

consumption to absorb a higher proportion of Brazil's production and thus make the industry less vulnerable to fluctuations in international supply and demand.

Following termination of the ICA in mid-1989, coffee prices fell sharply and remained low for five years as countries and private speculators liquidated stocks on the assumption that the ICA would not return. The sustained period of low prices prompted efforts by coffee producing countries to develop a new mechanism to restrict exports. In 1993, a number of coffee exporting countries initiated efforts to establish the Association of Coffee Producing Countries (APPC). The ACPC was a private sector initiative with mixed ideological origins. Those favoring the ACPC were anti-ICA and anti-government, against rent seeking and in favor of a free market, yet anticipated creating a "disciplined" private sector cartel of suppliers that could negotiate successfully with foreign roasters. They were unable to develop a well-formulated proposal. Developed countries refused to participate and Brazil and Colombia refused to accept mandatory export restrictions.[xl] Without restrictions on production or exports, cheating was expected to eliminate the potential for gain by the countries that did restrict exports.[xli]

In 1994, immediately after the ACPC was created, world coffee inventories reached a point of stability after a long post-ICA period of liquidation. A series of frosts in Brazil caused coffee prices to skyrocket. It was difficult to sort out the causes and some attributed the price gains to actions of the ACPC. Nonetheless, the ACPC had no ability to control the market and prices began declining after 1997. As it became clear that it how no power, the ACPC withered and ceased to operate in 2003.

The response to the end of the ICA differed sharply across exporting countries. Though world exports rose from 75 million bags in 1993 to 85.7 million bags in 1999, this increase occurred wholly in Brazil and Vietnam, whose exports increased by 5.4 million bags and 5.6

million bags, respectively. Moreover, coffee prices fell to unusually low levels in 2001-0, causing a decline in production and exports in most countries. In contrast, Brazil increased output by an additional 5.5 million sacks. Overall, from 1989 to 2004, Brazil expanded production by 56 percent, increased domestic consumption 71 percent and still increased its share of the world market from 24 percent to 30 percent.

Why did Brazil expand production and exports so much? With the end of the ICA and of export taxes, Brazilian producers received a much higher share of the international price, rising from an average of 50 percent from 1981-1988 during the ICA to 94 percent in 2004. Accordingly, although the international price declined, the producer price in Brazil declined by much less than in other producing countries. This small decline was then more than offset by increases in farm productivity resulting from the adoption of new technologies and management techniques. The most important were the development of dwarf trees that were easier to pick, and that could be planted in dense plantations on flat terrain and mechanically harvested. In some cases, drip irrigation was used. The dense plantings of dwarf trees were scale neutral and became widely adopted even in areas where mechanical harvesting was not possible. Some producers improved quality and marketed coffee more effectively internationally, while less efficient producers exited the industry. Thus, there is strong evidence that a market oriented coffee policy resulted in greater efficiency and competitiveness among both producers and exporters.

10. SUMMARY, CONCLUSIONS AND POLICY LESSONS

The ICA imposed coffee export quotas on member countries, including Brazil, creating domestic quota rents. In Brazil, rent-seeking activity focused on two instruments controlled by

the IBC: 1) the formula utilized to allocate export quota among exporters and 2) the export tax rebates (*Avisos de Garantia*) that were initially used to encourage several large international roasters to expand their imports from Brazil.

In the first case, the formula originally awarded quota in one period to exporters that had received quota in the previous period, guaranteeing privileged firms continued access to the quota. In response to intense lobbying efforts, however, the formula gradually changed to allow additional firms and, to a limited degree, producers' cooperatives, growing access to quota. Nonetheless, within the time span of the agreement, a relatively small number of exporting firms captured a large proportion of the quota rents available in the 1980s. The same occurred in other exporting countries (Bohman *et al*., 1996; Temu, 1991). In 1987, the IBC discarded the formula and began to auction quota rights, enabling it to capture the full quota rent.

In the second case, the IBC began by negotiating secret, discriminatory contracts with foreign roasters that agreed to purchase a larger amount of coffee, spaced equally throughout the year, in exchange for a guaranteed preferential price to be achieved through the issuance of negotiable export tax rebates (*Avisos*) that could be used for future coffee purchases. Although the rebates were first explained as an efficient way to increase Brazilian sales through price discrimination, rebates were later justified as a mechanism needed to offset other policy-induced distortions. The growth and mutation of the export rebates allowed foreign roasters to share importantly in the rents and caused huge losses of foreign exchange and federal government tax revenue. Use of the rebates also ended only with IBC reform.

The widespread faith (ideology) in government intervention as a means of improving Brazilian economic welfare contributed to the complexity of Brazilian policies, which involved administrative prices, the simultaneous use of export taxes and rebates, formulaic allocations of

quota, and incentives for stockholding, doubtlessly increased the potential for rent-seeking. The Brazilian coffee case suggests the importance of policy review by multiple government agencies and branches that can act as checks and balances to avoid on policies that seem clearly out of line with national interests. Similarly, the existence of democratic institutions involving representatives from different segments of society and a free press to permit and encourage debate, seem essential to provide knowledge, give voice, and ultimately power to the public. The persistence of long-term contracts and associated export tax rebates depended importantly on the autonomy of the IBC, as well as on the authoritarian nature of government from 1964 to 1985,[xlii] which limited public knowledge and debate. During the military period, agricultural policy was formulated by the executive with little input from Congress. Because decision making was concentrated in the Ministries of Finance and Planning and conducted through a relatively closed process, access to decision makers through friendship or other personalized contacts became essential (Helfand, 1999). The formula allocation of export quota and export tax rebates came to an end only after democratic institutions began to emerge, creating greater transparency in the political process and making it attractive for politicians to make decisions more in the public interest.

Outcomes in the Brazilian case also often seem consistent with the predictions of public choice theory, wherein those actors who have the greatest potential for gain and who are relatively few in number, face the greatest incentives and the smallest transactions costs to organize and thus should have the highest probability of capturing rents (Buchanan, 1987). As this theory would predict, Brazil's domestic exporters got a large part of the rents, working with and through government bureaucrats and officials. Nonetheless, foreign roasters (importers) received an even larger share of the rents. The mechanisms by which this occurred remain less

clear, but it appears that they also worked through government bureaucrats and officials to increase the rebates (discounts) given, and then successfully played off Colombia and Brazil who were engaged in competition for quota within the ICA.

Farmers' notably lesser (but not completely absent) participation in rent-seeking activities is also consistent with public choice theory. Farmers were numerous and had small individual interests in rents. They were poorly organized, had little direct contact with international markets and did not easily discover the profits available through quota capture. Indeed, public choice theory suggests that farmers should have opposed Brazilian participation in the ICA, as the ICA quota systematically lowered the domestic producer price of coffee in Brazil (Bohman & Jarvis, 1996). The quota required Brazil to reduce its exports, which was partly achieved by moving its farmers down their supply curve. The ICA stabilized international coffee prices and may have stabilized domestic prices in Brazil, which could have benefited farmers. However, the coefficient of variation of producer prices in Brazil was about the same during and after the ICA, e.g., 0.51 and 0.53, respectively, for 1975-1989 and 1989-2004. It thus seems unlikely that Brazilian farmers gained sufficiently from income stabilization to offset the decreased prices that the ICA seems to have caused in Brazil.[xliii]

Despite the ICA's apparent harm to farmers, Bohman and Jarvis (1998) found little evidence of farmer opposition. When farmers, or at least a subset of their members, became aware of the rents in 1982, they sought to participate in such rents by gaining access to the quota rather than by abolishing the source of economic harm. It appears that farmers did not understand how coffee policies influenced their welfare. They were accustomed to an export tax, which they knew reduced the producer price, but they did not see the relationship between the quota and the producer price. This example suggests that public choice theory is unlikely to

explain behavior when the affected parties are unable to perceive how policies affect them. The more complex is the policy context, the more difficult it will be for actors to understand policy effects.

When the ICA ended and the government ended its intervention in the coffee sector, the principal beneficiaries were producers and exporters who could significantly increase efficiency and productivity. The main losers were those who had previously relied on access to rents, as well as some exporters and producers who found it difficult to increase productivity and were harmed by their inability to compete as coffee prices and exporter margins decreased. The federal government lost access to coffee rents, which it had not tapped to potential, but state governments increased sales tax revenues from rising coffee production.

Aspects of the Brazil case are similar to several aspects identified by Krueger (1990) in her analysis of a similar case of large scale intervention -- the American Sugar Program. In particular, she emphasized 1) the likelihood that an instrument such as the *Aviso* – once created – will be seized by groups who perceived themselves able to benefit from its use, 2) the growing complexity of the policy instrument over time makes it more difficult for the public to understand, while giving greater influence to specialists who both understand and benefit from the effects of the policy instrument and who may resist proposals to rationalize it, 3) the likelihood that government bureaucrats will follow their own and not the public interest (though in Brazil there is the notable, important exception of Dauster, whose policies were clearly in the public interest), and 4) the important role of institutions -- The IBC and the ICA stand out in Brazil.

Though the IBC's surprising independence, power and lack of accountability to the broader state apparatus reflected the general deterioration of Brazil's political system during the

military administration, the ICA contributed to the IBC's poor performance. Managing the ICA quota justified more as opposed to less government intervention and created rents as a type of perverse incentive for bureaurats as well as others. The ICA also created a framework within which producing countries competed for quota shares. Such competition allowed international roasters repeatedly to play off one producing country against another, gaining significant benefits at the cost of the countries.

Bates (1997) perceives the ICA to have been an institutional success, raising and stabilizing the price of coffee for over two decades. As noted, it is debatable whether the ICA raised international prices and, as it reduced exports, it is even less likely that it increased export revenues. It also was costly to maintain. While noting that agreement required continual analysis and negotiation among the parties involved and large expenditures to seek favorable votes whenever quotas were renegotiated, Bates does ont seem to have considered these costs in formulating his conclusions. Moreover, his assessment ignores the effect of ICA quotas on rent seeking and policy outcomes in the producing countries, which this paper shows were sufficiently high in Brazil to make it a net loser from participating in the agreement.

Two final comments seem warranted. First, Dauster sought a properly run IBC, believing that the IBC could make a positive contribution to the coffee sector and Brazil. His reforms succeeded in the sense that a more efficient, honest administration ended the use of avisos, allowed the government to capture quota rents and thus eliminated the immediate costs of rent-seeking activity. The Brazilian case supports Krueger's recommendation that even when large rents exist, proper administration and choice of policy instruments can greatly reduce the harmful effects of rent-seeking activity. However, the recent development of Brazil's coffee industry suggests that eliminating rent-seeking activity would not have fully avoided the costs of controls.

Had the ICA continued along with a reformed IBC, the latter could have captured the quota rents and utilized the revenues to spur coffee sector development. Nonetheless, the sector would have been subject to an export quota and probably faced a lower producer price, damping the incentive to pursue technical change. Accordingly, the sector probably would not have achieved the high rate of development observed since 1989. Eliminating intervention and leaving the sector to seek its own development path produced greater efficiency and more rapid growth of output and value added than a well-functioning IBC that was extracting (and reinvesting) rents is likely to have done.

Second, it seems likely that calls for new mechanisms to limit exports and increase international prices will be heard again next time coffee prices suffer a pronounced downturn, as they regularly do. This study suggests that is the wrong policy prescription. The ICA intended to benefit producing countries and their farmers, but it did not do so in Brazil. The beneficiaries were bureaucrats, exporters who participated in the lobbying process and foreign importers. Thus, although there is an understandable tendency for producers to seek redress when their incomes fall sharply and for governments to wish to respond, the Brazil case suggests that international commodity agreements are more likely to cause harm than benefit to those they are intended to help.

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Table 1. Value of export taxes, tax rebates and domestic quota rent ($US million)

	Export tax (T_{qc})	Revenue from quota auctions	*Avisos* redeemed	IBC net revenue	Importer rent received	Exporter residual rent	Observed rent $(P_{A'}-P_N)q_A$	Rent due to Price Increase $(P_{A'}- P_A)q_A$	Total true rent $(P_A-P_N)q_A$	Sales tax revenue	Producer revenue	Total export revenue	Adjusted total export revenue TR-$(P_{A'}- P_A)q_A$
	(1)	*(2)*	*(3)*	*(4)= (1)+(2) -(3)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*
1981	1,170	0	1,990	-820	995	77	1,247	995	252	201	983	2,880	1,885
1982	675	0	757	-82	379	225	900	378	522	247	1,104	2,535	2,156
1983	1,317	0	559	758	290	6	1323	280	1,043	167	836	2,629	2,349
1984	1,352	0	608	744	304	88	1440	304	1,136	214	1,018	3,043	2,739
1985	905	0	679	226	339	0#	700	339	565	263	1,643	2,874	2,535
1986	243	0	304	-62	152	170	413	152	260	297	1,563	2,441	2,229
1987	411	6	137	280	68	150	567	68	499	224	1,001	2,109	2,042
1988	461	174	20	615	10	182	817	10	807	213	734	2,068	2,058
1989*	134	23	8	157	4	0	157	4	157	199	996	1,597	1,597
Total	6,668	203	5,054	1,816	2,527	897	7,768	2,527	5,241	2,025	9,880	22,177	19,650

Set to zero. See text. * January to June only.

Source: Author's calculations and Bertone (1992) for *aviso* data.

Table 2. Annual Emission, Redemption and Outstanding Balance of *Avisos de Garantia*, 1965-88

Millions of $

Year	Emission	Redemption	Cancellations	Outstanding Bal.
1965	0.9	0.6	0.0	0.3
1966	22.8	18.4	0.4	4.4
1967	21.4	23.7	0.6	1.5
1968	15.4	14.5	0.4	1.6
1969	23.3	21.6	0.4	2.9
1970	46.5	46.1	0.3	2.9
1971	95.5	89.9	1.7	6.8
1972	76.8	63.1	4.1	15.8
1973	192.9	192.6	1.1	15.0
1974	104.8	102.2	1.2	16.4
1975	408.3	403.4	1.1	20.2
1976	155.7	149.1	0.5	26.8
1977	391.8	329.6	14.0	75.1
1978	405.9	437.8	5.5	37.6
1979	160.9	163.3	12.8	22.4
1980	1,310.6	1,031.2	5.7	304.1
1981	1,917.0	1,990.5	11.4	273.3
1982	516.9	751.1	10.7	21.8
1983	546.2	559.2	0.4	8.4
1984	628.9	608.2	5.9	23.2
1985	678.2	678.7	3.8	19.4
1986	302.2	304.5	0.3	16.9
1987	134.4	136.5	1.6	13.2
1988	10.8	19.6	0.0	4.4
Total	8,229.7	8,142.1	83.2	NA

Source: Bertone (1992) from data originally compiled by the Federação Brasileira dos Exportadores de Café (FEBEC).

Table 3. Distribution of domestic quota rent (percentage)

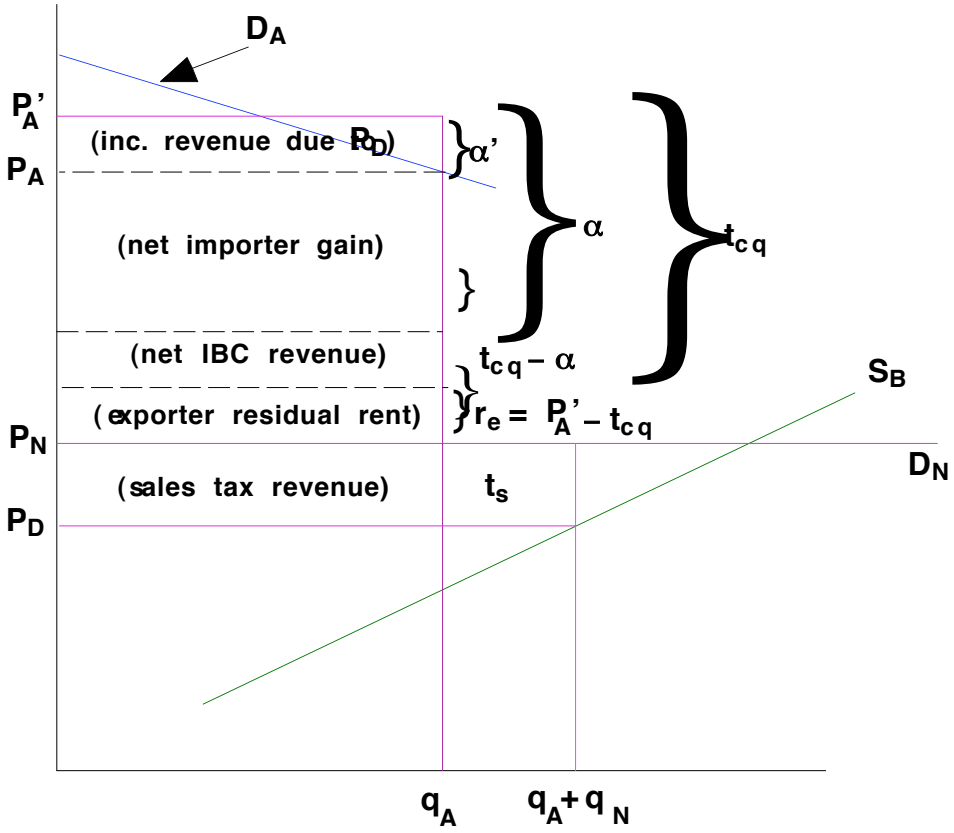
	Importers	IBC	Exporters
1981	395	-325	31
1982	73	-16	43
1983	27	73	1
1984	27	65	8
1985	60	40	0#
1986	58	-24	65
1987	14	56	30
1988	1	76	23
1989*	0	100	0
Total	48[a]	35[a]	13[a]

Set to zero. See text. *January to June only.

[a] Averages for the whole period using total amounts received.

Source: Author's calculations. Totals may not sum to 100 because of rounding.

Figure 1. A model of Brazilian policy with rent seeking*



** All prices, taxes and tax rebates converted to US $*

Figure 2a) Use of export tax rebates to achieve price discrimination in the member market

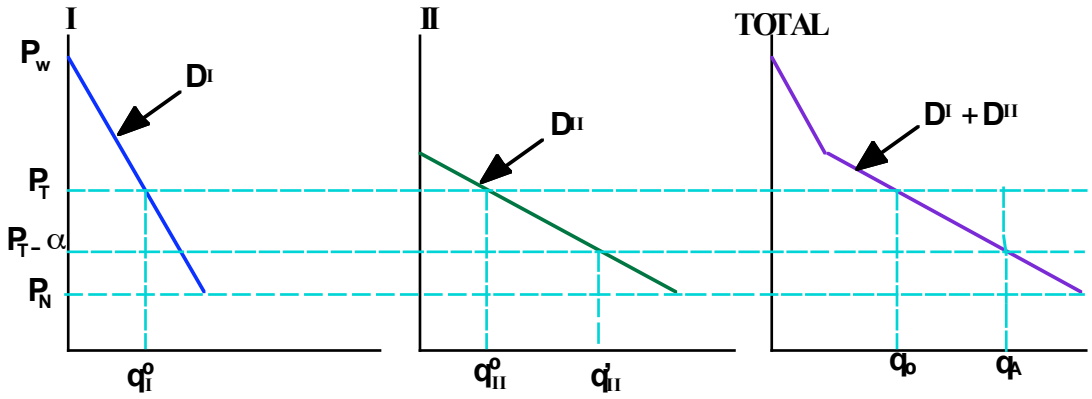
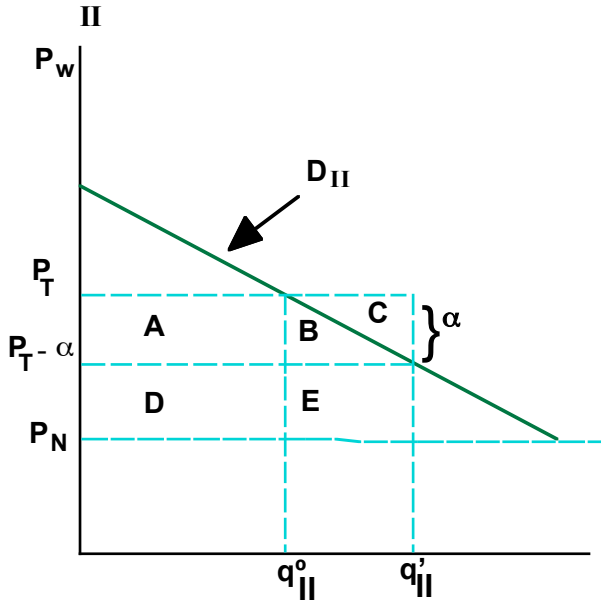


Figure 2b) Net effect of export tax rebates on Brazilian Welfare



[i] Numerous other studies (e.g., Buchanan, 1987; Corden, 1974; Olson 1982, and Stigler, 1971) have modeled the political determinants of economic policy without focusing explicitly on rent seeking.

[ii] The US Congress was worried about the spread of communism in Latin America, following the Cuban Revolution.

[iii] Centralizing coffee policy making within a largely autonomous institution like the IBC facilitated rent-seeking. Bacha (1992) and others argue that the lack of a democratic opposition during the military government that ruled Brazil from 1964 to 1984 contributed to a climate that favored corruption.

[iv] Although a domestic quota rent existed in Brazil whenever ICA quotas were in effect, this paper focuses on the 1980s as published information is of higher quality and it was possible to interview more individuals who had participated in the coffee sector during this time.

[v] Brazil had market power in the member and the nonmember markets and theoretically could have maximized economic surplus Brazil by imposing optimal export taxes in each market (Bohman & Jarvis, 1996). The definition of potential rents should include the revenue achieved by these taxes. To simplify, I assume Brazil is a price taker in the nonmember market, which accounted for 10 percent of its exports.

[vi] Bohman and Jarvis (1996) show how varying government preferences regarding distribution of the quota rent lead to different desired coffee policies once a domestic quota is introduced, with associated effects on economic welfare. Theoretically, an export quota should result in policies that cause a decline in the producer price of coffee in almost all cases. Econometric results show that producer prices did fall in most exporting countries when an ICA quota was in effect.

[vii] I abstract from stockholding transactions. In general, Brazil accumulated stocks during periods when quotas were in effect, thus maintaining domestic producer prices at a higher level than would have been feasible had all above-quota output been sold on the non-member market. Brazil sold a proportion of stocks whenever quotas were lifted. Since demand was more elastic during periods when quotas were not in effect, stock transactions probably slightly raised producer prices over the price cycle.

[viii] The rent shares shown in Table 2 are calculated as A'/R, T/R, and R_E/R, respectively.

[ix] In Indonesia, quota was allocated to exporters partially on the basis of each exporter's nonmember market exports. This encouraged exporters to bid the domestic price above P_N, resulting in excess production and trade relative to

marginal prices and affecting the division of quota rents. In Brazil, farmers' cooperatives received a small amount of the rent after 1982, through quota allocations based on their working stocks, but were insufficient to warrant attention. In the rent calculation, data for the observed producer price is used for P_D. Reliable data for P_N is not available for Brazil and it is assumed equal to $P_D/(1- t_s)$.

[x] Until June 1986, P_{MR} was set administratively and often was not changed for significant periods, i.e., 19 months between January 1982 and July 1983. After June 1986, P_{MR} was set using a published formula as a function of spot coffee prices in the New York and London markets. Exports continued whether the minimum registration price was higher or lower than the member price. When P_A exceeded P_{MR}, the exporter declared P_{MR} to be the sales price and retained the difference abroad or repatriated it on the black market, earning an additional premium. When P_{MR} exceeded P_A, the exporter declared P_{MR} to be the sales price, as required, and had to purchase additional foreign exchange on the black market in order to submit the required amount to the Central Bank. Theoretically, the setting of P_{MR} acted similarly to an export tax or subsidy. Exporters in Brazil indicate that they developed specific formula to determine the profitability of coffee exports, taking into account the relationships between P_A and P_{MR}, the black market exchange rate, the producer price, and other variables.

[xi] Theory suggests that domestic quota rents should have disappeared when the quota lapsed.

[xii] Since export tax rebates were provided only to the largest importers, these contracts were known as "special deals."

[xiii] In the preferential contracts, Brazil tied the amount of the export tax rebate (and thus the net price of its coffee) to the price of its competitors, intending to make price-cutting by them uneconomic. It was argued that any price cut would immediately be followed by an offsetting higher export tax rebate from Brazil.

[xiv] The theoretical justification for this policy has been widely accepted in Brazil for many years, e.g., "The secrecy and discriminatory character of such supply contracts became a point of hot contention, but their commercial logic from an oligopolist market point of view seems impeccable..." (Bacha, 1992).

[xv] Rebates were initiated in late 1965; 1966 is the first whole year during which rebates were paid.

[xvi] Turnover was rapid; the IBC had 14 presidents between 1963 and 1987.

[xvii] The large amount of *Avisos* issued each year suggests that the Minimum Registration Price exceeded the competitors' reference price every year. My calculations suggest that the Minimum Registration Price was not, on average, much higher than the international price for Brazilian coffee. However, the contracts may have been skewed to provide a continual flow of rebates.

[xviii] *Avisos* were traded among coffee exporters on an informal New York market throughout the period, generally with only a small discount from their face value.

[xix] It is rumored that the *Aviso* accounting system at one point showed a large discrepancy, with about $1.5 billion more *Avisos* having been redeemed than issued. Several respondents mentioned a Brazilian saying that "only two agencies in the world can issue US dollars, the Federal Reserve Bank and the IBC." Data are not available regarding the amount of *Avisos* received by specific importing firms, how these amounts were determined, nor when the *Avisos* were redeemed. That so little information is available regarding their use suggests the feasibility of administrative irregularities.

[xx] Brazil's exports totaled 12 million bags, with 3 million bags shipped in December.

[xxi] The Price-Fall-Guarantee clause was included in the Brazilian contracts in 1979 because Colombia had previously introduced this clause in its contracts (Lago, 1994, personal correspondence; Bates, 1977). Colombia and Brazil were fighting for a larger share of the ICA quota, a form of international rent seeking, and foreign roasters used the moment to extract additional benefits.

[xxii] The sales tax was imposed on all exports, but it had no incidence on member market importers.

[xxiii] If the quota assisted importers to achieve an additional price differential between the Brazilian export price and the price in foreign countries, similar to Krishna-Tan type of rent sharing, importers gained more.

[xxiv] Though the ICA appeared to increase the international price while the quotas were in effect, my results suggest that the few large importers who received the "special deals" gained handsomely.

[xxv] Until January 1985, t_{cq} was a specific tax fixed at the same level for all types of coffee. Afterwards, t_{cq} was levied as a percentage of the P_{MR}. During the quota period, the export tax was applied only on exports to the member market.

[xxvi] The IBC suffered another revenue loss in 1986, primarily because the export tax was reduced along with the emission of *Avisos*, leaving a substantial residual rent for exporters.

[xxvii] Including state taxes, government revenue was positive in every year except 1981. However, neither the IBC nor the Federal government had access to state tax revenues.

[xxviii] My estimates indicated that exporters suffered a loss (negative rent) in 1986, when there was a sharp spike in producer prices due to a drought. Negative rents are implausible since exporters buy coffee only so long as they can profit from the coffee purchased. Because inflation was extremely high at this time, 140 percent annually, I assume exporters reduced the real price by lagging payment and set the rent to zero.

[xxix] Changes made to the quota allocation formula in response to lobbying, mainly in the stocks component and the basic quota, provided producers and other new export firms with an entry point that would have allowed them to achieve a significantly higher share of exports had the system been sustained over time.

[xxx] Brazilian production expanded in the early 1980s when a quota was in effect. The government had either to purchase coffee for stocking, increase exports to the nonmember market, encourage exporters to hold additional stocks, or see the producer price decline sharply. One mechanism to support producer prices involved tying part of the allocation of quota to the stocks held by exporters. The government required that exporters store two extra bags of coffee for 90 days for every bag of coffee exported to the member market.

[xxxi] Producers did not generally recognize that ICA quotas systematically reduced producer prices, effectively acting as a production as well as consumption tax (Bohman & Jarvis, 1996), and did not oppose imposition of an export quota. Producers, or at least their organized leaders who were aware that ICA quotas had resulted in quota rents that were being captured primarily by exporters, instead tried to gain a share of these rents.

[xxxii] For example, the IBC rejected a proposal to replace the formula system for allocating quota to individual exporters with an auction. The IBC stated that an auction would not allow exporters to obtain pre-commitments from importers for the entire year, though it is not clear why this should be so. On several occasions Brazil debated a move toward a more flexible, market-based system of coffee marketing, but opted for a continuation of managed rather than free competition (Bacha, 1992).

[xxxiii] I thank Regis Alimandro for locating data for the auctions occurring in 1988 and 1989. No data could be found for auctions in October-December 1987. When the IBC was terminated, its records were boxed and stored in warehouses. Some reportedly have been lost or burned.

[xxxiv] Auction prices rose as export taxes were reduced. Prices were consistently higher than expected. Since exporters hoped for a return to administrative allocation of the quota, they may have paid higher prices than the actual residual rents, calculating that future quota would be based on current exports.

[xxxv] Brazil has the largest internal consumption of any country other than the United States. Its domestic roasters and the soluble coffee industry are large and also were the recipients of many favorable arrangements with the IBC, which are not analyzed here for lack of space.

[xxxvi] See Helfand (1999) and Helfand and Castro de Rezende (2004) for analyzes of Brazil's efforts since the 1980s to liberalize economic policies, including those specific to agriculture.

[xxxvii] It seems unlikely that the IBC would have been abolished if an ICA quota had existed.

[xxxviii] This is similar to activities observed in Indonesia where the government effectively restricted the number of exporting firms when ICA quotas were in effect during the 1980s.

[xxxix] Several important services provided by the IBC were not quickly taken up by other agencies, e.g., coffee sector data collection, analysis, and publication, agronomic research and extension, infrastructure development and analysis of world markets. The government strengthened the statistical services in the late 1990s and the very important research activity was taken over and extended by EMBRAPA, Brazil's agricultural research system.

[xl] Dominant factions of Brazil's producers and exporters believed Brazil could expand its market share through competition. Colombia established a national commission to study whether to support a producers' cartel and recommended against it (Clavijo *et al*., 1994) as theoretical and historical analysis demonstrated that a cartel was unlikely to succeed.

[xli] See Jarvis et al., 1994, for calculations. Bates (1997), Chapter 6, discusses the ICO's inability to utilize coercion to enforce quota allocations among countries, even with consuming country enforcement of the rules. Cheating was expected to be much greater without the consuming countries' participation.

[xlii] The commonly used breakpoint in the transition from military rule to democracy is 1985.

[xliii] Any stabilization scheme has a cost and, if this cost is reflected in lower prices to producers, the latter face a tradeoff between income level and income variability. Kanbur (1984) develops a framework relating the income-equivalent welfare gain from a reduction in income variability to the reduction of income brought about by the taxation implicit in the stabilization program. For plausible degrees of producer risk aversion, the stabilization effect must be large relative to the income loss if producers are to enjoy a net gain. For example, a reduction in the coefficient of variation of price from 0.7 to 0.35, that requires an income reduction of 20 percent, yields a small net gain for farmers with a relative risk aversion coefficient of 1, and a small net loss for farmers with a coefficient of 1.5.