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GOVERNMENT INTERVENTION IN COMMERCIAL CROP DEVELOPMENT, CASE OF INDIA'S FLUE CURED VIRGINIA TOBACCO

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The role of the state in industrialisation is a much discussed topic these days. Specifically this role has manifested itself in the form of direct intervention by the state through owning the means of production and distribution of especially industrial products through the establishment of state-owned enterprises. Currently, there is of course, certain amount of rethinking on the need to roll back the state from some of these activities[1]. The logical underpinnings of this rethinking is largely based on the "evidence that most governments (or for that matter most economics of less developed countries with or without state intervention have performed rather badly"[2]. In the context a much less understood and researched upon aspect has been the role of the Indian state in agriculture. It is believed, by and large, and rightly so that agriculture is largely in the hands of the private sector and that too dominated by small and marginal farmers. State intervention has been restricted to agricultural research and extension activities and sometimes to regulating the market for certain agricultural products. This is evident from the following table which maps out the relative share of public sector agriculture in total GDP. See Table 1.

Share of Public Sector Agriculture in Total GDP at Factor Cost

Year	Agriculture	(in per cent) Registered Manufacturing
1961-65	0.80	15.80
1966-70	1.50	19.30
1971-75	1.80	18.70
1976-80	2.00	20.70
1981-85	2.10	21.10
1986-88	2.20	22.10

Source: R. Nagaraj, "Increase in India's Growth Rate: A Comment" Economic and Political Weekly, 1991.

While these data refer only to the output emanating from public sector agriculture (i.e., when the means of production is directly owned by government) and that too at the aggregate level it does not adequately portray the nature and extent of state intervention in the promotion of a number of commercial crops. The government have overtime created a host of what is called commodity boards for the systematic development of a number of commercial crops like Tea, Coffee, Spices, Coconut, Natural Rubber and Flue Cured Virginia Tobacco[3]. The commodity boards are charged with the responsibility of developing these crops along systematic lines with the ultimate goal of promoting either exports (as in the case of Tea, Coffee, Spices and FCV Tobacco) or import substitution (as in the case of Natural Rubber and Coconuts). The experience of these different governmental institutions towards the achievement of this goal has been rather mixed, though there are not any systematic studies, as yet, on this theme.

What follows is an analysis of the nature, extent and effect of government intervention in one such commercial crop. The crop

chosen is Fluecured Virginia Tobacco where the government intervention has been directed towards enhancing the export competitiveness of this commodity. The nature of government intervention in the crop has at least two facets which is worth mentioning. First, it is all pervasive in the sense that it covers both production and marketing as well. Second, it has been quite recent and infact the crop had a rather too long a history of private intervention, unlike in most other commercial crops mentioned above.

The purpose of the paper is essentially to understand the extent and consequences of government intervention on at least three aspects of the crop's economy. This is all the more important as this commodity had a rather long history of private intervention which was replaced by explicit government intervention[4] since 1984-85. The three aspects examined are: (i) long term trends in productivity; (ii) the working of the tobacco market with an emphasis on the behaviour of the trader's margin in the post-intervention phase; and (iii) the movements in export competitiveness of Indian tobacco during the same period.

The paper is structured into three broad sections, with a number subsections within each of them. We begin with the first section.

Section I

Structure of FCV Tobacco Production and Trends in Producing

Tobacco is an agricultural raw material used in manufacturing industry. There are two types of tobaccos that are grown in India, viz., Flue Cured Virginia (hereafter FCV) and non-virginia. The former is used in the manufacture of cigarettes while the latter is used to manufacture a host of products like beedies, cigars, cheroots snuff, hookah etc. In this study we are concerned only with the FCV tobacco. This choice is essentially dictated by the fact that FCV accounts for nearly 90 per cent of the total exports of unmanufactured tobacco from India. In this study we concentrate only on FCV tobacco as it is the type which is most important from the point of view of exports.

Table 2

Varietal Production of Tobacco in India
(As of 1986-87)

Variety	Area ('000 ha.)	Production (Million Kg.)
A. Virginia	114.10 (29.73)	106.70 (23.19)
B. Non-Virginia of which,	269.70 (70.27)	353.50 (76.81)
a. Bidi	128.00 (33.35)	185.00 (40.20)
b. Chewing	65.00 (16.94)	78.00 (16.95)
c. Natu	38.00 (9.90)	44.00 (9.56)
d. Hookah	24.00 (6.25)	28.00 (6.08)
e. Cigar & Cheroot	10.00 (2.61)	11.00 (2.39)
f. Snuff	4.70 (1.22)	7.50 (1.63)
C. Total (A+B)	383.80 (100.00)	460.20 (100.00)

Notes: Figures in brackets indicate percentage share of the total.

Source: Tobacco Production in India, A Handbook of Statistics, Directorate of Tobacco Development, Ministry of Agriculture, Madras, 1989, p.20.

As mentioned earlier, its share in total exports of all unmanufactured tobacco from the country is as high as about 90 per cent though there has been a fall in that share in the 1980s. See Table 3.

Table 3

Share of FCV Tobacco Exports

Year	As a percent of domestic output of FCV[1]	As a percent of all unmanufactured tobacco exports from India[2]
1975-76	67	93
1977-77	70	91
1977-78	38	89
1978-79	46	94
1979-80	58	89
1980-81	56	93
1981-82	72	94
1982-83	44	95
1983-84	53	89
1984-85	34	88
1985-86	62	90
1986-87	47	91
1987-88	52	81

Notes: 1. This series is based on output in physical quantity production minus exports need not be equal to domestic consumption because of stock holdings.

2. This series is based on exports in value terms.

Source: 1. Annual Administrative Report, Tobacco Board, Various Issues.

2. Tobacco Production in India, 1989, op.cit., p.13.

From the above Table it is clear that nearly one-half of the total output is exported. FCV tobacco is thus an export commodity and finds its usage mainly in the organised manufacturing industry, namely the cigarette industry. In fact it is said that the cultivation of this crop in most of the

present day producer countries has been introduced by the leading transnational cigarette manufacturing companies[5]. For instance in India, the crop was introduced by a subsidiary of the MNC, namely the British American Tobacco Company (BAT)[6]. It is also shown that in the initial years the cultivation of the crop was closely supervised and controlled by BAT and this control was achieved by its monopoly of the new technology and through a system of contracts between the company and the cultivator[7]

The commercial cultivation of FCV tobacco can be traced to the early part of this century when BAT pioneered its cultivation in the Guntur district of Andhra Pradesh. The primary impetus for the indigenous production came from the imposition of tariffs on imported leaf tobacco and cigarettes in 1910-1911. This lead to the large scale commercial cultivation of FCV tobacco. As mentioned earlier for a very long time till the 1950s, the production and marketing of FCV tobacco was controlled by a subsidiary of the BAT, namely the Indian Leaf Tobacco Development Corporation (ILTDC).

India occupies an important position in the World's output and export of FCV tobacco. Table 3 maps out the relative position of India in the total area, output and exports of FCV tobacco.

Relative Share of India in the World Economy of FCV Tobacco
(in 1987)

Country	Area ('000 ha)	Production (Million Kg)	Exports (Million Kg)	Exports as a percent of domestic output.
1. China	932.00(48.05)	1640.00(50.23)	18.00(3.06)	1.10
2. USA	131.40(6.77)	313.40(9.60)	135.00(22.96)	43.08
3. Brazil	155.00(7.99)	263.00(8.05)	122.00(20.75)	46.39
4. Zimbabwe	63.50(3.27)	128.00(3.92)	102.50(17.40)	79.92
5. India	114.10(5.88)	106.70(3.27)	50.00(8.50)	46.86
Total World	1939.50	3265.30	587.90	18.00

Note: 1. Figures in brackets indicate percentage share of the total world area, production and exports.

2. This share has since come down to 1.76 percent in 1988.

The Table shows that while India ranks fifth in the total world output of FCV tobacco, it is fourth largest in terms of exports. This is because the largest producer China is actually a net importer of its FCV tobacco requirements.

There are four aspects of FCV tobacco output that warrant a closer or detailed analysis. They are as follows:

a) extreme regional specificity in its cultivation and production;

b) more or less stagnancy in its productivity over the last three decades;

c) government's control over both its production as well as marketing through a specially created agency, namely the Tobacco Board; and

d) deceleration in India's share in world exports of FCV tobacco and the declining competitiveness of Indian exports.

In this section, we analyse the issues concerning production and productivity and those dealing with marketing and export competitiveness will be discussed in the subsequent sections.

(i) Regional dimensions of Tobacco Output:

There is extreme regional specificity in the cultivation and production of FCV tobacco in the country. Production is mostly restricted to the two southern states of AP and Karnataka. Infact, over 90 percent of the total output of Tobacco is accounted for by the former while the latter accounts for the rest. This regional dimension is presented in Table 5.

Table 5

Regional Dimensions of Flue Cured Virginia Tobacco Output in India

(in percent)

Year	Andhra Pradesh	Karnataka	Others
1981-82	92.39	7.53	0.08
1982-83	93.91	5.88	0.21
1983-84	92.54	7.23	0.23
1984-85	90.55	8.82	0.63
1985-86	87.19	11.81	1.00
1986-87	91.14	8.31	0.55
1987-88	90.82	7.31	1.87
1988-89	72.57	6.70	0.73
Average	91.38	7.95	0.67

Source: 1. Tobacco in India (1989), op.cit., p.22

2. Annual Administrative Report, Tobacco Board, 1988-89, pp.117-8.

The concentration of output in the area can in turn be traced to the specific agro-ecological conditions including the type of soils that are required for the optimum growth of the tobacco plant. Specifically based essentially on the soil pattern, the tobacco growing regions are classified into four

reas or

Table 6

Flue Cured Virginia Tobacco Growing Regions In India According to Agroclimatic Regions

(Andhra Pradesh and Karnataka)

Region	Districts Included	Percentage share of output	Productivity (in Kg/	Characteristics
A. ANDHRA PRADESH				
1. Northern Light Soil (NLS)	West Godavari East Godavari (part) and Khammam (miniscule)	15	1250	Soil is of sandy loam. The crop is grown under irrigated conditions. The source of irrigation is mainly ground water. Since irrigation is regulated, the response of fertilizer to the yield is quite high. This is the best suited region for FCV product -ion. In this region, the seeds are raised in July through August; planting in October-November; harvested in January-February and marketed in February-May. This type of tobacco contain medium to high in nicotine and nitrogen and it is exported mainly to the United Kingdom.
2. Southern Light Soils (SLS)	Light Soils of Prakasam and Nellore	17	700	Clay is almost 30 to 40 per cent and sand is about 10 to 15 percent. An important characteristic is the fact that the ferrous bromide content in the soil is very high and because of this the whole plant growth is stunted leading to extremely low levels of productivity. Profile of the cropping calender is exactly the same as above. This tobacco is low in nicotine, medium in nitrogen and sugars with high filling value. Most of it is exported to the U.K. other West European countries and Japan.

(contd.....)

Region	Districts Included	Percentage share of output	Productivity (in Kg/	Characteristics
3. Black Cotton Soil	Khammam, Krishna Guntur, Prakasam (part) East and West Godavari (part)	52	1000	Management of the crop is extremely difficult due essentially to the rainfall pattern. The soils are clay loams to silty clay loams pattern. Profile of the cropping calender is exactly the same as above. This is considered to be neutral and blends itself very favourable with other tobaccos. The bul of this tobacco is exported t the USSR, Eastern Europe and the Middle-East. The balance is used by the domestic cigarette industry.
B. KARNATAKA				
4. Light Soils (KLS)	Mysore, Hassan, Shimoga, Chikmaglur Kolar, Coorg, Dharwar Mandya, Chitradurga	16	940	The crop is grown in the transitional belt between the Eastern slopes of Western ghats and the plains in the state under monsoon conditions. The soils are sandy loams and loamy sands. It is low to medium in this tobacco nicotine and medium to high sugars and it is exported mainly to U.K. and European countries.

Note: Annexure-1 maps out the region-wise area under FCV tobacco since 1970-71.

Source: 1. Tobacco Board
2. Indian Tobacco, Tobacco Board, Guntur, undated, (Pamphlet)
3. Annual Reports, Tobacco Board, Various Issues.

regions, namely (1) Northern Light Soil; (2) Southern Light Soil; (3) Black Cotton Soil; and (4) Light Soils of Karnataka. Of the four, in terms of share in total production, the Black cotton Soil area is the most important. A detailed profile of these

four regions appear in Table 6.

It is seen that the Northern Light Soil area though accounting for only a small share of the output is the most productive. But the expansion of area in this region is clearly restricted. The rather heavy concentration of tobacco in the black cotton areas have had a deleterious effect on the productivity of this crop. This aspect, is analysed in detail below.

(ii) Trends in Production and Productivity

Tobacco is mainly a small-holder crop. The average size of a tobacco plantation is 1.74 hectares. The holdings in AP are slightly higher (average size = 2.02 ha) compared to the ones in Karnataka. (average size = 1.46 ha). See Table 7.

Table 7

Average Size of FCV Tobacco Plantations In India

(Size in hectares)

Year	Andhra Pradesh			Karnataka
	Light soil	Black Soil	Average	Light Soil
1984-85	0.68	1.30	0.90	1.49
1985-86	2.55	2.45	2.49	1.45
1986-87	2.28	2.35	2.32	1.47
1987-88	1.89	1.63	1.70	1.35
1988-89	2.71	2.69	2.70	1.53
Average	2.01	2.08	2.02	1.46

Source: Annual Administrative Report. Tobacco Board, Ministry of Commerce, 1984-89 and subsequent Issues.

Table 8

Trends in Area, Production and Productivity of Indian FCV Tobacco

Year	Area ('000 ha)	Production (Million kg)	Productivity (Kg/ha.)
1950-51	61.5(17.21)[1]	42.7(16.35)[2]	695(.....)[3]
1960-61	89.4(22.29)	70.1(22.83)	784(.....)
1961-62	85.9(20.55)	62.7(18.50)	730(.....)
1962-63	97.1(23.98)	73.0(21.40)	752
1963-64	143.6(32.59)	114.4(31.80)	797
1964-65	109.7(26.99)	91.8(25.79)	837
1965-66			
1966-67	125.6(29.66)	102.5(29.00)	816
1967-68	144.1(34.03)	105.1(28.51)	729
1968-69	167.5(38.09)	133.3(36.93)	796
1969-70	132.3(34.78)	89.9(26.67)	590
1970-71	159.0(35.58)	96.2(26.58)	605
1971-72	173.4(37.84)	139.4(33.28)	804
1972-73	169.2(38.03)	120.1(32.27)	710
1973-74	156.4(35.03)	144.9(32.83)	926
1974-75	119.0(31.27)	99.5(27.40)	836
1975-76	121.9(33.11)	96.8(27.67)	794
1976-77	142.1(32.86)	95.7(22.85)	673
1977-78	202.3(40.11)	164.8(33.99)	813(1506)
1978-79	165.1(40.34)	142.8(31.47)	865(1460)
1979-80	140.5(33.03)	100.9(23.01)	718(1513)
1980-81	142.4(31.54)	117.0(24.33)	822(1633)
1981-82	150.9(34.00)	135.5(26.05)	898(1826)
1982-83	202.6(40.30)	188.7(32.44)	931(1654)
1983-84	152.3(34.64)	130.0(26.40)	854(1834)
1984-85	133.1(30.49)	110.0(22.64)	826(1785)
1985-86	116.5(29.19)	79.6(18.04)	695(1561)
1986-87	105.6(30.29)	109.5(23.71)	1065(1684)
1987-88	68.4(27.17)	64.3(17.92)	871(NA)
1988-89	105.3(28.11)	116.5(23.71)	1104(NA)
1989-90	102.3(24.41)	100.2(17.73)	975(NA)

Notes: 1 & 2: The figures in brackets indicate production of FCV tobacco as a per cent of all tobacco grown in the country.

3. Figures in brackets indicate estimated average yield in the world.

Source: 1 Indian Tobacco Statistics, Directorate of Tobacco Development, Ministry of Agriculture, Madras, 1975, p.18.

2 Tobacco in India, A handbook of Statistics, Directorate of Tobacco Development, Ministry of Agriculture, Madras, 1989, p.17.

3 Annual Administrative Report, Tobacco Board, Ministry of Commerce, Guntur, 1989-90, pp.107-8.

This virtual absence of large holdings or large estates is an important characteristic of FCV production.

A second aspect of FCV production is the absence of any growth in area, production and productivity. See Table 8 for trends in area, production and productivity.

The co-efficient of variation in the productivity of FCV work out to about 11 per cent, thereby showing high variability. The virtual stagnation in tobacco output and productivity can be attributed to at least three factors:

(1) Continuous monoculture of the crop in an area which is not exactly suited for tobacco cultivation (Nata Duvvury, 1986). In addition, the weather has been another factor. FCV tobacco is mainly a rainfed crop as only ten per cent of the area under tobacco is irrigated. Much of the tobacco graving regions in AP have been subject to the vagaries of nature: cyclones and prolonged summer;

(2) the shortage of critical inputs and the slow response of tobacco farmers to new methods of cultivation and processing; and

(3) the practice of controlling the area and production through fixation of quotas. However, this policy has been in vogue only since 1984-85 and so one cannot argue that this has actually caused the variability in productivity over the entire period under consideration.

The view has been expressed that though there has been no increase in productivity, the quality of the output has actually increased. Whether it has indeed or not is examined further in section on export competitiveness.

(iii) Controls on Production:

It was seen above that there has been some explicit controls on tobacco production since 1984-85. The rationale for this control was essentially to regulate the output of tobacco in tune with the likely demand (both domestic and export) and also to promote the cultivation of the crop along scientific lines so that it does ultimately result in good export quality produce. Once the total output during an year is estimated by the Tobacco Board it is apportioned among the various growers by allocating individual production quotas. The specific conditions under which a grower becomes eligible for a quota depends on at least four factors.

(a) the grower should have clear title to his land;

(b) he should have a curing barn of his own for curing (the limit is 4 barns per light soil areas and 2 barns in black soil areas);

(c) he should have adequate experience; and

(d) the soil in which it is proposed to be grown should be suitable.

Since the targets for area as well as output are fixed more on the basis of heuristics than on any scientific projections (statistical or econometric) they have repeatedly been off the mark. See Table 9.

Table 9

Targets Vis-a-vis Actual in FCV Area and Production
(Area in '000 ha; production in Million kg)

Year	Area			Production		
	Target	Actual	Difference	Target	Actual	Difference
1985-86	116.00	116.00	(+)0.00	113.00	98.00	(-)15.00 (-15.31)
1986-87	111.00	104.66	(-)6.34	110.00	113.22	(+)3.22 (+2.84)
1987-88	83.00	66.11	(-)14.09	83.00	59.14	(-)23.86 (-40.34)
1988-89	88.70	96.09	(+)7.39	99.70	115.91	(+)16.21 (+13.98)

Note: 1. Includes both AP and Karnataka.
2. Figures in brackets indicate the percentage of shortfall or excess
Source: Tobacco Board.

Another dimension of fixing targets for area and production is that it also act as a constraint on increasing productivity. Infact, since the targets are frequently revised upwards and downwards it also affect the yield movements leading to fluctuations in it over time.

Though the Tobacco Board has been regulating the production of FCV tobacco, unlike in other commercial crops like Natural Rubber this regulation has not lead to any increases in productivity[6]. On the contrary, the regulation seem to have adversely affected yield growth. It is of course claimed there have been significant qualitative improvements which is substantiated by the fact that there is a higher proportion of bright grades in the output than before[7].

Section II

The Working of the FCV Tobacco Market and Trader's Margin.

(i) Evolution of the Auction System and the Controls on Marketing:

The evolution of the tobacco market can be divided into three phases. The first phase is the period from the beginning of the century upto about the 1950s when the entire tobacco cultivation and trade was under the direct control of a company, namely the Indian Leaf Tobacco Development Corporation (ILTDC)[18]. The control over production and marketing manifested itself in the form of a contractual relationship with farmers. This 'control system' could be described as follows: Farmers were supplied with all the requisite inputs like seed, fertilizer and working capital and they in turn had a compulsory obligation to sell the produce to the company at prices determined by it after adjusting for the input prices. Though the contract system assured a ready market for the grower's produce it was considered to be highly exploitative. This is because it has been shown that on an average the producer's share in the final export price was only 30 to 40 percent. In other words, the company enjoyed a gross margin working out to nearly 70 percent. It should of course be mentioned that this system had also it's own merits. This is because even during the depression days of the 1930s FCV tobacco was one of the most profitable crops in the region. This state of affairs was to a great extent facilitated by the steady increase in the demand for this product emanating both from domestic as well as foreign sources.

However, by the early 1950s this contract system came to an end. This was to a great extent determined by changes in the direction of export-demand for FCV tobacco. UK which had accounted for a lion's share of the export from India came down to account for only about two-thirds. The share vacated by UK was taken up by Soviet Union and other East European countries. This diversification of the export trade opened up new possibilities for the new aspirants in the tobacco trade, which led to the emergence of a set of new traders. Infact, a number of traders came up specialising especially in exporting to these new markets in the Soviet Union and the Eastern Europe and this also resulted in an increase in the number of exporters which finally eroded the monopoly of ILTD in the purchase of leaf tobacco from the growers. Second, with the increase in the supply of FCV tobacco and also with the diffusion of the technology of production and processing (curing), it was no longer necessary to have any direct links with the growers of the sort embodied in the earlier 'contract' system. Slowly an alternative form of marketing system had evolved. This came to be known as the depot system where all the leading traders had their purchase depots located within the villages. Soon enough even this system became exploitative: delayed payments to the growers, down grading at the time of purchase etc. were common complaints. Attempts by the government to regulate the market through an auctioning system also did not succeed. It was also found that the offer made by the buyer is almost final and the grower is required either to accept the price or to take it to another platform. This he normally could not do on account of additional transport costs and handling losses involved.

Eventually the grower has to accept the price offered by the trader. This coupled with the absence of statutory minimum prices had an extremely deleterious effect on the farmer. The excessive profiteering by the traders (quantitative evidence on profit margins is hard to come by) and the consequent hardships suffered by the growers during periods of glut finally resulted in the government introducing an auctioning system through the Tobacco Board in 1984-85.

(ii) The Auction System

In the above we had seen the factors that finally resulted in the establishment of this system. We first discuss the main features of this system and then go on to discuss whether it is a real improvement from the point of view of the growers.

A. Features of the Auction System:

The system was introduced in the crop season of 1984 in Karnataka and 1985 in the case of Andhra Pradesh. It is conducted from various platforms established by the Tobacco Board. On an average there have been 21 such platforms in AP and 8 in Karnataka. The significant features of this system are as follows:

(a) Prompt payment of the sale proceeds to the growers

One of the most important problems faced by the growers in the earlier marketing regimes were considerable delays in the receipt of sale proceeds. This ranged from a minimum of two months and to maximum of even a year. This prompt payment was accomplished by the Board paying the farmers by way of two post dated cheques. The system differed slightly across the two states of AP and Karnataka. In the case of AP, the payment of

the net sale proceeds (net of service charges and cess) is by way of two post-dated cheques (15 and 45 days respectively from the date of conclusion of sale) which are issued on the day of sale to the growers. While in the case of Karnataka the grower is paid by the Board through a cheque post dated by 15 days for the entire value of his sale proceeds after deducting one percent towards service charges on the value of tobacco and tobacco cess at the rate of Rs.0.01 per kg. For this purpose, the buyers are required to make payment to the Board in settlement of the invoices issued to them by means of a cheque post dated by ten days. This procedure of guaranteed payments to the growers within a reasonable period of time and is thus an important positive aspect of the auction system.

(b) Standardisation of grading: One important source of 'grower-abuse' during the pre-auctioning days was the extreme arbitrariness in grading by the traders which always worked to the disadvantage of the growers. Under the auctioning system there have been two broad types of grading based essentially upon the soil conditions: farm grades (F1 to F10) for tobacco grown in black cotton soils and plant position grades for tobacco grown in Northern light-soils. The actual grading is done by the farmer at his own premises with some assistance from the field staff of the Tobacco Board. Though this has resulted in some standardisation at the auction level, a view has been expressed mainly by the exporters that there is really no correspondence between the auction grades and the final grades at which the merchandise is exported. Infact, there is a multiplicity of grades at the auction level determined by the Tobacco Board and

at the export level determined by the AGMARK. Finally the merchandise is exported at grades prescribed by the USDA (US Department of Agriculture) which has very little/relation to the 'AGMARK' grade.

(c) Ensuring Minimum Support and Guaranteed Prices

In order to prevent the prices from falling below a minimum, the government through the Commission For Agricultural Costs and Prices (CACP) fixes the minimum prices for various grades of Tobacco. These are of course statutory minimum prices. This would mean that the tobacco that does not attract a bid over an above the floor price will be purchased at the minimum support price (MSP) by the board or any other agency nominated for the purpose. The MSP announced by the government from time to time are presented in Annexure 2. In addition to this MSP, since 1989-90, the Tobacco Board have been able to prevail upon the participating traders to adhere to a minimum guaranteed price (MGP) through essentially "a gentleman's agreement" between the two. Since it is a gentlemen's agreement it is not exactly binding on the traders to purchase at that price. The MGP for the different grades during 1989-90 is presented in Annexure 3. It was expected that with the imposition of these minimum support and guaranteed prices will ensure a remunerative price to the grower.

Thus these three components of government intervention, viz., (a) the prompt payment of sale proceeds guaranteed by the Board; (b) the apparent standardisation of grades; and (c) the minimum guaranteed prices were expected to clear the earlier

gross imperfections and distortions in the market for FCV tobacco.

B. The Auction Process.

The FCV growing regions in AP and Karnataka are divided into a number of platforms from where the actual process of auctioning is conducted. The villages under the jurisdiction of each platform are grouped into what are termed clusters; each cluster consisting of around three hundred growers from contiguous villages. The growers falling into the cluster are given authorization to deliver their quota or produce on a particular day for sale''. The bales so received as per the quota allotment are unloaded, weighed, samples drawn and classified in terms of standard grading system and are offered for sale (balewise). Once this classification process of the bales are over, an official of the Tobacco Board termed 'starter' after appraising the quality, grade, the MSP notified for that particular grade will announce a starting price. Eventually the bale will be sold in favour of the highest bidder. Once the grower/seller is satisfied with the price quoted and the trader/buyer is satisfied with the genuiness of the contents of the bale, the sale is confirmed. The built-in mechanisms for preventing delays in payment to the grower etc. were seen above.

C. The Actual Working of The Auction System:

We discuss the working of the auction system in terms of the following:

(a) the number of growers and traders who have participated;

(b) the quantity and value of tobacco transacted;

(c) the average price received by the grower; and

(d) the varietal composition of the quantity transacted.

We discuss the AP and Karnataka cases separately as there are certain issues which are specific to each region. See Table 10.

Table 10

Working of the Auction System in AP

Particulars	1985	1986	1987	1988	1989
1. No.of auction platforms	21	21	19	17	18
2. No.of effective auction days per platform	55	92	73	39	57
3. No.of growers who participated (in thousands)	56	39	38	24	33
4. No. of traders who participated	111	152	178	146	245
5. Quantity of tobacco transacted (in Million Kg)	90.66 (85)[1]	80.47 (100)	97.51 (100)	47.63 (100)	105.63 (100)
6. Value of tobacco transacted (Rs. in crores)	93.29	100.55	80.06	77.84	175.28
7. Average Price (Rs/kg)	10.29	12.49	8.22	16.33	16.59 (27.90)[2]
8. Density of traders per 1000 tonnes of tobacco transacted	1.22	1.89	1.83	3.09	2.32

Notes: 1. Figures in brackets indicate the quantity of tobacco transacted as a per cent of the actual production during the year.

2. This shows the highest bid during 1989 auction.

Sources: 1 Tobacco Auction Statistics, 1984 to 1989, Tobacco Board, Guntur, 1989, p.1

2 Annual Administrative Report, Tobacco Board. Various Issues.

The following salient points emerge from Table 10.

(a) Almost all the growers who have been granted registration to produce FCV tobacco have been taking part in the auctions with the exception of 1988 and 1989. Infact 1988 does seem to be problem year with the number of effective auction days coming down drastically. This shows that sales of tobacco outside the auction platform, if any, is likely to be minimal;

(b) It seen that, by and large, with the exception of 1985, the entire quantum of production during a year is marketed during that year itself. It is not clear as to how the 15 per cent of the output 1985 (which was not marketed during that year) was disposed of subsequently. This shows that some sales do take place outside the auction stream. It is also a bit surprising that the entire quantity produced is disposed of during that year itself implying thereby zero-inventories. This aspect needs to be researched further.

(c) There has been significant variability in the prices actually received by the growers; the coefficient of variation in it has worked out to almost 29 per cent during the period under consideration.

(d) There have also been large variability in the quantum of tobacco transacted; the coefficient of variation has worked out to 24 per cent.

(e) The number of traders have increased over time; density of dealers which is a rough proxy for the extent of competition between the traders does show an increase. However, one should be careful in interpreting this index. This is because there is fair amount of concentration in the domestic purchase of FCV tobacco[17]. In addition there are a

large number of commission agents who actually purchase tobacco on behalf of larger companies. In any case in absolute terms the average quantity of tobacco transacted is very large;

(f) It is now important to compare the prices received by the growers pre and post auction. See Table 11 for a comparative picture.

Table 11

Actual Prices Received by FCV Growers: Pre and Post Auction
(Andhra Pradesh) (Rs.per 100 kg)

Year	Price	Pre/Post Auction
1976-77	869	
1977-78	509	
1978-79	790	
1979-80	857	Pre-auction (907)
1980-81	997	
1981-82	1152	
1982-83	1026	
1983-84	1059	
1984-85	1029	
1985-86	1249	
1986-87	822	
1987-88	1633	Post-auction (1394)
1988-89	1659	
1989-90	1469	
1990-91	3300	

Notes: 1. For the pre-auction period we have relied on the weighted average Farm Harvest Prices of FCV tobacco.
2. For the post-auction period it is the weighted average prices of all grades.
3. Figures in brackets indicate the average for the pre and post auction periods.

Sources: 1 Tobacco in India, A Handbook of Statistics, Directorate of Tobacco Development, Ministry of Agriculture, Madras 1985 & 1989.
2 Table 10.

It is seen that while the actual prices received on an average have increased by as much as 76 per cent during the post-

auction period (pre-auction average is Rs.1079/100kg while it is Rs.12781/100kg during the post-auction period), the inter-year variability has also increased very much (the coefficient of variation in the latter period works out to 47 compared to only 21 in the former period).

Table 12

Varietal Composition of FCV Tobacco

(Quantity in Million Kg)

Variety	1985	1986	1987	1988	1989
A. Farm Grades	80.35	66.00	82.99	37.30	68.45
	(81.00)[1]	(82.02)	(85.11)	(78.31)	(83.76)
a) F1 through F4	49.05	47.68	51.96	25.79	64.87
	(61.05)[2]	(72.74)	(62.60)	(69.14)	(73.32)
B. Plant Position grades,	9.93	14.51	14.52	10.39	17.14
of which:	(11.00)[3]	(16.03)	(14.89)	(21.81)	(16.23)
a) XIL through X5L	1.46	2.24	3.08	1.47	2.92
b) LIL through L5L	0.81	2.69	2.43	3.02	6.54
c) LIO through L50	2.52	2.46	1.37	1.83	2.79
Total	4.79	7.39	6.83	6.32	12.25
	(48.24)[4]	(50.93)	(47.38)	(60.83)	(73.80)
C. All Grades (A+B)	90.28	80.51	97.51	47.69	105.62

Notes: 1. Figures in brackets indicate farm grade tobacco as a percent of all grades transacted.
2. Figures in brackets indicate the specific farm grades as a percentage of all farm grade tobacco. There are incidentally ten grades of farm grade tobacco designated as F1 through F10. In addition there is one called nograde (NOG)
3. Figures in brackets indicate plant position grades as a percent of all grades (ie. farm + plant position) transacted.
4. Figures in brackets indicate the share of specific plant position grades in all plant position grades. There are seventy-one plant position grades.

Source: Tobacco Auction Statistics, Tobacco Board, Ministry of Commerce, Guntur, 1989.

It would now be instructive to analyse the varietal composition of the quantity transacted to find out the grades

that are most popular. See Table 12.

It is seen from the above that the farm grades are more popular than the plant position grades as can be expected. This is because grading at plant position is applicable only for tobacco grown in Northern Light Soils (NLS) which account for only a small percentage of the total output of FCV tobacco. It is also seen that though there is multiplicity of grades much of the transactions (on an average nearly 56 percent) falls into four farm grades (viz., F1 through F4).

The prices obtained during an auction are inter alia, a function of the particular grade of tobacco produced and marketed. In order to understand this, we analyse below the grade-wise prices obtained during the auctions. See Table 13

Table 13

Trends in Grade-Wise Prices Obtained in A.P. Auction

(Rs Per Kg)

Average Price	1985	1986	1987	1988	1989
a. Weighted average prices of the specific farm grades	12.41 (9.96)[1]	13.75 (11.97)	9.92 (7.79)	18.60 (16.03)	18.39 (16.07)
b. Weighted average prices of the specific plant position grades	16.04 (12.98)[2]	17.81 (14.87)	13.95 (10.61)	21.53 (17.38)	21.72 (19.31)

Notes: 1. Figures in brackets indicate weighted average price of all farm grades.

2. Figures in brackets indicate the weighted average prices of all plant position grades.

Source: Tobacco Auction Statistics, Tobacco Board, 1989.

There are two aspects that can be analysed. First the relative level of the two series of prices and second the direction of movement of the two series. As far as the first aspect is concerned it is seen that the plant position grades fetches, on an average, 23 percent, more than the farm grades. The direction of movement in the two price series is exactly the same implying the fact that the market for the two grades is perfectly integrated. We now analyse similar issues for the auctions in Karnataka.

There are two aspects which distinguishes Karnataka from A.P. auctions. First of all the crop calendar in Karnataka being earlier, the auctions there are normally held during the months of September through December: at least four months earlier to the A.P. one. Second, since the entire quantity of tobacco grown in Karnataka emanates from light soils, there is only one grade of the produce that is auctioned. The basic features of the working of the auction system in Karnataka are summarised in Table 14.

The competition in the Karnataka auction appears to be higher than that of AP as judged by the density of dealers. However, the number of growers participating in the auctions have been steadily declining over time and so also the quantity of tobacco transacted. The prices in Karnataka auction appear to be more variable: the co-efficient of variation works out to almost 34 percent as compared to only about 25 percent in the case of AP. Finally, the difference between the highest bid and the average bid has also increased over time.

Table 14

Working of the Auction System in Karnataka

Particulars	1985	1986	1987	1988	1989
1. No. of auction platforms	9	8	7	7	7
2. No. of effective auction days per platform	56	55	58	60	48
3. No. of growers who participated (in thousands)	134	123	117	114	103
4. No. of traders who participated	29	47	61	63	99
5. Quantity of tobacco transacted (in million Kg)	16.77	17.57	16.22	11.67	10.58
6. Value of tobacco transacted (Rs in crores)	22.00	19.47	19.12	11.97	22.84
7. Average Price (Rs/Kg)	13.41 (25.30)[1]	11.08 (25.70)	11.79 (28.30)	10.25 (28.60)	21.61 (37.00)
8. Density of traders per 1000 tonnes of tobacco transacted	1.79	2.68	3.76	5.40	9.34

Notes: 1 Figures in brackets indicate the highest bid during each year.

Source: Same as Table 12.

We now compare the prices obtained in the two auctions. While undertaking such a comparison, a number of points will have to be borne in mind. First since the Karnataka auctions are conducted earlier than the one in AP, the prices obtained in the Karnataka auctions for a specific period say 't' will have to be compared with prices obtained in AP auction for the subsequent

period, i.e. t+1. To illustrate, the Karnataka auction prices for the year 1984 should be compared with the AP auction prices for 1985 and so on. Second, the entire quantity of tobacco grown in Karnataka conforms to the light soil grades and so it should be compared only with the average price obtained for plant position grades (which are essentially light soil tobacco) in A.P. auctions. See Table 15.

Table 15

Prices in Karnataka Auctions Vis-a-vis Andhra Auctions

Year	Karnataka auctions	Andhra Pradesh auctions
1984 (1985)	13.41	16.04 (10.29)
1985 (1986)	11.08	17.81 (12.49)
1986 (1987)	11.79	13.95 (8.22)
1987 (1988)	10.25	21.53 (16.33)
1988 (1989)	21.61	21.72 (16.59)

Note: Figures in brackets indicate the weighted average price for all grades.

Source: Table 13 and 14.

While the level of prices in the two situations vary considerably for most years there is no real correlation between the direction of movement of the time series implying the low level of integration between the two. The precise reasons as to why it is not is beyond the scope of our present exercise.

So far our discussions have centred only on one aspect of the nature and form of government intervention in the tobacco

market, viz., the regulation of the physical process of marketing. We now discuss the controls on tobacco prices.

D. Controls on Tobacco Prices and the Trader's Margin

The government has been regulating not only the domestic prices but also the prices at which exports are effected. In fact, the restrictions on export prices preceded the ones on domestic prices. These regulations have manifested themselves in the form of: (a) Minimum Export Prices (MEP); and (b) Minimum Support Prices (MSP). The MEP has been in existence since 1963, while the MSP has been introduced along with the commencement of auctions in 1984-85. The MEP is fixed by the Tobacco Board and announced by the government. In addition to these two statutory prices, as seen above, there is also the voluntary Minimum Guaranteed Price (MGP) since (1989-90). In addition to these, there is the actual auction price and the actual unit value of exports. There are thus five different kinds of prices in the market. This structure of FCV tobacco prices is mapped out in the following table (Table 16). Since there are a large number of grades (all in all about eighty grades at the production level and almost one hundred and thirty grades at the export level) we have selected a representative grade at the production and export levels. These are F3 grade at the auction level and its equivalent export grade, namely L2V2-RS.

Table 16

Structure of FCV Tobacco Prices

(Rs Per Kg)

Year	Minimum Support Price (MSP)	Minimum Guaranteed Price (MGP)	Auction Price (AP)	Minimum Export Price (MEP)	Actual Unit value of Exports (AUE)
	Grade: F3			Grade:LBY2-RS	
1984-85	9.00	Nil	11.98	23.25	25.29
1985-86	9.00	Nil	13.01	23.25	26.27
1986-87	9.90	Nil	9.34	23.25	25.20
1987-88	9.90	Nil	17.64	24.55	26.64
1988-89	9.90	Nil	15.90	27.00	31.37
1989-90	9.90	14.00(13.10)	15.01	27.00	30.41

Note: Figures in brackets indicate the MGP for Southern Light Soils.

Source: 1. Annual Administrative Reports, Tobacco Board, 1984-85 and subsequent issues

2. Tobacco Auction Statistics, 1984 to 1989, Tobacco Board, (Mimeo), 1989.

3. Directorate of Marketing and Inspection, Guntur.

The following salient points emerge from the above table.

(a) There is absolutely no correspondence between the Minimum Support Price and the actual auction prices. In fact in 1987, the actual auction prices are even lower than the former, which goes against the basic rationale of a floor price. In fact, price support operations by at least three agencies, viz., the Tobacco Board, the State Trading Corporation, the A.P. Tobacco Growers Co-operative Union, the actual prices realised are even lower than the MSP;

(b) This raises the important question about the level of MSP fixed by the government. The view has been expressed in the trade circles that the MSP is deliberately kept low,

infrequently revised to prevent any meaningful market support operations. Infact, this is clearly borne out by the above analysis;

(c) There is also no correspondence between the actual auction prices and the actual unit value of exports. The view that one of the prime determinants of the auction price is the export price does not emerge from an analysis of the direction of movement of the two prices .

(d) The variability in auction prices are much more than the export unit values; the co-efficient of variation in the former is as high as 20 percent while in the latter it is only 9 percent;

(e) There is fair amount of correlation between the minimum export price and the actual unit value of exports. This means that the MEP is fixed fairly well.

Thus in this section, so far, we have seen the nature, process and effect of government intervention in the FCV tobacco market. There are essentially two components to this intervention: first, on the physical process of marketing itself and second on Tobacco prices. While these interventions have undoubtedly cleared the market of a number of distortions that were in existence it has not achieved its avowed objectives. First of all, the system of auctioning have only added to the existing confusion in the market and have also opened up possibilities of continued abuse of growers. Grading being dependent essentially upon visual inspection it can be quite subjective. Second, the MSP has shown itself to be quite meaningless. Its failures to stem the turbulence in the market

during 1987, the extreme low levels of MSP (it is said that the MSP does not even cover the paid out costs of the farmers, though proper empirical substantiation of this proposition is hard to come by) and its infrequent revision etc. have rendered it a meaningless instrument.

But on one count where significant improvements have been achieved is in the area of effecting prompt payment of sale proceeds to the farmers.

An important area where further reforms are necessary is in the physical conduct of the auctions itself. During our field-work it had been pointed out to us that some of the traders who participate in the auction process are mere speculators whose presence merely exacerbates the fluctuations in auction prices.

As a corollary of the above discussion, we now analyse the behaviour of the trader's margin during the post-auction period and attempt to compare its size with its estimates during the pre-auction phase.

Structure of Tobacco Market and Exporter's Margin the Post-auction Phase:

It was seen in our tracing of the evolution of the FCV tobacco market that a recurring theme in the literature is the high margins retained by the trader/exporter. However proper quantification of this margin is fraught with severe problems, conceptual as well as measurement-related. Again, the estimates relate to varying time-points. Consequently, though it would

have been ideal to compare the trader's margin during private and government intervention phases, we are constrained to present our estimates of it during the phase of government intervention alone.

At the outset, it is essential to clarify the concept of what we mean by the trader's/exporter's margin. There are two variants of it, viz., (a) Gross Margin; and (b) Net Margin. The former is essentially the difference between the actual unit value of exports (EP) and the auction price (AP), expressed as a percentage of the export price. To put the above in symbols:

Gross Margin (GM) at time Period 't' is

$$GM_t = EP_t - AP_t / EP \times 100$$

We need to clarify at least one issue here, viz., all prices in the tobacco market are grade-specific. So in order to satisfy the general rule we have to 'compare the like with the like'. For AP_t, we take the weighted average price of the two prominent grades, viz F2 and F3. Similarly for EP_t, we take the weighted average prices of equivalent export grades like LBY and LBY(2). The difference between the two gives us an estimate of the gross margin. From the gross margin (GM_t) we derive the Net Margin (NM_t) by deducting the various costs incurred by the exporter(C). This is so because after the tobacco is purchased at the auction platform it undergoes a fair amount of value addition before it is finally exported. These costs consist of ten components. They are charges for (1) Tobacco Board Service; (2) Buying and primary handling; (3) Insurance and interest; (4) Transport at various stages; (5) Grading; (6) AGMARK; (7) Stripping; (8)

Redrying; (9) Packing; and (10) FOB. We have been able to obtain an average estimate of these various components from Tobacco Board as well as prominent exporters in Guntur (the leading centre for Tobacco trade). So finally,

$$NM_t = GM_t - C$$

We now provide the estimates of the exporter's margin below. See Table 17.

The gross margin, on an average works out to 47 percent while the net margin is about 24 per cent. The variations around both the margins are quite low. The year 1987-88 is an exception when there was a sudden increase in the auction prices the margins have tended to be quite low. The variations in the margin can be attributed, by and large, to variations in the auction prices, with the export prices and the cost of exports remaining more or less stable during the period.

An analysis of the size of the margin tends to suggest that it does reflect some market power on the part of the buyers. In fact, there is considerable buyer concentration in the sense that the four-firm buyer concentration ratios have worked to about 66 percent. But this needs to be researched into in detail before one can draw from conclusions.

Table 17

Exporter's Margin: Post Auction Phase

Particulars	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90
1. Average unit value of Exports EP_t (Rs Per Kg)	25.60	27.95	37.02	28.09	33.04	33.08
2. Costs to the exporter.(C_t) (Rs.per Kg)	6.35	6.60	6.74	6.70	7.44	8.00
3. Average auction price, AP_t (Rs Per Kg)	13.18	14.04	10.28	18.87	17.63	16.67
4. Gross Margin, GM_t (in per cent)	48.52	43.94	72.23	32.82	46.64	49.61
5. Net Margin, NM_t (in per cent)	23.71	26.15	54.02	8.97	24.12	25.42

Note: 1. These are estimated costs of exports and not actuall incurred expenditure.

2. It is known that the tobacco that is purchased in th auction suffers some loss in its weight while it is in th process of being readied for exports. This weight loss i not accounted for in our above calculations. But it is al known that the stems etc which are stripped off the leaf ar also sold. So the fall in the value of the produce as a result of weight loss is offset by the sale proceeds fro these bye-products. Consequently we do not make an adjustments for these on the prices.

Source: 1. For average unit value of exports: Directorate of Marketing and Inspection, Guntur.

2. For average auction price: Tobacco Auction Statistics 1984-1989, Tobacco Board, Guntur.

Second, the only way one can say whether the net margin is high or low is to convert it into a rate of return on capital employed and then compared this rate of return with some norm

like the one used by the Bureau of Industrial Costs and Prices (BICP) to judge the reasonableness or otherwise of price revisions effected by an industry. It is of course difficult to compute the rate of return in practical terms as we do not have any idea on the working capital requirements of a typical tobacco trader.

So far we have been discussing the actual margin obtained by the exporter directly from the trade. In addition to this the exporter is entitled to a whole series of direct cash subsidies (major components of which are Cash Compensatory Support (CCS) and Replenishment Licences (REP licences)) and other incentives like income tax exemption and concessional export credit. Of course with the recent trade policy reforms announced recently (in July 1991) the cash subsidies have been reduced to REP licences (to be subsequently known as EXIM scrips) which works out to 30 percent of the FOB value of exports.

We will now attempt to estimate the effective margin for the tobacco trader/exporter. This effective margin has two major components. The following equation spelts out the details of it:

Effective Margin as a percent of FOB value	=	Actual Net margin as a percent of FOB value	+	Effective Export incentives as a percent of FOB Value

Of the right hand side of the above equation estimates of the actual net margin are provided in Table 17. So we have to

derive the other component, viz., the effective export incentives. There are several aspects of this that needs further clarification. First of all we are only considering the post-intervention (i.e. 1984-85) and pre-trade reform (i.e., prior to July 1991) period. Second, some of the incentives like the REP licence for instance which are tradeable enjoy a premium. So one has to derive the effective value of the REP licence, which in essence is the actual value times the premium. The following table derives the effective value of the REP Licence.

Table 18

Effective value of the REP licence for FCV Tobacco
(as a percent of FOB value)

Year	Actual value of REP licence	Estimated Premium (average)	Effective value of the REP licence
(1)	(2)	(3)	(4)[2+(2x3)/100]
1987-88	10	5.00	10.50
1988-89	10	12.50	11.25
1989-90	10	23.00	12.30

Source: Own compilation.

Of the other three major incentives like CCS, income tax exemption, and export credit at lower interest rates, we consider only the CCS, which works out to about 5 percent of the FOB value; CCS not being tradeable does not enjoy any premium at all and it is applicable only to certain grades of tobacco for which the export price is less than the domestic price.

We define the effective margin as a sum of actual net margin and the effective value of the REP licence. See Table 19 for the effective margin for a typical tobacco exporter for three years, 1987-88, 1988-89 and 1989-90.

Table 19

Net Effective Margin For A Typical Tobacco Exporter

(as a percent of FOB value)

Year	Actual Net margin	Effective incentives	Net effective margin
1987-88	8.97	10.50	19.47
1988-89	24.12	11.25	35.37
1989-90	25.42	12.30	37.72

The above computations show that the effective margin to a tobacco trader is quite high (in an absolute sense). The high profit rates would have attracted a large number of new entrants into the trade. This is borne out by the fact that the number of traders in both the AP and Karnataka auctions have tended to increase tremendously (see Tables 10 and 14). But given the highly concentrated structure of the market, the entry does not seem to have made the industry very competitive as the actual net margin (with the exemption of 1987-88) has been virtually stagnant over the years.

A meaningful comparison of the margin in the pre and post auction phases is precluded by the lack of good quality estimates of margin in the pre auction period. What ever estimates that are available for the former period suffers from serious methodological inadequacies. The fragmentary evidence that is

available shows that the exporters margin (ie. profit as a percent of sale value) ranged from 2.4 percent in 1958 to 6.7 percent in 1969 to 7.4 percent in 1980[17]. There is however no clues as to whether these are gross or net margins. Whatever be it the margins have shown phenomenal increases in the post-auction period.

After having seen the working of the tobacco market, we now turn to the export competitiveness of the product.

III

Export Competitiveness of Indian Flue Cured Virginia Tobacco

As seen earlier FCV tobacco is mainly an export commodity and a lion's share of India's exports of unmanufactured tobacco is composed of this variety. In this sub-section we measure the trends in export competitiveness of this crop, especially in the 1980s. We deal with two aspects of competitiveness viz., the potential as well as actual competitiveness of Indian FCV tobacco exports. As a meaningful background to this discussion we begin with the trends in and direction of Indian exports.

(a) Trends in and Direction of Indian FCV Tobacco Exports

The trends in FCV exports (both in quantity and value in terms) are presented in Table 20

Table 20

Trends in FCV Exports From India

Year	Total quantity (in million kg)	Value (Rs.in crores)	Average Unit Value (in Rs/kg)
1975-76	64.50 (86.81)	85.20 (92.59)	13.36
1976-77	67.00 (84.06)	87.81 (91.02)	13.11
1977-78	62.80 (78.50)	98.85 (89.30)	15.74
1978-79	65.30 (83.87)	104.21 (93.54)	15.90
1979-80	58.40 (76.54)	92.87 (88.57)	15.90
1980-81	65.60 (83.59)	116.70 (93.05)	17.69
1981-82	97.90 (86.43)	190.99 (94.15)	19.50
1982-83	83.70 (89.23)	195.11 (91.58)	23.31
1983-84	72.30 (73.10)	161.85 (89.40)	22.38
Average 1975/76-1983/84)	70.86	120.07	17.43
1984-85	58.20 (77.91)	139.57 (88.41)	23.98
1985-86	50.40 (78.57)	126.07 (90.06)	24.93
1986-87	51.70 (77.39)	131.58 (90.83)	25.44
1987-88	31.03 (68.50)	78.56 (81.01)	25.32
1988-89	29.45 (73.77)	82.74 (82.15)	28.02
1989-90	35.37 (60.79)	111.42 (73.19)	31.50
Average (1984/85 - 1989/90)	42.73	111.70	26.53

Notes: 1 & 2: Figures in brackets indicate percentage share of FCV exports in quantity and value of total exports (ie., FCV + non FCV) from the country.

Source: Annual Administrative Reports, Tobacco Board, 1984-85 and subsequent issues.

The following salient points emerge from the above Table

(a) There have been considerable variability in the quantum and value of FCV tobacco exports. In fact with fluctuations the quantity of exports have decelerated overtime. On the contrary the value of exports, though after showing an increasing trend for some time has virtually stagnated;

(b) As a corollary of the above, the average unit value of exports have increased considerably; the compound average annual growth rate works out to almost 5 per cent during the

period under consideration; and

(c) The share of FCV tobacco exports, both in quantity and in value terms, in the total unmanufactured tobacco exports from the country has also come down overtime.

The direction of Indian FCV tobacco exports are presented in Table 21.

Table 21

Direction of Indian FCV Tobacco Exports

Country/Area	Percentage Share of value of exports		
	1960-61	1985-86	1989-90
1. United Kingdom	78.81		26.86
2. USSR	6.33		28.76
3. Egypt	1.87		5.27
4. Other Western European Countries	4.87		12.13
5. South and South East Asia	3.72		10.04
6. Others	4.70		16.94
Total:	100.00		100.00

Source: 1 Indian Tobacco Statistics, Directorate of Tobacco Development, Ministry of Agriculture and Irrigation, Madras, 1975.

2 Annual Administrative Report, Tobacco Board, Ministry of Commerce, Guntur, 1988-89.

The direction of FCV exports have undergone major changes. USSR has now emerged as an important market for Indian tobacco while the share of India in the major market, UK has come down very much over time. The reasons as to why the share of India in the UK market has come down should be traced to its competitive position vis-a-vis tobacco from other competing countries. We analyse the competitiveness of Indian tobacco exports. There are two dimensions of competitiveness that we consider: first, the

potential competitiveness of Indian tobacco exports and second, its actual competitiveness. We measure potential competitiveness in terms of estimates of rates of protection on tobacco output (both Nominal and Effective) and the actual competitiveness is measured in terms of a number of indices like the price commanded by Indian tobacco in the UK (which is one of the major markets for FCV Tobacco in the world) and trends in India's share in the world FCV tobacco trade. We begin with the rates of protection on tobacco output.

(A) Rates of Protection on Tobacco Output and Potential Competitiveness

There are two measures of protection that we analyse here, namely the Nominal Protection co-efficient (NPC) and the Effective Protection Co-efficient (EPC). We first spell out the methodological aspects of computing these measures and thereafter presents the empirical results.

The Methodology:

The NPC to tobacco output is defined as the ratio of domestic price of that commodity to its world reference price. The implicit assumption here is the fact that the commodity under question is freely traded so that by comparing the prices the producer of that commodity is actually receiving to the price he would have received under free trade conditions, would indicate a measure of protection to it. In symbols:

$$NPC_T = P^d_T / P_T \quad \ldots\ldots\ldots\ldots\ldots (1)$$

Where,

NPC_T = Nominal Protection Co-efficient On Tobacco output;

P^d_T = Domestic price of Tobacco; and

P^r_T = World reference price of Tobacco.

Thus, nominal protection is a measure of the extent to which the price of a product is raised or lowered by incentives or in other words, it is concerned with the impact of incentives on product prices.

The Effective Protection Co-efficient on the contrary takes the analysis a step further by attempting to measure the impact of incentives on the value adding process of production by taking into account the incentives to the outputs and to the intermediate inputs of the activities.

Empirically speaking EPC is defined as the ratio of value added of the ith output at domestic prices to its world reference price. To put this in symbols

$$EPC' = VA^d_i / VA_i \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where,

VA^d_i = Value added of the ith output at domestic prices;

VA^r_i = Value added of the ith output at reference prices (adjusted for internal transport and handling expenses, as also for marketing and distribution margins).

There are several computational aspects of (2) which needs to be spelt out in clear terms. First, value added here is defined as the value of output at domestic/reference prices minus only the traded inputs. So it is at variance with the normal National Accounts definition which measures value added as the difference between sales value of output and all purchased inputs, which can be both traded as well untraded. Second, value added in domestic prices (i.e., VA^d) is estimated from observed actual values of output and inputs of domestic activities. Third, value added in reference prices (i.e., VA^r) is imputed by deflating the values of output and inputs in domestic prices by estimates of nominal protection to these. Thus, value added in reference process is a notional one rather than real aggregate. Incorporating these three propositions into 2 we have

$$EPC_o = P_o^D - TI \quad \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

$$P_o^D - TI / NPC_o - NPC_T^I$$

Where,

EPC_o = Effective Protection Co-efficient of the Output (Tobacco)

P^D_o = Domestic price of output

TI^D = Value of tradeable inputs measured in domestic prices

NPC_o = Nominal protection co-efficient of the output

NPC_T^I = Nominal protection co-efficient of the tradeable input.

Since FCV tobacco is an export commodity it should be mentioned that both these measures are computed under the exportable hypothesis.

The Empirical Data:

In the above we have spelt out in some detail the method of computing the two measures of protection. It is now essential to elucidate on the operational aspects of the above concepts.

We consider two variants of the domestic price of tobacco viz. P^a_T and P^DT. Whilethe former is the weighted average price of all grades, the latter PDT is the weighted average prices of specific farm grades, F2 and F3 which together account for about 50 percent of all farm grades auctioned. Similarly, we have two variants of the reference prices, P^r_T and PRT. The former refers to the weighted average unit value of exports of all grades while the latter refers to the weighted average unit value of exports of two specific farm grades LBY and LBY(2) which are equivalent to the grades F2 and F3 respectively at the auction level. These unit value of exports are adjusted for transport and marketing costs.

In short,

P^a_T = Weighted average prices of all grades at the auction;

P^DT = Weighted average prices of farm grades F2 and F3 at the auction,

P^r_T = Weighted average unit value of exports of all grades (fob) at Kakinada/Madras port minus internal transport and marketing costs including distribution margins from Guntur to Kakinada/Madras.

P^w_T =Weighted average unit value of exports of grades LBY and LBY(2) (fob) at Kakinada/Madras ports minus the above charges.

While P^d_T is available for Andhra Pradesh and Karnataka separately and for various agro-climatic regions within AP. On the contrary $P^r T$, PD_T and P^m_T are available only for AP. Both P^m_T and PR_T have Guntur as the reference point because though Tobacco is purchased from various interior points, it is finally made ready for exports from Guntur. In any case almost all the major exporters are headquartered in Guntur.

We now spell out the empirical steps involved in the computation of Effective Protection Co-efficients (EPCs).

The first step involved in the computation of EPCs is to derive the value added (or the numerator of equation (3)). For this, as noted above, one has to substract the value of tradeable inputs from the domestic price of tobacco. This would give us the value added in domestic prices. The data on tradeable inputs have been obtained from the Comprehensive Cost Of Cultivation Surveys of FCV Tobacco conducted by the Ministry of Agriculture and reproduced by the Directorate of Tobacco Development[14]. In order to understand which of the tradeable inputs are important, we present below the structure of cost of cultivation of FCV Tobacco in AP. See Table 22.

Table 22

Structure of Cost of Cultivation of FCV Tobacco
(Average for 1981-84 in percent)

Particulars	Share of Cost in percent
A. Variable Cost (1+2+3+4+5)	74.00
Of which:-	
1. Labour	19.00
a. Human	12.00
b. Bullock	4.00
c. Machine	3.00
2. Material	21.00
a. Seed	11.00
b. Fertilizer	10.00
c. Insecticide	0.40
3. Irrigation Charges	0.93
4. Curing Cost	30.00
a. Material	19.33
b. Labour	11.00
5. Interest on Working Capital	2.00
B. Fixed Cost (a+b+c)	26.00
a. Rental	16.00
b. Interest	6.00
c. Depreciation	3.00
Total Cost (A+B)	100.00

Note: 1. The total may not add upto exactly 100 due to approximation at a number of stages.
2. See Annexure 4 for actual cost of production

Source: Tobacco In India, A Handbook of Statistics, Directorate of Tobacco Development, Ministry of Agriculture, Madras, 1989.

From Table 22 it is clear that the three most important tradeable inputs are seed, fertilizer and the material which is used for curing, namely coal. Of these three, the particular variety of coal (grade D produced by Singareni Collieries in the state of AP) is not traded internationally and, therefore, does not have a reference price. We therefore, restrict our analysis to the tradeable inputs, namely seedlings and fertilizer.

Having spelt out in some detail the various aspects of the data, we present below the results.

The Results:

(a) Nominal Protection Co-efficient On Tobacco Output

In order to derive the NPCs, we first derive the reference prices (viz., P'_T and PR_t). As mentioned earlier this is obtained by adjusting the unit value of exports for the various costs and transportation charges. We have been able to obtain an average estimate of the various costs through discussions with officials of the Tobacco Board, and the leading exporters at Guntur. These estimates were used earlier in Section 1 to derive the trader's margin.

Table 23
Average Export Costs During the 1980s
(From Guntur to Madras/Kakinada)[1]

Particulars	Cost as a percent of Fob price
1. Tobacco Board Service Charges[2]	0.48
2. Buying and primary handling charges	1.00
3. Insurance and interest charges	3.60
4. Transport at various stages	1.20
5. Grading charges	1.60
6. Agmark charges	0.20
7. Stripping charges	3.00
8. Redrying charges	2.40
9. Packing charges	8.00
10. FOB charges	3.00
Total	25.48

Notes: 1. Both these ports are equidistant from Guntur at about 300 kms.
2. These charges are only since the introduction of auctions, i.e., since 1984-85.

Source: As mentioned in the text.

We are essentially computing two sets of NPCs: the first series based on P^{ex} and P^{im}, and the second series based on PD_t,

and PR_T. While with the first series we have been able to compute NPCs for AP and Karnataka as well as for the various Tobacco growing regions within A.P, with the latter series we have estimates of NPCs only for AP.

NPCs based on the first price series (P^d_T and P^f_T)

The state-wise NPCs have been worked out under the hypothesis that FCV tobacco is an exportable. The results are presented in Table 24.

Table 24

State-wise Nominal Protection Co-efficients On Tobacco Output : First Series
(Hypothesis: Tobacco As Exportable)

State	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	198
Andhra Pradesh	0.80 (0.92)	0.60 (0.94)	0.64 (0.88)	0.58 (0.84)	0.69 (0.83)	0.44 (0.89)	0.87 (0.82)	
Karnataka	0.64 (0.88)	0.49 (0.86)	0.59 (0.12)	0.63 (0.16)	0.64 (0.17)	0.55 (0.11)	1.16 (0.18)	
Weighted Average	0.79	0.59	0.63	0.59	0.68	0.45	0.92	

Note: Figures in brackets indicate value weights

Source: 1. For Reference Price: Annexure 5
2. For Value Weights: Annexure 6
3. For Domestic Price: Annexure 7.

The growers in both the states are disprotected all through the years with the sole exception of Karnataka for the year 1987-88. The degree of disprotection has remained more or less at the same rate pre and post auction at about (-) 32 percent. There is also no major difference in the degree of disoprotection to the growers in both the states. With the relative upward movement in

the domestic prices there has been reduction in the degree of disprotection since 1987-88.

The intra-state variations in NPCs are analysed now. Since the regional variations are meaningful only in the context of AP, we restrict our analysis to that state. Second the intra-state prices are available only since the introduction of auctions in 1984-85, and so the analysis is restricted to post 1984-85 period. See Table 25.

Table 25

Intra-State Nominal Protection Co-efficients of FCV Tobacco: First Series
(Andhra Pradesh)
(Hypothesis: Tobacco As Exportable)

Region	1984-85	1985-86	1986-87	1987-88	1988-89
Northern Light Soil (AP)	0.74 (0.11)	0.81 (0.18)	0.57 (0.15)	0.93 (0.22)	0.94 (0.16)
Southern Light Soil (AP)	0.60 (0.22)	0.65 (0.15)	0.42 (0.15)	0.84 (0.20)	0.78 (0.22)
Black Cotton Soil (AP)	0.55 (0.67)	0.66 (0.67)	0.41 (0.70)	0.86 (0.58)	0.78 (0.62)
3 Regions Combined	0.58	0.69	0.44	0.88	0.81

Note: Figures in brackets indicate the value weights which is basically the share of each region in the total tobacco transacted multiplied by the reference price.

Source: Annexures 5, 6 & 8.

This once again confirms the state-wise pattern observed earlier, namely that the growers in all the three regions are disprotected. There is of course significant differences in the rate of disprotection between 'Northern Light Soil' (NLS)

region and the other two regions. This as seen earlier in Section 1 that NLS region is one of the most efficient regions for FCV production and, therefore, the quality of tobacco produced by the growers is much superior to the other two regions which finally fetches for them a higher price. On the contrary, there is very little difference between the NPCs of the other two regions. The two exercises show us that the FCV growers are disprotected though there has been some fall in the rate of disprotection since late 1980s. We now estimate the NPC on the basis of the second series (viz. P^D_T and PR_T)

NPCs based on the second price series

Table 26

Nominal Protection Co-efficient of Tobacco Output: NP
Second Series
(Hypothesis: Tobacco As Exportable)

Price	Unit	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90
Domestic Price, PD_T	Rs/quintal	1318	1405	1058	1886	1763	1667
Transport and other charges	"	665.60	726.70	962.52	730.34	458.38	860.00
Reference Price, PR_T	"	1894.40	2060.30	2739.38	2078.66	2545.62	2447.92
NPC_T (2 3)		0.70 (0.58)	0.68 (0.69)	0.39 (0.44)	0.91 (0.87)	0.62 (0.81)	0.68 -

Source: 1 Domestic Price .. Annexure 9(a)
2 Reference Price .. Annexure 9(b)

Note: Figures in brackets indicate the equivalent NPCs according to the first series. See the last row of Table 25.

While the NPCs based on both the series have moved more or less in the same direction. Excepting for 1984-85 and 1988-89, the differences in the magnitude of NPCs are quite small. This

further confirms an earlier finding that the tobacco farmers have been disprotected all through the years of government intervention and also that it is quite competitive, (potential).

Effective Protection Co-efficients on Tobacco Output

EPCs as noted before is a better measure of protection, (or competitiveness) as it captures the incentives not only on the final product but also on the inputs as well. Of course we consider only the tradeable inputs, i.e. those inputs for which there is a clear and unambiguous world reference price which is also tangible. The input structure of FCV tobacco is clearly mapped out in Table 22 above. A perusal of the Table shows that the three significant tradeable inputs are seedlings, fertilizer and the curing material (viz., coal). These three inputs together account for about 40 per cent of the total cost of production of FCV tobacco. Among the three material inputs, the curing material which is a specific grade of coal (viz., grade D) produced by the state-owned Singareni Collieries is not traded internationally. Hence we treat it along with the non-tradeable inputs. This leaves us with only two tradeable inputs, viz., seedlings and fertilizer. Since seedlings are once again not traded internationally, we sort of approximate it with the NPCs on output prices[15]. For fertilizer we compute the NPCs in the usual manner by comparing domestic with international reference prices[16].

We had already seen above that EPCs are computed by taking the ratio of value added at domestic prices to the value added in world prices. Value added in domestic prices are derived by

subtracting from the output prices, the value of tradeable inputs (in this case seedlings and fertilizer). On the contrary the value added in world prices is derived indirectly [see the denominator of equation (3)] by deflating the product and tradeable input prices with their respective NPCs. Therefore, we require the NPCs of all tradeable inputs and in our case this include only seedlings and fertilizer. These have been worked out and presented in Table 27.

Table 27

Nominal Protection Co-efficients On All Tradeable Inputs
[Hypothesis: Tobacco As Exportable]

Year	Seeds[1]	Fertilizer[2]	All Tradeable Inputs[3]
1981-82	0.79	0.82	0.80
1982-83	0.59	0.97	0.84
1983-84	0.63	0.89	0.76
1984-85	0.59	0.72	0.66
1985-86	0.68	0.69	0.68
1986-87	0.45	0.91	0.68
1987-88	0.92	0.90	0.91
1988-89	0.81	0.90	0.86

Notes: 1 As mentioned in the text the NPCs on seeds have been approximated to the NPCs on output.
2 These are taken from, Gulati, Hanson and Pursell (1990), p.100.
3 These are weighted averages using value weights.

The NPCs on tradeable inputs, though lower than unity all through the years have been higher than the NPCs on Tobacco output.

We are now in a position to compute the EPCs on output. These have been computed using the two series of domestic and reference prices. These are presented in Tables 28 and 29

respectively.

Table 28

Effective Protection Co-efficients on Tobacco Output (AP)
(First Series)
[Hypothesis: Tobacco As Exportable]

Particulars	1981-82	1982-83	1983-84	1986-87	1987-88
1. Domestic Price of Tobacco Output (P^d_t)-Rs/quintal	1152.00	1026.00	1059.00	817.00	1624.00
2. Value of tradeable inputs (TI_b) (Rs/quintal)	187.83	123.54	163.91	291.85	262.63
3. Value added in domestic prices (1-2)-(Rs/quintal)	964.20	902.46	895.19	525.15	1361.37
4. Value added in World Prices (Rs/quintal)	1205.21	1562.93	1439.15	1427.63	1578.06
5. Effective Protection Co-efficient (3/4)	0.80	0.58	0.62	0.37	0.86

Notes: 1 Tradeable inputs are essentially seedlings and fertilizer. See Annexure-3 for details.
2 This is basically the denominator of equation (3)

The EPCs according to both the series have confirmed our earlier finding that the tobacco farmers are indeed disprotected during the 1980s. The EPCs are also lower than the NPCs primarily because of the higher NPCs on tradeable inputs, though the difference is small. If one were to use these measures of protection as indices of potential export competitiveness of Indian FCV tobacco it shows that Indian tobacco is quite competitive as an exportable commodity. We now see the trends in its actual competitiveness using a variety of other indices.

Table 29

Effective Protection Co-efficients On Tobacco Output (AP)
(Second Series)
[Hypothesis: Tobacco As Exportable]

Particulars	1986-87	1987-88
1. Domestic price of Tobacco Output - PD_T (Rs/quintal)	1058.00	1886.00
2. Value of Tradeable inputs (T/D) (Rs/quintal)	291.85	262.63
3. Value added in domestic prices, A_d (1-2) [Rs/quintal]	766.15	1623.37
4. Value added in world price VA^r (Rs/quintal)	2283.63	1783.93
5. Effective Protection Co-efficient, EPC_n (3 4)	0.34 (0.37)	0.91 (0.86)

Note: Figures in brackets indicate EPC according to the first series
Source: Same as Table 28.

Normally, a third measure of protection is computed, namely the Effective Subsidy Co-efficients (ESCs). ESCs basically captures the various incentives on non-tradeable inputs like electricity, credit and water. However, we argue that as far as FCV tobacco is concerned these non-tradeable inputs are not at all significant. This is because only a small proportion of the total area under FCV tobacco is grown under irrigated conditions. In any case irrigation charges account for only 0.93 percent of total cost of production (see Table 22). Since irrigation is insignificant so does electricity too. This leaves us with the only other non-tradeable input, namely, credit. During our field work it was observed that much of the credit, viz., the working capital requirements of the FCV growers are met by the various

kinds of non-banking financial intermediaries like the village level money lenders etc. It was not at all clear as to what extent these requirements were met by the normal banking stream. The interest on working capital, on an average, works out to about 2 per cent of the cost of production. So a meaningful computation of the ESCs is rendered absolutely difficult in this case.

B. Actual Revealed Competitiveness of In FCV Exports

The trends in actual competitiveness of Indian FCV exports should be analysed against the context of declining market for FCV tobacco world over. This is due to the increasing consciousness of the deleterious effect of tobacco on human health. So the future demand for tobacco is quite uncertain.

In this sub-section we first analyse the trends in actual competitiveness of Indian Tobacco exports. The actual competitiveness is measured in terms three indices: (i) share of Indian exports to world exports; (ii) trends in the unit value index of Indian exports; and (iii) trends in the relative price of Indian FCV tobacco exports in the UK market which incidentally is the largest market for FCV tobacco in the world. Thereafter we attempt to provide an explanation,

(i) Trends in India's Share in World Exports of FCV

The trends in India's share in world exports are mapped out in Table 30.

Table 30

Trends in India's Share of World FCV Exports

(Quantity in Million Kg)

Year	Total World Exports	Share of The Top Four Exporters (in percent)	Share of India (in percent)
1960-64 (Average)	350.20	89.00	13.00
1965-69 (Average)	356.90	82.00	12.00
1970	367.40	71.00	11.00
1971	405.10	66.00	12.00
1972	475.80	72.00	15.00
1973	449.10	69.00	14.00
1977	561.80	68.00	12.00
1978	619.70	67.00	11.00
1979	560.50	66.00	11.00
1980	601.50	73.00	11.00
1981	684.80	72.00	13.00
1982	632.20	71.00	13.00
1983	613.30	69.00	11.00
1984	642.50	70.00	10.00
1985	642.80	72.00	9.00
1986	595.90	65.00	8.00
1987	587.90	70.00	9.00

Source: Detailed country-wise share and their relative ranks are presented in Annexure-10.

India is one among the top-four exporters: USA, Canada (till 1976), Brazil (since 1977) and Rhodesia/Zimbabwe are the other three producers in order of ranks.

While India exports to large number of countries, there is considerable concentration in the direction of her exports in the sense that two countries account for about two thirds of its total exports (viz., UK and USSR). However, the share of these countries have come down in the 1980s showing thereby a diversification of India exports. South and South-East Asia is

emerging as a new market for India. Table 31 presents this diversification in Indian FCV exports.

Table 31

Diversification of Indian FCV Tobacco Export Market

(per cent shares)

Year	Traditional Market			Rest of the world
	USSR	UK	Total	
1980-81	43.59	26.91	70.50	29.50
1981-82	35.74	21.87	57.61	42.39
1982-83	51.12	24.04	75.16	24.84
1983-84	58.85	23.57	81.72	18.28
1984-85	47.48	20.08	67.56	32.44
1985-86	61.16	18.86	90.02	9.98
1986-87	48.02	25.48	73.50	26.50
1987-88	45.16	29.04	74.20	25.80
1988-89	40.10	26.40	66.50	33.50
1989-90	28.76	26.86	55.62	44.38

Note: Shares are based on exports in value terms

Source: 1 Tobacco in India, Various Issues

2 Annual Administrative Report, Tobacco Board, Various Issues.

In fact, in both the traditional markets India has been loosing its share quite rapidly. A way of quantitatively capturing this is to analyse the trends in the share of imports from India in the total imports (of FCV tobacco) by USSR and UK. See Table 32.

Table 32

Relative Importance of Indian FCV Tobacco Imports In Imports into USSR and UK

Year	Percentage Share of Imports from India in Total Imports	
	In the USSR market	In the UK market
1984	36.06	13.63
1985	34.63	8.65
1986	37.28	10.72
1987	26.00	9.31
1988	26.26	5.16
1989	29.63	7.00

Source: Computed from Tobacco Quarterly, Global Commodities Intelligence Survey, No.14, 1990, pp.26-31.

In the USSR market, the major competitor to Indian Tobacco is Bulgaria and in the UK market it is Brazil, Zimbabwe and USA and Canada. Italy is also emerging as a major supplier to the UK market. It should be added that the sales to the USSR market is on the Minimum Export Price. Infact, during 1980s, average unit value of exports from UK, on an average, higher than that realised from USSR by about 12 percent. This vitiates the popular hypothesis that the unit value of exports from UK is considerably higher than from the USSR. Infact, the direction and the extent of movement of both the unit values are in the same direction as indicated by the zero-order correlation coefficient between the two which works out to about (+)0.92. See Table 33.

Table 33

Average Unit of Value of FCV Tobacco Exports

Year	UK	USSR	Average unit realisation from all countries	Ratio of UK to USSR Prices
1980-81	17.37	17.58	17.69	1.10
1981-82	21.31(+10.02)[1]	20.53(+16.78)	19.50(+10.23)	1.04
1982-83	24.29(+13.98)	18.96(-7.65)	23.31(+19.54)	1.28
1983-84	24.40(+00.95)	22.91(+20.83)	22.28(-4.42)	1.07
1984-85	26.02(+6.63)	24.26(+5.89)	23.98(+7.63)	1.07
1985-86	28.41(+9.19)	24.89(+2.60)	24.93(+3.96)	1.14
1986-87	28.47(+0.21)	25.27(+1.53)	25.44(+2.05)	1.14
1987-88	25.86(-9.17)	25.34(+0.28)	25.32(-0.47)	1.02
1988-89	26.40(+2.09)	26.47(+4.46)	28.02(+10.66)	1.00
1989-90	39.44(+49.39)	32.78(+23.84)	31.50(+12.42)	1.20
Annual Average growth rate (in percent)	+9.20(+4.18)[2]	+7.62(+5.39)	+7.83(+7.25)	-

Note: 1 Figures in brackets indicate annual percentage changes
2 Figures in brackets indicate the average growth rate excluding 1989-90 (i.e., for the period 1980/81 - 1989-90)

Source: 1 Tobacco In India, Various Issues
2 Annual Administrative Report. Tobacco Board, Various Issues.

The Table shows that the average unit value realisation has increased during the period across all the markets. But as indicated already in Table 20 above the quantity exported had registered a steady decline during the same period. (With the exception of 1981-82 and 1989-90).

However, export competitiveness of Indian tobacco should be considered in relation to that of India's competitors[17] in the

major world market for Fluecured Virginia Tobacco, viz. the UK market'". See Table 34.

Table 34

Average Unit of Value of Tobacco Imports Into UK of Flue Cured (Stripped) Leaf Tobacco
(Cif price in UK pounds/kg, exclusive of duty)

Year/Country	India	USA	Brazil	Zimbabwe
1982	1.56	3.09	1.87	1.65
1983	1.70	3.59	1.90	1.94
1984	1.78(14)	4.36(14)	2.02(23)	1.99(12)
1985	2.06(9)	4.96(8)	2.39(27)	2.36(17)
1986	1.87(11)	4.49(11)	2.15(22)	2.45(15)
1987	1.54(9)	3.97(7)	1.97(29)	2.18(11)
1988	1.54(5)	3.14(9)	1.90(31)	2.07(12)

Note: Figures in brackets indicate the market shares in percent

Source: Tobacco Quarterly, Global Commodities Intelligence Survey, No.1, 1989, p.42.

It is seen that Indian tobacco is the cheapest in the market, despite that its share has been falling. On the contrary, Brazil which is the next cheapest has actually managed to increase its share and USA which is the costliest (ratio of Indian to US prices, on an average, during the period is 0.44). It is some times argued that this low price coupled with low market share for India can be attributed to the poor quality of Indian tobacco. To elaborate, Indian tobacco is always used in blends as a filler in cigarettes and therefore low price could not have induced buyers to increase the proportion of India FCV tobacco in the final blend. If this is a valid argument, then government intervention can play an effective role in increasing the quality of the Indian produce. However, not much of efforts have been made by the Tobacco Board to address to this problem'".

We have thus seen that the Indian FCV tobacco exports are potentially competitive (as measured by the NPCs and EPCs being less than unity) in the 1980s but its actual competitiveness has been rather low. The precise reasons as to why the actual competitiveness is low needs to be researched further to find out the real factors behind this declining competitiveness .

We had noted in Table 20 that the actual quantity of FCV exports (barring 1980-81, 1981-82 and 1982-83) have actually declined. This can be due to two factors (i) pressure of domestic demand; and (ii) rate of profitability in the domestic sale is much larger than on export sales. We do not have any idea on the relative rates of profitability of domestic vis-a-vis export sales. This is because the major exporter (viz. ILTD division of the conglomerate firm ITC) is also the largest domestic purchaser and the largest domestic consumer as well. We do not have any data on these intra-firm transactions and specifically the price at which ILTD (which is the tobacco leaf trading division of the Cigarette manufacturer ITC) sells it to the manufacturing wing. In fact, since the profits whether based on domestic or export sales remain with the same firm, the amount to be exported should be dictated more by the pressure from domestic demand. The relative importance of domestic demand vis-a-vis. exports is presented in Table 35

Table 35

Production, Domestic Consumption and Exports of FCV Tobacco
(In million Kg)

Year	Domestic Production	Domestic Consumption	Exports
1980-81	117.00	47.70	65.60
1981-82	135.50	51.10	97.90
1982-83	188.70	54.70	83.70
1983-84	130.00	57.50	72.30
1984-85	110.00	60.00	58.20
1985-86	81.00	51.00	50.60
1986-87	112.50	50.00	51.70
1987-88	59.60	51.00	31.03
1988-89	116.50	52.00	29.45
1989-90	100.20	55.00	35.37

Note: The sum of domestic consumption and exports need not equal domestic production because of changes in the level of stocks, and variations in the weight of tobacco, resulting from the amount of moisture contained in it. See in this connection, Deepak Nayyar. India's Exports and Export Policies In the 1960s. Cambridge University Press, Cambridge, 1976, p.128.

Source: Status Paper on Tobacco, Directorate of Tobacco Development, Ministry of Agriculture, Madras, 1991, p.10

This shows that while the quantity exported has steadily (will exceptions) fallen domestic consumption has been virtually stagnant. Both production and exports have been fluctuating. Though not in clear terms exports seems to have been affected by a constant domestic demand and a fluctuating domestic production. Government intervention has in a way contributed to the fluctuation in production though its precise effect on production is difficult to quantify (see Section 1)

Thus, in this section we have examined the export competitiveness of Indian Tobacco. While it was potentially found to be competitive it was not so in actual terms. The precise reasons for this needs to be researched into future.

Summing Up

In this study we have examined the extent and consequence of government intervention on three facets of the crop's economy: (i) long term trends in productivity; (ii) working of the tobacco market and the trader's margin; and (iii) export competitiveness. Government intervention has not really helped to increase productivity levels: it continues to fluctuate and is among lowest in the world. This is because research on the productivity aspects of crop are done by a different agency and there does seem to be administrative and economic difficulties in transferring the necessary technology to the farmer. Some efforts in this direction have been made by the Tobacco Board to supply critical inputs like fertilizer and plant protection chemicals to selected farmers. But its coverage being very low - less than a per cent of the total area under FCV its effect on improving yield across the country is quite doubtful.

An area where government intervention had a perceptible impact is on the working of the Tobacco market. Farmers have obtained a higher price during the post-intervention period and that too promptly. But grading is not yet scientific and the actual conduct of the auctions needs improvement. Specifically the practice of stipulating that the grower sell his produce on a specific date has introduced some arbitrariness because it is found that over the sixty day auction period, prices rule quite high during the initial weeks and goes on declining towards the end. So a grower who has to sell his produce in the beginning reaps a better price than the one who has to do it towards the end. Theoretically speaking, a grower need not sell his produce

if he is not happy at the bidding price. But in practice he is forced to sell even though he may not be happy because of resource constraints. Further, we also noted an increase in the variablity in actual prices received by the grower during the post -auction period.

The trader's margin is found to be quite high. Due to the lack of good quality data on cost of production we were however constrained to estimate the farmer's profitability.

Though difficult to quantify in precise terms, there does seem to be some room to believe that not all the quantity that is produced is transacted through the auction system: there continues to be some direct grower to exporter/trader sales. The Tobacco Board should endeavour to put an end to such sales.

Finally, government intervention may be necessary to enhance the quality and therefore the actual competitiveness of tobacco exports.

On the whole, based on the evidence presented, it can be argued that government intervention did have a positive effect in the crops economy, especially when seen with the fact it has been in existence only during the last seven years. The specific areas where government intervention has not been successful or did not have the desired effect has been identified.

Annexure-1: Trends in Region-wise Area Under FCV Tobacco

(Area in '000 ha)

Year	Black Cotton Soil	Southern Light Soil	Northern Light Soil	Karnataka Light Soil
1970-71	143.00	8.85	2.03	1.60
1971-72	150.20	14.36	4.09	2.26
1972-73	142.40	15.31	6.79	3.01
1973-74	138.50	17.69	8.77	3.88
1974-75	81.00	23.39	8.60	5.50
1975-76	74.20	32.30	8.10	5.39
1976-77	87.70	41.10	8.90	6.36
1977-78	85.40	52.80	12.50	12.00
1978-79	NA	42.95	17.09	16.68
1979-80	NA	NA	NA	23.34
1984-85	77.19	38.14		19.98
1985-86	54.70	43.65		17.86
1986-87	53.36	35.45		17.22
1987-88	31.29	21.70		15.38
1988-89	54.49	89.40		15.82

Sources: 1 Perspective Plan For Tobacco Development, National council of Applied Economic Research, New Delhi, 1979.

2. Annual Administrative Report, Tobacco Board, Ministry of Commerce, Guntur, 1984-85 and subsequent issues.

Annexure-2: Minimum Support Price of Virginia Flue-Cured Tobacco

(Rupees per Kg)

Crop Year	Minimum Support Prices recommended by CACP		Minimum Support Prices announced by the Govt.	
	L2	F2	L2	F2
1978-79	-	7.50	-	7.50
1979-80	-	7.50	-	7.50
1980-81	-	8.25* 7.50$	-	8.25 8.00$
1982-83	11.25	8.75	9.50	8.75
1983-84	11.50	9.25	11.50	Not announced
1984-85	11.50	9.25	12.00	11.15
1985-86	12.00	11.15	12.00	11.15
1986-87	12.00	11.15	12.00	11.15@
1987-88	12.20	11.25	12.20	11.25
1988-89	12.80	11.75	12.80	11.75

Note: MSP was announced for leaf grade - L2 since 1982-83.

* Light Soil
$ Black Soil
@ Revised to Rs.11.25 in the middle of the marketing season

Source: Ministry of Agriculture, Government of India.

Annexure-3: Minimum Guaranteed Prices (Grade-wise)
For 1989-90 Season
Andhra Pradesh

1. Farm Grades (Selected) (Rs/Kg)

Grades	Southern Light Soils	Black Soils
F1	18.60	17.50
F2	17.80	16.60
F3	15.10	14.00
F4	10.30	9.70
Average for all farm grades	14.00	13.00

2. Plant Position Grades (Selected)

Grade	MGP	Grade	MGP
X1L	21.00	L1L	22.00
X2L	19.50	L2L	20.50
X3L	17.00	L3L	18.00
X4L	7.50	L4L	12.00
		L5L	6.10
Average for all plant position grades	13.78		

Source: Annual Administrative Report, Tobacco Board, Guntur. 1989-90, pp.96-7.

Annexure-4: Cost of Production of FCV Tobacco in A.P.

(Rs/Quintal)

	1981-82	1982-83	1983-84	1986-87	1987-88
A. Variable Cost of which:	506.98(74)	508.97(72)	684.12(75)	1588.31	1715.25
1. Labour of which:	125.19(18)	144.75(20)	185.64(20)	359.50	472.22
a. human	75.28(11)	91.91(13)	114.59(13)		
b. bullock	31.61(5)	31.24(4)	39.34(4)		
c. machine	18.30(3)	21.60(3)	31.71(4)		
2. Material of which:	187.83(27)	123.54(17)	163.81(18)	291.85	262.63
a. seedlings	117.36(17)	40.89(6)	82.18(9)		
b. fertiliser and manure	67.47(10)	79.34(11)	79.12(9)		
c. insecticides	3.00(0.40)	3.31(0.50)	2.51(0.30)		
3. Irrigation charges	7.39(1.10)	5.16(0.70)	9.18(1.00)		21.33 27.68
4. Curing cost of which:	171.05(25)	219.93(31)	304.56(33)		915.63 952.72
a. material	111.94(16)	142.50(20)	197.31(22)		255.96 246.03
b. labour	59.11(9)	77.43(11)	107.25(12)		659.67 706.69
5. Interest on Working Capital	15.52(2)	15.59(2)	20.93(2)	-	-

(contd.....)

(C o n t i n u a t i o n o f)

Annexure-4: Cost of Production of FCV Tobacco in A.P.

(Rs/Quintal)

	1981-82	1982-83	1983-84	1986-87	1987-88
Fixed Costs	178.96(26)	203.32(29)	227.94(25)	300.00	350.00
a. Rental Value of owned land	114.54(17)	133.69(19)	148.34(16)		
b. Interest on Fixed Capital	41.38(6)	44.42(6)	59.41(7)		
c. Depreciation on farm buildings & implements	23.04(3)	25.21(4)	20.19(2)		
Cost of Production	685.94	712.29	912.06	1888.31	863.25

Note: Figures in brackets indicate percentage share of the total

Source: Tobacco in India (1989), Op.cit., pp.86-95.

nnexure-5: Reference Prices of FCV Tobacco (P^r_t) - Series

(Hypothesis: Tobacco as Exportable)

eference rice	Unit	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
. Average Unit value exports (FOB)	Rs/ quintal	1950.00	2331.00	2238.00	2398.00	2393.00	2544.00	2532.00	2889.00
. Transport and other costs	Rs/ quintal	507.00	586.06	581.00	634.99	660.15	673.65	670.47	743.82
. Reference Price - P^r_t (1-2)	Rs/ quintal	1443.00	1724.94	1656.12	1763.01	1832.85	1870.35	1861.53	2065.18

Source: 1. Table-1.18
2. Table-2.2.

Annexure-6: Derivation of Value Weights

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-8
1. Production/Qty. transacted[1] in AP (in million Kg)	125.20	177.20	120.30	90.66	80.47	97.51	47.63	105.63
1.2. Value of Prodn.[2] in AP (in Rs.million)	1806.64	3054.93	1992.17	1598.34	1475.02	1823.44	886.8	2181.26
	(0.92)[3]	(0.94)	(0.88)	(0.84)	(0.83)	(0.89)	(0.82)	-
2. Production/Qty. transacted in Karnataka[4] (in million Kg)	10.20	11.10	16.77	17.57	16.22	11.67	10.50	-
2.1. Value of Prodn. in Karnataka[5] (in Rs. million)	147.19	191.40	277.71	309.76	297.31	218.23	197.00	
	(0.08)[6]	(0.06)	(0.12)	(0.16)	(0.17)	(0.11)	(0.18)	-
Total Value of Production/Quantity transacted (in million Kg)	1953.83	3246.41	2269.88	1908.10	1772.33	2041.67	1083.87	-

Notes: 1. Upto 1983-84 it the actual production and thereafter it is the quantit transacted.

2. This is obtained by multiplying the yearly production/quantit transacted with the respective reference prices.

3. These are the value-weights for A.P.

4. Upto 1983-84 it is the actual production and thereafter it is t quantity transacted.

5. This is obtained by multiplying the years production/quantity transact with the respective reference prices.

6. These are the value weights for Karnataka.

Source: 1. Annexure-4.
2. Tobacco In India, (1989), Op.cit., p.22.
3. Tobacco Auction Statistics, (1989), Op.cit., p.1.

Annexure-7: State-wise Domestic Price of Flue-cured Virginia Tobacco (P^d_t) - First Series

State	Unit	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
1. Andhra Pradesh	Rs/ Quintal	1152.00	1026.00	1059.00	1029.00	1261.00	817.00	1624.00	1669.00
2. Karnataka	"	927.00	846.00	979.00	1108.00	1179.00	1025.00	2161.00	-
3. Weighted Average	"	1134.00	1015.20	1049.40	1041.64	1247.06	839.88	1720.66	-

Annexure-8: Intra(AP)-State Domestic Price of FCV Tobacco First Series

State	Unit	1984-85	1985-86	1986-87	1987-88	1988-89
1. A.P	Rs/ quintal	1298	1487	1061	1738	1931
2. Black Cotton soil	"	977	1210	770	1600	1620
3. Southern Light soil	"	1053	1198	791	1566	1616
Weighted Average		1029	1261	817	1624	1669

Note: 1. The weights are based on share in the year-wise quantity auctioned.
2. The figures in brackets indicate the weights.

Annexure-9: Domestic and Reference Prices of FCV Tobacco (AP) - Second Series

a. Derivation of Domestic Prices

(Rs./Kg)

Grade F2 + F3	1984-85	1985-86	1986-87	1987-88	1988-89
Price of F2	14.49	14.77	12.22	19.39	18.52
Price of F3	11.98	13.01	9.34	17.84	15.98
Weighted Average domestic price	13.18	14.05	10.58	18.86	17.63

Notes: Weights are based on relative shares of the grades in quantity transacted.

Source: Tobacco Auction Statistics, Tobacco Board, 1989, (mimeo)

b. Derivation of reference prices -Second series

Grades LBY & LBY2	1984-85	1985-86	1986-87	1987-88	1988-89
Unit Value of LBY	28.07(.11)	28.81(.66)	38.41(.1)	30.31(.48)	34.47(.54)
Unit Value of LBY2	25.29(.89)	26.27(.34)	37.02(.99)	26.63(.62)	31.37(.46)
Weighted average unit value of export	25.60	27.95	37.02	28.09	33.04

Note: Figures in brackets indicate relative weights based value of exports.

Source: Directorate of Marketing and Inspection, South Central Region, Guntur.

Annexure 10: Structure of the World Export Market
For FCV Tobacco

(Quantity in million Kg)

Year	Total World Exports	Share of The Top-Four Exporting Countries (in percent)	Total Share of of the top 4 exporting countries (in percent)
1960-64 (Average)	358.20	1.USA(49), 2.Rhodesia(22), 3.India(13), 4.Canada(5)	89
1965-69 (Average)	356.90	1.USA(53), 2.Rhodesia(12), 3.India(12), 4.Canada(5)	82
1970	367.40	1.USA(45), 2.India(11), 3.Rhodesia(9), 4.Canada(6)	71
1971	405.10	1.USA(38), 2.India(12), 3.Rhodesia(11), 4.Canada(5)	66
1972	475.80	1.USA(41), 2.India(15), 3.Rhodesia(11), 4.Canada(5)	72
1973	449.10	1.USA(42), 2.India(14), 3.Rhodesia(8), 4.Canada(5)	69
1977	561.80	1.USA(33), 2.India(12), 3.Brazil(12), 4.Rhodesia(11)	68
1978	619.70	1.USA(33), 2.Rhodesia(12), 3.Brazil(11), 4.India(11)	67
1979	568.50	1.USA(30), 2.Brazil(15), 3.India(11), 4.Rhodesia(10)	66
1980	601.50	1.USA(29), 2.Zimbabwe(18), 3.Brazil(15), 4.India(11)	73
1981	684.80	1.USA(26), 2.Zimbabwe(17), 3.Brazil(15), 4.India(13)	72
1982	632.20	1.USA(25), 2.Brazil(20), 3.Zimbabwe(13), 4.India(13)	71
1983	613.30	1.USA(23), 2.Brazil(21), 3.Zimbabwe(14), 4.India(11)	69
1984	642.50	1.USA(25), 2.Brazil(22), 3.Zimbabwe(13), 4.India(10)	70
1985	642.80	1.USA(24), 2.Brazil(24), 3.Zimbabwe(15), 4.India(9)	72
1986	595.50	1.Brazil(22), 2.USA(20), 3.Zimbabwe(15), 4.India(8)	65
1987	587.90	1.USA(23), 2.Brazil(21), 3.Zimbabwe(17), 4.India(9)	70

Notes: Figures in brackets indicate percentage share of each country.
Source: Indian Tobacco Statistics, 1975, 1983 and 1989.

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14. Tobacco Board, Annual Administrative Report, Ministry of Commerce, Guntur, 1984-85 and subsequent issues.
15. .....National Symposium On Production and Exports of Burley Tobacco, Tobacco Board and Directorate of Tobacco Development, 1984.
16. 'Tobacco in India', World Tobacco, Special Supplement, 1976.

Notes and References

1. This process has now come to be known as privatisation and there is a wide range of literature on it. For a very recent survey see,

2. Srinal Datta-Chaudhuri, "Market Failure and Government Failure", Journal of Economic Perspectives, Vol.4, No:3, 1990, pp.25-39.

3. The Tea, Coffee, Rubber, Spices and Tobacco Boards are under the administrative purview of the Ministry of Commerce while the Coconut Development Board is under the Ministry of Agriculture. Excepting for the Tobacco and Coconut Boards, all the other Boards conducts both developmental as well as research activities on the commodities under their jurisdiction.

4. For a very detailed account of the nature and extent of private intervention see Nata Duvvury, Commercial Capital and Agrarian Structure, A Study of Guntur Tobacco Economy Unpublished Ph.D thesis, Jawaharlal Nehru University, New Delhi, 1985, Ch.3 and 4.

5. Ibid. ch.3

6. Ibid., ch3.

7. Ibid, ch.3

8. The Tobacco Board is merely an agency for regulating production and does not have a separate research wing. The research on various aspects of the Tobacco plant is conducted at the Central Tobacco Research Institute (CTR) at Rajamundy. The CTRI is under the administrative set up of the Indian Council of Agricultural Research. Though the research efforts at CTRI on high yielding varieties have resulted in certain varieties like Hema(with a yield potential of 1700 Kg/ha) its coverage across the tobacco growing regions is not significant enough to produce any tangible results. Second, since the regulation and conduct of research is at different institutions (unlike in other commercial crops like Natural Rubber) the transference of the research output from the lab to the field involve considerable time lag.

9. See Annual Administrative Report, Tobacco Board, Ministry of Commerce, Guntur, 1988-89

10. This enumeration is largely based Nata Duvvuri (1985), Op.cit., pp.168-223.

11. If the grower is not satisfied with the bid that he has received for his produce, he is at liberty to take it back. However, in actuality it does not happen because the grower always has a resource constraint.

12. The four-firm concentration in tobacco purchase work out to 75 percent in 1989.

13. Nata Duvvury (1985) op.cit. Ch.4

14. See for instance Tobacco in India, A Handbook of Statistics, Directorate of Tobacco Development, Ministry of Agriculture, Madras, 1989, pp.86-95.

15. Following Gulati we have approximated the NPCs of FCV tobacco seedlings by NPCs of FCV tobacco output itself due to data constraints. See Gulati, Ashok with James Hanson and Garry Pursell. Effective Incentives in India's Agriculture, Cotton, Groundnuts, Wheat and Rice, Policy, Planning and Research Working Papers, WPS 332, The World Bank, Washington, 1990, p.112.

16.

17. For a measurements of competitiveness of Indian FCV export in the 1960s, see Deepak Nayyar. India's Exports and Export policies in the 1960s Cambridge University Press, Cambridge 1976, p.126. The analysis in the study was based on comparing the average unit value of tobacco exports.

18. UK accounts for about 9 percent of the total world import of unmanufactured tobacco (average 1985-1988). See Tobacco Quarterly, Global Commodities Intelligence, Survey, No.II 1990, p.28.

19. The Tobacco Board has sent a delegation of scientists to the major producing countries like Zimbabwe and Brazil in 19 to study the performance of varieties cultivated, productio technologies and agronomical practices besides curi techniques adopted in these countries. The suggestions an recommendations of this delegation to improve the quality and productivity of Indian tobacco was to have been implemented from the cropping season of 1989-90.