

# The Operation of the Export Bonus Scheme in Pakistan's Jute and Cotton Industries

by

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## INTRODUCTION

The author's intention is essentially to extend the Bruton and Bose study of the Pakistan Export Bonus Scheme [1], in terms of both time and commodity. However, in this paper we examine the operation of the scheme in jute and cotton industries only. In our next paper, which is now in process, we take up the other industries covered in [1] and also a few more.

Very briefly, the scheme works in the following way<sup>1</sup>. The exporter of a "bonus commodity" surrenders his foreign exchange earnings to the State Bank of Pakistan and receives, in addition to the rupee equivalent, a voucher that entitles its owner to purchase foreign exchange equal in value to 20 or 30 per cent (depending on the commodity exported) of the amount earned. The voucher can be utilised for obtaining foreign exchange for use in *a*) importing a wide range of goods, *b*) business travels and *c*) opening and maintaining commercial offices abroad. Vouchers are issued for all goods except raw jute, raw cotton, hides and skins, raw wool and rice. The voucher is freely transferrable, and its price (which is commonly known as the premium) is determined by the market. Imports permissible under bonus vouchers include a large number of items—both capital and consumer goods.

Our analysis is based on the analytical framework developed by Bruton and Bose [1, Section 1]. We do not reproduce it here. However, our basic assumption is that, for jute and cotton goods, both domestic and foreign demand curves are downward sloping and the marginal cost curve is rising upward to the right. The introduction of the scheme will lead to an increase in the export of a commodity, the magnitude of which depends on the elasticities of its demand curves and the marginal cost curve.

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<sup>1</sup> For a detailed discussion see, Bruton and Bose [1].

Bruton and Bose [1] covered three years, *i.e.*, 1959 to 1961. However, to view the scheme from a longer run perspective and to emphasize certain points we examine the operation of the scheme from 1959 through December 1964 and where possible, June 1965.

In this paper we shall be mainly concerned with the following points:

- a) to examine the estimate made in [1] of the "loss" of foreign exchange during 1959 to 1961 due to reduction in the export of raw jute and raw cotton consequent on the bonus scheme, and to figure out the position during the whole period under review, taking into account the stock position, and relating exports to more appropriate production figures<sup>2</sup>:
- b) to examine the estimate made in [1] of the foreign exchange "gain" from increased export of jute and cotton manufactures during 1959 to 1961 and to make an estimate for the whole period under review;
- c) to explain the year-to-year developments in all cases; and
- d) if it is found that the export (of jute and/or cotton manufactures) has not increased enough to mean a good response to the incentives provided by the scheme, then try to locate the bottleneck.

## SECTION I

### THE JUTE INDUSTRY

Exports<sup>3</sup> of jute manufactures have earned a 20 per cent bonus since the inception of the scheme. Hessian cloth and gunny bags are the two main types of jute manufactures and their export constitutes all but a very small proportion of the total export of jute manufactures. We shall confine our discussion to these two products. Production and export of other jute products are too small to make an individual study of any value, while at the same time their prices lack comparability and, therefore, make aggregation of their values meaningless.

There has never been any bonus on the export of raw jute, so it may be suspected that the scheme has had some adverse effects on the export earnings from raw jute. It has been estimated [1, p.22] that the scheme was responsible for the "loss" of between Rs. 48 million and Rs. 84 million of foreign exchange earnings in the years 1959-61 by causing a reduction in the export of raw jute. It has also

<sup>2</sup> For example in [1], the production of 1956-57 has been taken to be the production of 1956 and related to the export of 1956. As the crop year is on July-June basis, the export during January-June 1956 could have no relation to the production of 1956-57.

<sup>3</sup> Throughout this paper, by the word "exports" we mean physical quantity of exports: and when we say "foreign exchange earned" we mean value of exports.

been estimated [1, p.30] that the scheme, during the same period, accounted for an increase of Rs. 372 million in the foreign exchange earnings of jute manufactures. The resultant "gain" of foreign exchange earnings from the jute industry as a whole is between Rs. 324 million and Rs. 288 million.

#### **A. Raw Jute**

The relevant data on raw jute are presented in Table I. The ceiling on jute acreage which was operative until 1959-60 appears to have had little effect on the acreage actually cropped, which varied between 83 and 139 per cent of the licensed area [3]. It appears, therefore, that if the farmers wanted to crop more they did so, notwithstanding the ceiling regulation. The variation in acreage actually cropped was largely due to changes in expected prices. Hussain [2] has found that Pakistani farmers growing cash crops were quite responsive to price changes.

Production, however, is also a function of yield per acre. In 1959-60, the low production was due to low acreage, and low acreage appears to have been caused mostly by low prices in the previous year. In 1961-62 both acreage (2.061 million acres) and production (1.244 million tons) reached the maximum so far attained, due to unusually high prices in the previous year. Prices were falling in the following three years resulting in lower and lower acreage, but the fall in production of 1962-63 and that of 1964-65 were more than proportional because of very low yield per acre.

We do not mean to imply that the supply<sup>4</sup> of raw jute has been perfectly elastic. What we wish to emphasize is that the supply has been fairly elastic throughout the period under review, as in the years in which production was low due to low productivity, carryovers from previous years were large enough to ensure reasonably elastic supplies. A glance at the supply and stock series makes it clear that, with the prevailing domestic and foreign demands, the two markets did not have to compete for limited supplies—with the possible exception of 1960-61. In that year too, the large stock of 214.4 thousand tons suggests that the rather keen competition was not so much for the limited supply but probably more due to the fact that carryover was comparatively low, leading to speculative restriction of sales.

In 1958-59, there was a decline in the absolute quantity of raw jute exported, as well as in the proportion of the total supply and of the total crop exported. There was, however, a rise in the absolute quantity of raw jute used in domestic mills, as well as in the proportion of the total supply and of the total crop used in domestic mills. As the supply was definitely not the bottleneck the decline in the

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<sup>4</sup> Quantity supplied is defined here as production plus carryover from the previous year.

TABLE I  
STATISTICAL POSITION OF RAW JUTE (1955-56 to 1964-65)

Year (1)	Production (2)	Carry-over <sup>a</sup> (3)	Total supply (2)+(3) (4)	Export (5)	Domestic mill use (6)	Farm <sup>b</sup> consumption (7)	Total distribution (5)+(6)+(7) (8)	Stock (4)-(8) (9)	Foreign exchange earned (mill Rs.) (10)	Average value of exports (per ton) (11)	(quantity in 000 tons)		
											Domestic wholesale price (per ton) (12)	Export as percentage of output (percent) (13)	Export as percentage of supply (percent) (14)
1955-56	1,161.0	71.4	1,232.4	1,015.0	131.1	47.5	1,193.6	38.8	829.2	817		87	82
1956-57	985.0	38.8	1,023.8	726.4 (-28.4)	154.6 (+17.9)	59.7	940.7	83.1	705.9	972 (+19.0)		74	71
1957-58	1,107.0	83.1	1,190.1	854.3 (+17.6)	168.0 (+8.7)	46.3	1,068.6	121.5	853.6	1,000 (+2.9)	823	78	71
1958-59	1,071.0	121.5	1,192.5	729.8 (-14.6)	215.9 (+28.5)	34.1	979.8	212.7	654.8	897 (-10.3)	731 (-11.2)	68	61
1959-60	992.0	212.7	1,204.7	860.3 (+17.9)	274.1 (+27.0)	29.5	1,163.9	40.8	729.1	848 (-5.6)	906 (+23.9)	87	71
1960-61	1,004.0	40.8	1,044.8	526.8 (-38.8)	259.9 (-5.2)	43.7	830.4	214.4	848.1	1,610 (+89.9)	1,683 (+85.7)	43	50
1961-62	1,244.0	214.4	1,458.4	719.4 (+36.6)	283.9 (+9.2)	19.7	1,023.0	435.4	849.6	1,181 (-26.6)	1,132 (-32.7)	58	49
1962-63	919.0	435.4	1,354.4	774.4 (+7.6)	311.4 (+9.7)	45.7	1,131.5	222.9	792.9	1,024 (-13.3)	893 (-21.1)	84	57
1963-64	1,049.0	222.9	1,271.9	768.3 (-8)	346.8 (+11.4)	28.2	1,143.3	128.6	753.6	980 (-4.3)	926 (+3.8)	71	60
1964-65	951.0	128.6	1,079.6	697.1 (-9.3)	304.1 (-12.3)	35.2	1,036.4	43.2	837.7	1,202 (+22.7)	1,239 (+33.8)	74	65

Source: CSO Statistical Bulletins.

Figures within brackets are percentage changes relative to the previous year.  
a) The carryover in 1955-56 has been taken from *Monthly Summary of Jute goods Statistics*, No. 109, July 1965, The Pakistan Jute Mills Association, Dacca. The rest are calculated. The method of calculation is evident from the table.

b) The farm consumption figures have been calculated from the "Home Consumption" figures given in the table referred to in footnote a) which includes both domestic mill consumption and farm consumption. The mill consumption figures have been taken from CSO *Statistical Bulletins* and were found to tally with mill consumption figures given in Table IV of the journal referred to under a)

export is explained by slack foreign demand—as evidenced by a 10 per cent decline in the average value of exports, and by the low total world export of only 780 thousand tons (of which Pakistan's share was 93 per cent). The bonus scheme was introduced in January 1959 and so a breakdown of 1958-59 is to be considered. There was a decline in exports in January-June 1959 from those of July-December 1958<sup>5</sup>. This small decline in exports can confidently be attributed to a weak foreign demand as the foreign price fell to Rs. 876.00 per ton from Rs. 917.00 per ton during the previous six months.

In the year 1959-60 also, the scheme did not cause a reduction in raw jute exports, as the supply was large enough to cater to the slightly increased domestic demand, leaving enough even to call for a reduction in the export price for increasing exports. A reduction of the export price by 6 per cent was accompanied by an increase of 18 per cent in the export, still leaving a stock of 40.8 thousand tons at the end of the period. Any further increase in the export would probably not have been possible without a drastic cut in the export price as the total world export in that year was about 937 thousand tons (of which Pakistan's share was 92 per cent).

With domestic demand rising and the small carryover, wholesalers appear to have become speculative from the beginning of the next year, 1960-61. The domestic price rose to Rs. 1683.00 and the export price to Rs. 1610.00 per ton from Rs. 906.00 and Rs. 848.00 respectively in the previous year—the percentage increases being 85.7 and 89.9 respectively. If we look at the breakdown of that year, we shall see that the domestic price rose from Rs. 1024.00 in January-June 1960 to Rs. 1433.00 in July-December 1960 (40 per cent) and to Rs. 1933.00 in January-June 1961 (35 per cent); and the corresponding increases in the export price were from Rs. 860.00 to Rs. 1361.00 (58 per cent) and to Rs. 2028.00 (49 per cent). Prices are not likely to jump like this in response to the rather mild changes experienced in domestic demand for raw jute. In fact, the year ended up with a lower mill consumption than the previous year. The price behaviour, therefore, seems to indicate that there was a speculative force in operation. The result was a 39 per cent reduction in the export and a 5.2 per cent reduction in the domestic mill consumption. The contention that speculation was mainly responsible for low exports can be backed up by the fact that the year ended up with a huge stock of 214.4 thousand tons.

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<sup>5</sup> Breakdown of the export of raw jute in 1958-59:

July-December 1958	378,000 tons
January-June 1959	351,000 tons

However, it has to be recognised that the speculation leading to high prices was induced, among other things, by the acceleration of the domestic mill consumption as the export market for jute manufactures became comparatively more lucrative due to the bonus scheme. Hence, in the ultimate analysis it seems certain that the bonus scheme was responsible for some "loss" of foreign exchange from raw jute exports in 1960-61, as the export market appears to have been strong enough to absorb a larger quantity of raw jute at favourable prices. Nevertheless, it is not obvious that the scheme was responsible for a cut in the export of raw jute to the extent to which the (already rising) domestic mill consumption was accelerated. A look at the stock figures will make our contention clear. Hence, it is rather difficult to determine quantitatively the true "loss" of foreign exchange earnings from raw jute due to the scheme. Accordingly, no attempt is made at such determination here.

In the following three years (*i.e.*, 1961-62, 1962-63 and 1963-64) the increases in the domestic mill consumption were 9.2 per cent, 9.7 per cent and 11.7 per cent respectively. Supplies were large enough in all these years to allow larger increases in both domestic mill consumption and exports than those which actually occurred; so the question of any bidding away of raw jute by the domestic market from the export market can be rejected. In view of the large stocks carried in these years the failure of raw jute export to increase further should be sought elsewhere, and not attributed to the bonus scheme.

In the year 1964-65, both domestic and export prices rose significantly—the former by 34 per cent and the latter by 23 per cent; and in the same year domestic mill consumption and export of raw jute declined by 12.3 per cent and 9.3 per cent respectively. The fact that domestic mill consumption declined relatively more than the export of raw jute in the face of a substantially greater relative price increase clearly indicates that there was no bidding away of raw jute from the export market by the domestic market in this year. If anything, the opposite was the case.

From the above analysis it is now clear that with the possible exception of 1960-61, the bonus scheme did not shift the domestic demand curve for raw jute to the right enough in any year to lead to a bidding away from the export market. After meeting domestic demand there has always been enough to meet export demand. It is obvious that the already rising domestic mill consumption was accelerated by the scheme, but it can be said confidently that the acceleration only reduced the stocks which would otherwise have been carried. Looking at the stock and domestic mill consumption series we feel that not only did the increases in domestic mill consumption that actually took place in various years not bid away raw jute from the export market but that considerably higher

increases would not have done so; and, in fact, more could have been supplied to both markets if "other things" had worked well.

Our conclusion then, is, that only in 1960-61 was there any significant "loss" of foreign exchange from the export of raw jute due to the scheme.

Bruton and Bose estimated the trend value of domestic mill consumption and attributed the excess of the actuals over the trend values to the scheme and contended that this "excess" of raw jute used in domestic mills could have been exported without price reductions or with slightly reduced prices, had not the bonus scheme been in operation. However, as we have seen, the contribution of the scheme to the acceleration of domestic mill consumption of raw jute has not been large enough in any year to require bidding away of raw jute from the export market. Furthermore, the trend values of mill consumption of raw jute they have arrived at seem to be an underestimate, as a number of other measures were strengthened after the introduction of the scheme which definitely had an effect on the "excess" attributed to the bonus scheme. Some of these measures are discussed below.

#### **B. Jute Manufactures**

In any attempt to isolate the export promotion effect of the bonus scheme by examining the trend and extent of export performances one should take into account other important export inducements such as *a*) increased agricultural and industrial production in general and the export orientation of the pattern of growth in particular, *b*) diversification of export markets, *c*) strengthening of institutional framework for export promotion, *d*) bilateral and multilateral trade agreements, and *e*) fiscal concessions, such as excise rebates, the sales tax exemption, and the exemption of customs duties on the imported materials that go into the production of exportables.

It is to be noted that an upward trend in both output and export of jute manufactures existed before the bonus scheme was introduced. To repeat, Bruton and Bose assumed trend values of exports and attributed the "excess" of actual export over trend values to the bonus scheme. It may be acceptable that the trend, under certain assumptions, will take care of *a*) and some of the other measures mentioned above which were introduced well before the scheme came into effect and have remained unchanged since. If any new measures were introduced, or any measures effective before the scheme were strengthened along with or after the introduction of the scheme, then these will definitely have their share in the "excess". It is not possible to estimate quantitatively the effects of all the various measures which were put into force or strengthened after the introduction of the scheme. But one should keep in mind that such additional

measures existed. Having noted this we shall also, for simplicity, fit a trend to export performances and attribute the "excess" of actual export over trend values to the bonus scheme. But unqualified reliance on our estimate of foreign exchange "gain" due to the scheme is not warranted.

It is clear from Tables II and III that upward trends in output and export of both sacking and hessian were in force well before the bonus scheme came into effect. Now, if the scheme were to have any impact we would expect an acceleration of the already rising exports. Increases in 1958 over 1957 in output and export of sacking were (rounding) 13 per cent and 28 per cent respectively, while those of hessian were 16 per cent and 5 per cent; the corresponding increases in 1959 over 1958 were 34 per cent and 145 per cent in case of sacking, and 38 per cent and 71 per cent in case of hessian. It seems doubtful that such great acceleration could have occurred but for the bonus scheme. In both cases increases in exports were much larger than those in outputs and were made possible by a large release from the domestic market. After 1959 the outputs of both, in general, increased at a declining rate<sup>6</sup>, and the reasons for this appear to have been *a*) the big jump in foreign demand in 1959 was not followed by equally big jumps in later years and or *b*) limited capacity. Accordingly, and for the added reason that between 1959 and 1960-61 there was little or no reduction, and thereafter there was an upward trend, in the domestic consumption of both sacking and hessian, the rate of increase of export in both cases was, in general, declining. All this is consistent with the straightforward functioning of the scheme.

### 1) Sacking

In the Bruton and Bose monograph [1, p. 24] it was assumed that there was a 12 per cent trend effect for 1959 and 10 per cent for both 1960 and 1961 in the export of sacking. Our estimated trend effects are different for these years (as can be seen from Table IV) and, having been based on regression analysis, may be better. We have estimated the trend effects in the following fashion.

We have fitted a time trend to export performances from 1956 to 1964. The equation found is

$$X = 28.52 + 15.43T, \quad R^2 = .81$$

(2.78)

where X stands for exports in thousands of tons  
and T for time (1956 = 1, 1957 = 2, . . . . . 1964 = 9)

We have then calculated the expected values of exports and the rate of growth of exports for different years. These are the rates which we have accepted as the trend effects on exports for different years and have applied them to calculate the trend values of exports. The results are shown in Table IV.

<sup>6</sup> Output of sacking and hessian registered actual declines in 1961 and 1964.



TABLE II

## SACKING PRODUCTION AND EXPORT (1956-1964)

Year	Production (000 tons)	Export (000 tons)	Foreign exchange earned (million Rs.)	Average value of exports (per ton)	Domestic prices <sup>a</sup> (wholesale) (per ton)	Percentage of out- put exported (per cent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1956	103.6	41.5				40
1957	106.8 (+3.0)	40.8	54.2	1328	1482	38
1958	120.5 (+12.8)	52.2 (+27.9)	61.0	1168 (-12.0)	1329 (-10.3)	43
1959	161.9 (+34.3)	127.9 (+145.0)	132.1	1032 (-11.6)	1265 (-5.0)	79
1960	184.8 (+14.2)	114.4 (-10.6)	138.4	1210 (+17.2)	2076 (+64.0)	62
1961	169.4 (-8.3)	138.4 (+21.0)	220.0	1590 (+31.4)	2134 (+2.9)	82
1962	196.5 (+16.0)	145.7 (+5.3)	185.4	1273 (-20.0)	1980 (-7.2)	74
1963	214.1 (+8.9)	144.3 (-1.0)	171.9	1192 (-6.4)	1789 (-9.6)	67
1964	190.4 (-11.0)	146.0 (+1.2)	166.4	1140 (-4.4)	1982 (+10.8)	77

Figure within brackets are percentage changes relative to the previous period.

a. Domestic prices are those prevailing at Narayanganj.

N.B. Where necessary, number of bags have been converted into tons on the assumption that 1100 bags weigh one ton.

Source:

CSO Statistical Bulletin for Production and domestic prices.  
CSO Foreign Trade Statistics for export upto 1961 and for export after 1961 office records of CSO.

TABLE III  
HESIAN PRODUCTION AND EXPORT (1956-64)

Year	Production (000 tons)	Export (000 tons)	Foreign exchange earned (million Rs.)	Average value of exports (per ton)	Domestic prices <sup>a</sup> (wholesale) (per ton)	Percentage of output exported (per cent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1956	35.0	24.7	35.0	1417		71
1957	37.2 (+6.2)	26.7 (+8.1)	37.6	1408	2317	72
1958	43.1 (+15.8)	28.0 (+4.9)	46.4	1657 (+17.7)	2189	65
1959	59.4 (+37.8)	47.8 (+70.7)	74.0	1548 (-6.6)	2218 (+1.4)	80
1960	69.7 (+17.3)	57.8 (+20.9)	97.8	1691 (+9.2)	2744 (+23.7)	83
1961	67.8 (-2.7)	61.3 (+6.1)	114.1	1862 (+10.1)	2897 (+5.6)	90
1962	79.2 (+16.8)	63.0 (+2.8)	109.9	1743 (-6.4)	2856 (-1.5)	79
1963	90.2 (+13.8)	65.2 (+3.5)	117.9	1807 (+3.7)	2552 (-11.0)	72
1964	79.1 (-12.3)	61.2 (-6.1)	123.5	2018 (+11.7)	2590 (+1.6)	77

Figures within brackets are percentage changes relative to the previous period.

a. Domestic prices are for 50 × 10 oz of hessian, Narayanganj.

Sources: CSO Statistical Bulletins for production and domestic prices.  
CSO Foreign Trade Statistics for export upto 1961 and for export after 1961 office records of CSO.

N.B. Where necessary yards of cloth have been converted into tons on the assumption that 3750 yards weigh one ton.

TABLE IV

EFFECTS OF THE EXPORT BONUS SCHEME ON SACKING EXPORTED, AND  
FOREIGN EXCHANGE GAIN THEREFROM, 1959-64

(quantity in thousand tons and value in thousand rupees)

Year	Actual exports (Qty)	Estimated trend rate of growth (per cent)	Computed trend (Qty)	Due to bonus (Qty) (2)-(4)	Foreign exchange earned due to bonus* (value)
(1)	(2)	(3)	(4)	(5)	(6)
1959	127.9	20.6	62.97	64.93	67,007.76
1960	114.4	17.1	73.74	40.66	49,198.60
1961	138.4	14.6	48.51	53.89	85,685.10
1962	145.7	12.7	95.28	50.42	64,184.68
1963	144.3	11.3	106.05	38.25	45,594.00
1964	146.0	10.2	116.81	29.19	33,276.60
					344,946.72

\* Values have been calculated by multiplying the quantities in column (5) with the average value of export in respective years.

Thus, we obtain an estimate of foreign exchange earnings from exports of sacking due to the operation of the scheme during 1959-61 of Rs. 201.9 million as against the Bruton and Bose estimate of Rs. 236.3 million [1, p. 25]. The total estimate during 1959 through 1964 amounts to Rs. 344.9 million. We shall now try to explain the year-to-year developments.

In 1959, output increased by 34 per cent and exports by 145 per cent, while the foreign price declined by 12 per cent and the domestic price by 5 per cent. The declines in both the foreign and domestic prices suggest that bonus incentives supplemented by a weak domestic market caused the impressive jump in exports. The increase of 34 per cent in output can probably be attributed fully to the bonus scheme.

In 1960, exports dropped by 11 per cent in the face of 17 per cent jump in foreign prices and a 14 per cent rise in output. This seems to be a bit unexpected. The explanation may be that the pressure of domestic prices (which shot up by 64 per cent) caused the reduction of tonnage exported and thereby induced rise in export prices. With consequent further decline in exports, the export prices would probably have risen further had it not been for the bonus scheme.

In 1961, sacking exports rose by 21 per cent, the foreign price by 31 per cent and the domestic price by 3 per cent, while output declined by 8 per cent. The

decline in output seems to have been due to limited capacity and to 31 per cent rise in the price of raw jute. The increase of 21 per cent in exports and the 31 per cent jump in the foreign price suggest that the foreign demand for sacking was quite strong in 1961. But, as Bruton and Bose have pointed out, the domestic market in that year was strong enough to prevent as large a shift as the foreign market would have accepted at favourable prices.

The idea behind the bonus scheme is to enable the exporters to increase exports by reducing export prices and still make a profit. However, in 1962 the export of sacking increased by only 5 per cent, while its export price was lowered by 20 per cent. Supply was no constraint, because output rose by 16 per cent. Also, the domestic market was relatively weak as evidenced by a 7 per cent decline in domestic prices. All this suggests that the foreign demand for Pakistani sacking was rather weak in that year. In 1963 and 1964, foreign demand was probably even weaker, as evidenced by the fact that exports declined by 1 per cent in 1963 (even though the export price was lowered by 6 per cent) and then rose by only 1.2 per cent in 1964 (in the face of the export price being lowered by another 4 per cent). Supply does not seem to have been any constraint in any of these years, as output rose by 9 per cent in 1963 while domestic price fell by 10 per cent—indicating a weak domestic market; and in 1964, though there was a decline of 11 per cent in the domestic prices, sizable stocks were carried forward from previous years (*see* [5] ) making supply quite large.

Stocks of sacking increased after 1962 [5], even though the exporters lowered export prices significantly in response to bonus incentives, so it appears that in the years 1962-64 the foreign demand for Pakistani sacking was inelastic. The decline in output of sacking in 1964 seems to have been largely due to flagging of its foreign demand.

## 2) *Hessian*

Bruton and Bose assumed [1, p. 24] that the trend growth rates for hessian exports were 10 per cent in 1959, and 8 per cent in both 1960 and 1961. We have again used a simple regression equation for estimating trends.

The equation found is

$$X = 19.66 + 5.75 T \quad R^2 = .84$$

(0.98)

Notations are the same as those used on page 8, above.

The results are shown in Table V.

Thus our estimate of foreign exchange earnings from hessian export due to the bonus scheme during 1959-61 is Rs. 97.1 million, as against the

Bruton and Bose estimate of Rs. 120.9 million [1, p. 25]. The estimate for the whole period, 1959-64, is Rs. 169.6 million.

TABLE V

**EFFECTS OF THE EXPORT BONUS SCHEME ON HESSIAN EXPORTED AND FOREIGN EXCHANGE GAIN THEREFROM, 1959-64**

(quantity in thousand tons and value in thousand rupees)

Year (1)	Actual Exports (Qty.) (2)	Estimated trend rate of growth (per cent) (3)	Computed trend (Qty.) (4)	Due to bonus (2)-(4) (Qty.) (5)	Foreign ex- change earned due to bonus (value) (6)
1959	47.8	15.6	32.37	15.43	23,885.64
1960	57.8	13.5	36.74	21.06	35,612.46
1961	61.3	11.9	41.10	20.20	37,612.46
1962	63.0	10.6	45.46	17.54	30,572.22
1963	65.2	9.6	49.82	15.38	27,791.66
1964	61.2	8.8	54.18	7.02	14,148.36
					169,622.74

We shall now try to explain the year-to-year developments in hessian. The general picture seems to be much the same as that we have seen in case of sack-ing. In 1959, output rose by 38 per cent, and physical volume of exports by 70 per cent. The domestic price rose by 1.4 per cent while the foreign price declined by 6 per cent. Stocks carried from 1958 were decidedly small. The small rise in the domestic price in the face of 24 per cent decline in the quantity available for domestic use from current output suggests a weak domestic market. The 70 per cent increase in exports, in the face of only a 6 per cent decline in the foreign price, suggests that the foreign demand was such that even larger exports could have been sold at favourable prices, had a larger quantity been available. Thus, the failure of actual output to increase was the immediate bottleneck in 1959.

In 1960, the absolute increase in output of about 10 thousand tons was matched exactly by the absolute increase in exports. The domestic price went up by 24 per cent and the foreign price by 9 per cent. In that year supply appears to have been limited both by failure of output to increase sufficiently and by refusal of the domestic market to release output. As is pointed out in [1, p. 27], it is not possible to say definitely whether the bottleneck was in raw jute or in mill capacity. However, the comparatively small stock of raw jute at the end of

June 1960 and the 50 per cent rise in the domestic price of raw jute in July-December 1960 over January-June 1960 suggest that raw jute was largely responsible.

In 1961, output dropped by 3 per cent while exports rose by 6 per cent, the domestic price fell by 4 per cent and the foreign price by 10 per cent. In that year the supply of raw jute was very large, and the large stock of raw jute at the end of the year proves that jute was not in any way responsible for the limited supply of hessian. So, the drop in output in the face of rising domestic and foreign prices seems to imply that the bottleneck in that year was mill capacity. Both domestic and foreign demand in 1961 seem to have been strong enough to justify a much larger increase in output.

In 1962, output rose by 17 per cent and exports by 3 per cent while the domestic price declined by 1.5 per cent and the foreign price by 6 per cent. In this year, the average yearly premium rose to Rs. 157.00 from Rs. 119.00 in 1961. This seems to have induced exporters to increase exports by reducing the export price. But a 6 per cent reduction in the export price resulted in an increase of only 3 per cent in exports indicating that in that year foreign demand was not strong. Another, perhaps more important, reason for the small increase in exports was the rather strong pull of the domestic market, which was willing to continue to offer very high prices to keep hessian at home.

In 1963, output rose by 14 per cent and exports by 3.5 per cent, while the domestic price fell by 11 per cent and the foreign price rose by nearly 4 per cent. The big drop in the domestic price indicates a relatively weak domestic demand and the possibility of easy shifting away from it. It seems clear that foreign demand was such that the foreign market would have accepted a larger quantity of exports at favourable prices. Further, the premium was higher in that year than that in 1962, making it more lucrative for the exporters to increase exports. Why was it, then, that exports did not increase to the extent apparently justified, while stocks were building up? Stocks amounted to about 9 thousand tons at the end of June 1963 and continued growing thereafter, to rise to 15 thousand tons by the end of June 1964 [5]. It seems difficult to provide a suitable answer to the above question. However, we believe that, having known that because of limited mill capacity for hessian, output would not increase much, if at all, in the following year, traders preferred to carry stocks rather than to increase exports as perhaps they could have, by reducing export price, because they expected thereby to get a better price the following year.

In 1964, output dropped by more than 12 per cent. The apparent reason for this drop was a rise in the cost of production, as an 18 per cent increase in the

domestic price of raw jute superimposed itself on a limited mill capacity. The physical volume of exports declined by 6 per cent, while the export price rose by 12 per cent and the domestic price by 1.6 per cent. An increase of only 1.6 per cent in the domestic price suggests that the domestic market was not sufficiently strong that year to offer keen competition with the foreign market; and only a 6 per cent decline in exports in the face of a 12 per cent increase in the export price suggests that foreign demand in that year was strong enough to accept a larger quantity of exports at favourable prices. One discouraging factor for the exporter was the fall of the premium to Rs. 145.00 from Rs. 163.00 in 1963. This, together with the decrease in output, prompted traders to raise the export price and prefer to carry stocks which, as noted above, went up to 15 thousand tons by the end of June 1964, and were still at about that level at the end of 1964.

The conclusion that emerges with respect to hessian is that after the 1962 level of output mill capacity remained so limited as to be the most important single factor responsible for the failure of exports to increase to the level that would have been justified by the foreign demand. It is because of the limited mill capacity that in both 1963 and 1964 traders preferred to carry stocks rather than export at lower but favourable prices. So the incentives provided by the 20 per cent bonus do not seem sufficient, in the case of hessian, to induce traders to increase exports.

3) We now turn to two points raised by Richard Maffon [4]. First, he suggested that a specific subsidy would be superior to the ad valorem bonus scheme in providing incentives to expand exports at lower prices. This appears to be correct *a priori*. The exporters will know how much subsidy they are going to get by exporting one more unit and a lower export price will not mean a reduction in the subsidy. In the case of an ad valorem bonus scheme a lower price means a lower subsidy per unit. Thus, exporters are likely to expand exports at relatively lower prices if the subsidy were specific. But empirically this does not seem to be so straight-forward. For hessian, the export demand after 1962 was probably elastic enough to justify the lowering of prices and so a specific subsidy would probably have been better in this case. But in the case of sacking the export demand during the same period appears to have been inelastic, so that any further lowering of prices would not bring about a justifiable increase in exports. If the bonus on sacking during this period had been specific instead of ad valorem, it would, by inducing the exporters to lower prices further, have led to a lower foreign exchange earnings than the earnings actually realized. Therefore, an ad valorem subsidy seems to be better than a specific subsidy in the case of a commodity with inelastic foreign demand<sup>7</sup>, as this will minimise the foreign exchange "loss" (should there be any). It is, therefore, relatively more risky to

<sup>7</sup> Ideally, there should be no bonus on a commodity with an export demand elasticity less than unity.

allow specific subsidy on a commodity when one does not have a fairly good knowledge about the export demand elasticity.

Secondly, Mallon calculated that in the year 1960-61 every unit of jute manufactures exported due to the bonus scheme resulted in lower foreign exchange earnings (to the extent of Rs. 110.00) than would have been attained if raw jute had been exported. But his conclusion can be questioned, because the stocks of raw jute at the end of 1960-61 were over 214 thousand tons. These stocks, or at least the excess of these stocks over a traditional stock position of, say, 40 to 50 thousand tons, ought to have been cleared before the possibility of putting those extra few tons used by domestic mills due to the scheme, into the export market, could be thought of. It is doubtful that the export of raw jute would or could have been expanded to that extent. And, if exports were to be expanded to that extent, the apparently low price elasticity of export demand for raw jute suggests that to do so would require a drastic reduction in prices. Hence, the Mallon way of calculation of net foreign exchange benefit from the export of jute manufactures does not seem to be justified in the year 1960-61. Our contention is that the scheme, by inducing an increase in the export of jute manufactures, caused a foreign exchange "gain" in 1960-61. In fact, as we can see, in none of the years under review, would there have been any justification for using the Mallon concept in calculating net foreign exchange benefit from the export of jute manufactures.

### c) Conclusions

The preceding analysis is not rigorous, and the data are of questionable quality. We believe, however, that the results are sufficiently accurate to warrant attention. The following conclusions may be stated:

i) We have found that there was practically no "loss" of foreign exchange from the export of raw jute due to the bonus scheme. There were "gains" in both sacking and hessian exports due to the scheme. The total "gain" of foreign exchange due to the scheme from the jute industry as a whole, on the assumptions made, amounted to Rs. (344.9+169.6) million, *i.e.*, Rs. 514.5 million during 1959 through 1964. If it is believed that the effect of other export promotion measures were not fully taken care of by the trend values, and even if it is thought reasonable to reduce the "gain" of Rs. 514.5 million by, say, 20 or 25 per cent we would still have foreign exchange earnings sufficiently increased in the jute industry due to the scheme.

ii) The question of competition for raw jute between hessian and sacking discussed in the Bruton and Bose monograph [1, p. 29] do not seem to be important in any of the years under review because of the large stocks of raw jute carried in all the years.



iii) We have seen that mill capacity was more of a restraint in the case of hessian than in the case of sacking for last few years of the period under review. We have also seen that the export of hessian did not increase after 1962 because exporters preferred to carry stocks rather than expand exports at lower prices, while the export of sacking did not increase after 1962 even though the export price was being lowered and hence stocks were carried. In the case of hessian, then, the foreign demand in these years was elastic while in the case of sacking it was inelastic. Hence, the conclusion that emerges is: export of hessian can be increased justifiably by lowering prices while the export of sacking cannot be so increased. Thus, the contention put forward by Bruton and Bose [1, p. 29] that "the bonus scheme would be more effective.....if it were supplemented by a tax or subsidy programme that countered the elasticities which resulted in less than maximum foreign exchange earnings" seems to be more important now than it was in 1961. The simplest programme that may be suggested is: different bonus rates for hessian and sacking—higher for hessian and lower for sacking. As it was found that 20 per cent bonus was not providing enough incentive to increase hessian exports, a 30 per cent bonus on hessian may be tried, leaving 20 per cent bonus on sacking unchanged.

iv) We have concluded that Mallon way of calculation of net foreign exchange benefit from the export of jute manufactures could not be justified.

## SECTION II

### THE COTTON INDUSTRY

As is the case with raw jute, there has never been any bonus on raw cotton. The bonus on cotton cloth was 20 per cent up to June 1963. It was raised to 30 per cent on July 1, 1963, and to 40 per cent on January 1, 1964. Since June 12, 1964, the date on which only two bonus rates came into effect, the bonus on cotton cloth has been 30 per cent. The bonus on cotton yarn was 20 per cent until January 1960, 10 per cent until February 1961 and thereafter none until July 1962. A 10 per cent bonus was reintroduced in July 1962. It was raised to 15 per cent in December 1963 and has been 20 per cent since June 12, 1964. Export of cotton waste has been entitled to a 20 per cent bonus since the beginning of the scheme.

It has been estimated in the Bruton and Bose monograph [1, p. 34] that between Rs. 86.4 and Rs. 99.2 million in foreign exchange were "lost" during 1959-61 as a result of reduction in the export of raw cotton due to the bonus scheme. It has also been estimated in the same source [1, p. 45] that an increase of Rs. 175.8 million in the foreign exchange earnings of cotton manufactures

took place during the period due to the scheme resulting in a net "gain" of between Rs. 76.0 and Rs. 89.0 million in foreign exchange from the cotton industry as a whole.

#### **A. Raw Cotton**

Unlike the jute industry which is important only in East Pakistan, the cotton industry is divided between the two wings—though predominantly located in the West. During the period under review East Pakistan exported negligible amount of cotton yarn and practically no cotton cloth, and so the bonus scheme had little to do with the expansion of the cotton industry in East Pakistan. Moreover, it seems reasonable enough to assume that the position will remain virtually the same for a number of years to come. Therefore, in our attempt to see what adverse effects, if any, the bonus scheme had on the export of raw cotton, we shall consider the developments in West Pakistan only. The relevant data on raw cotton in West Pakistan are presented in Table VI. It is clear from the table that output remained virtually stagnant from 1955-56 until 1960-61. It is also clear that there was steady progress from 1959-60 up to 1963-64 in which year output was the highest so far attained. In 1964-65, output declined to 371 thousand tons from 412 thousand tons in the previous year—a 10 per cent decline. The reason for this was a decline in cultivated area to 3624 thousand acres from 3672 thousand acres in the preceding year and a decline in yield per acre to 2.8 maunds from 3.1 maunds. If the plan target of over 600 thousand tons during 1970 is to be attained incentives appear to be called for with respect to both acreage and yield.

Prior to 1952-53, over 85 per cent of cotton output was customarily exported. In succeeding years, exports of raw cotton declined in both the absolute amount and as proportion of output. Thus there was a declining trend in exports, which steepened after 1955-56, well before the bonus scheme came into force. The reason is not far to seek; availability of raw cotton for export was down sharply. There has been a strong response from the domestic textile industry to the heavy protection against foreign competition, which it has enjoyed since 1953. This resulted in increasing consumption of raw cotton in West Pakistan mills and increasing shipments to East Pakistan for use in mills there, and, thus, with virtually stagnant output during the 1950's, restricted supply to the export market.

Looking at the stock series, we note that it was not possible to obtain a reliable figure for stocks of raw cotton in West Pakistan on the 1st of July of any year, which is necessary, as data on export and mill consumption are on July-June basis. In the absence of this information we have assumed a stock of 'x' thousand tons at the end of 1957-58, and, by subtracting total distribution from current output, have arrived at the net addition to or depletion of the stock in

TABLE VI  
STATISTICAL POSITION OF RAW COTTON IN WEST PAKISTAN (1955-56—1964-65)

Year	Production <sup>a</sup>	Export	Shipment to East Pakistan	Mill consumption	Household consumption <sup>b</sup>	Total distribution [(2)+(3)+(4)+(5)]	Stocks	Foreign exchange earned (mill. Rs.)	Average value of exports (per ton)	Domestic whole-sale prices (per ton)	Export as percentage of output (per cent)	Average value of shipments to East Pakistan (quantity in 000 tons)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1955-56	293	166.6	9.5	142.0	8.0						57	2011
1956-57	300	117.4 (-29.5)	19.1 (+101.0)	152.0	8.0			348.8	2971		39	2027
1957-58	299	78.6 (-33.1)	29.6 (+55.0)	162.0	8.0	279.2	X	210.4	2677 (-9.9)	2118	29	1760
1958-59	278	80.3 (+2.2)	23.6 (-20.3)	178.6 (+9.6)	8.0	290.5	X-12.5	187.3	2333 (-12.9)	1821 (-14.0)	29	1760
1959-60	287	78.4 (-2.4)	27.4 (+16.1)	200.8 (+12.4)	8.0	314.6	X-40.1	180.9	2344 (+5)	2207 (+21.2)	27	2215
1960-61	296	51.3 (-34.6)	32.1 (+17.2)	201.1 (+1)	8.0	292.5	X-36.6	134.2	2615 (+11.6)	2384 (+8.0)	17	2619 (+18.2)
1961-62	319	47.6 (-7.2)	46.0 (+43.3)	202.1 (+5)	8.0	303.7	X-21.3	120.6	2533 (-3.1)	2228 (-6.5)	15	1762 (-32.7)
1962-63	346	109.8 (+130.7)	32.6 (-29.1)	209.8 (+3.8)	8.0	360.2	X-35.5	261.3	2380 (-6.0)	2101 (-5.7)	32	29.3 (+27.9)
1963-64	412	155.2 (+41.3)	38.2 (+17.2)	229.9 (+9.6)	8.0	431.3	X-54.8	336.9	2170 (-8.8)	2116 (+7)	38	2175 (-4.6)
1964-65	372	118.7 (-23.5)	31.4 (-17.0)	239.0 (+4.0)	8.0	397.1	X-79.9	283.5	2390 (+10.0)	2389 (+12.7)	32	2462 (+13.0)

Figures within brackets indicate percentage changes relative to previous year

Source: CSO Statistical Bulletins.

a) Pakistan also imports some raw cotton but quantities of imports have always been very small and they do not alter the supply position significantly, so we ignored them.

b) As pointed out by Mr. Mohd Afzal in "The Pakistan Cotton" (July 1965, pp. 129) household consumption in whole of Pakistan is conventionally taken to be 50,000 bales or 8.7 thousand tons. For West Pakistan we have assumed a household consumption of 8 thousand tons.

c) Prices are those of LSS Punjab R.G. in Karachi.

each of the subsequent years. If 'x' was not very large, and available information suggests that it was not, then by examining the stock series we can conclude not only that the supply of raw cotton have not been sufficiently elastic to rule out the possibility of competition between the domestic and export markets, but also supply has been so limited in most of the years under review that the bonus scheme, by accelerating the already rising domestic mill consumption actually caused a reduction in the export of raw cotton. The quantity of raw cotton that would have been available for export if the bonus scheme had not been in operation is assumed to have been the "excess" of actual mill consumption of raw cotton in West Pakistan over its trend values. We have estimated the trend rates of growth of mill consumption of raw cotton, using the same method as was used in case of jute manufactures. The equation is

$$M = 133.98 + 10.5T \quad R^2 = .68$$

(2.56)

where M stands for mill consumption of raw cotton in West Pakistan and T for time (1955-56 = 1, 1956-57 = 2, ..... 1964-65 = 10). The results are shown in Table VII.

We have calculated, though crudely, the foreign exchange "loss" under two assumptions as to the price effect of the increased exports. First, it seems fairly realistic to assume that the foreign price of raw cotton would not have been affected by the increased quantity exported. Secondly, we have assumed that if the increased quantity was to be exported a moderate price decline, say 2 per cent, was necessary. Thus the estimated "loss" of foreign exchange resulting from reduced raw cotton exports due to the scheme was between Rs. 118.2 million and Rs. 95.5 million during the period from January 1959 to June 1965. Our estimate of the "loss" during 1959-61 is between Rs. 84.1 million and Rs. 74.4 million as against the Bruton and Bose estimate of between Rs. 99.2 million and Rs. 86.4 million, calculated under similar assumptions about the price effect of increased exports [1, pp. 33-34].

As can be seen from Table VI, domestic mill consumption started growing quite rapidly well before the bonus scheme came into effect. It seems quite reasonable to assume that if the scheme had not been introduced, the textile industry, with the heavy tariff protection which it has been enjoying since 1953, would have continued to grow rapidly. However, the bonus scheme, as can be seen, gave a thrust to the already rising domestic mill consumption, and the impressive level of 200.8 thousand tons domestic mill consumption was attained in 1959-60. Virtually no further growth was achieved during the following three

TABLE VII

## EFFECT OF THE BONUS SCHEME ON RAW COTTON EXPORTS, 1957 to 1964-65

(quantity in thousand tons and value in million rupees)

Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1957-58	166.0				*	40.9	78.3	95.4	93.5	17.1	15.2
1958-59	178.6	6.2	172.0	6.6	34.3	97.0	183.9	227.4	222.8	43.5	38.9
1959-60	200.6	5.8	182.0	18.6	78.4	60.3	134.2	157.7	154.5	23.5	20.3
1960-61	201.0	5.5	192.0	9.0	51.3	47.6	120.6	120.6	120.6	0	0
1961-62	202.0	5.2	202.0	0	47.6	47.6	120.6	261.3	261.3	0	0
1962-63	209.8	4.9	211.9	0	109.8	109.8	336.9	354.1	347.1	17.2	10.2
1963-64	229.9	4.7	221.9	8.0	155.2	163.2	283.5	300.4	294.4	16.9	10.9
1964-65	239.0	4.5	232.0	7.0	118.7	125.7				118.2	95.5

Columns:

- (1) Actual domestic consumption of raw cotton.
- (2) Expected rate of growth of domestic consumption in the absence of the scheme.
- (3) Expected domestic consumption in the absence of the scheme.
- (4) Additional amounts of cotton that would be available for export in the absence of scheme [Col (1) — Col (3)].
- (5) Actual export of cotton.
- (6) Expected cotton export in the absence of the scheme [Col (4) + Col (5)].
- (7) Actual foreign exchange earned.
- (8) Expected foreign exchange earnings if no price reduction necessary.
- (9) Expected foreign exchange earnings if a 2 per cent price reduction were necessary.
- (10) Estimate of "loss" of foreign exchange earnings if no price reduction is necessary [Col (8) — Col (7)].
- (11) Estimate of "loss" of foreign exchange earnings if a 2 per cent price reduction is necessary [Col (9) — Col (7)].

\* Breakdown of actual export and actual foreign exchange earnings in this year is:

July-December	1958	Qty.	Value
January-June	1958	46.0	109.0
		34.3	78.3

In Columns (5), (6) and (7) the figures are for January-June, 1959. As the bonus scheme was introduced in January 1959 the whole of bonus induced domestic mill consumption in 1958-59 occurred in the second half of the year, i.e., during January-June 1959.

years. Thus we see that the estimated trend has caught up with the actual performance in 1961-62; and in the following year the trend value exceeds the actual. Although the "excess" of actual over the trend values may be attributed to the bonus scheme, if the actual falls short of the trend that cannot be similarly attributed. Accordingly, in both 1961-62 and 1962-63 decreases in the export of raw cotton due to the scheme are assumed to be zero. The following two years again saw acceleration of domestic mill consumption under the impetus of the bonus scheme.

We now try to explain the behaviour of raw cotton exports from year to year. As pointed out earlier, a keen competition was going on between the domestic and foreign market for the limited supply of raw cotton in most of the years under review; and, as a result, the export of raw cotton was a function of the strength of the two markets. The following explanation of raw cotton exports is, thus, mostly in terms of the strength of the two markets. In 1958-59, exports rose by only 2 per cent in the face of a 13 per cent decline in the foreign price, while domestic mill consumption increased by 10 per cent in the face of a 10 per cent decline in the domestic price. In that year both domestic and foreign markets seem to have weakened; but the domestic market was decidedly stronger than the foreign market. The foreign market was weaker in January-June 1959 than in July-December 1958, as in the former exports were 25 per cent lower, even though the export price was 4 per cent lower.

In 1959-60, the export price rose by 1 per cent and raw cotton exports fell by 2 per cent, while domestic mill consumption rose by 11 per cent in the face of a 20 per cent increase in the domestic price. Thus in that year the domestic market was very strong and actually bid away raw cotton from the export market. In 1960-61, also, the domestic market was stronger than the foreign market. The result was a 12 per cent rise in the export price and a 35 per cent reduction in the quantity exported.

In 1961-62, the export price fell by 3 per cent and exports by 7 per cent; the domestic price fell by 7 per cent with domestic mill consumption rising by a fraction of 1 per cent. The failure of domestic mill consumption to increase was possibly due to the low premium and low bonus rate on cotton manufactures prevailing in that year. But the decrease in exports in the face of a decrease in the export price is difficult to explain.

In 1962-63, the foreign market seems to have been very strong. A 131 per cent increase in exports occurred in the face of only 6 per cent reduction in the export price. The domestic market was weaker, as domestic mill consumption rose by only 4 per cent (in the face of a 6 per cent decline in the domestic price).

The bonus scheme does not appear to have made the domestic demand for raw cotton much (if any) stronger than what it would have been in its absence.

In 1963-64, again, the foreign market was quite strong as a 41 per cent rise in exports took place while the export price fell by 9 per cent. But the domestic market was stronger in this year relative to 1962-63, as a 10 per cent increase in domestic mill consumption occurred in the face of 1 per cent rise in the domestic price. This seems to have prevented a further increase in exports.

In 1964-65, output fell by 10 per cent; exports fell by 24 per cent, while the export price rose by 10 per cent; and domestic mill consumption increased by 4 per cent in the face of a 13 per cent rise in the domestic price. The domestic market appears to have been relatively stronger. This, together with the decrease in output, constituted the export constraint in that year.

#### **B. Cotton Manufactures**

Besides the bonus scheme there are many other measures (several of which we have noted in connection with jute manufactures) which have been in force, and which worked to promote the export of cotton manufactures. As was mentioned in case of jute manufactures, in any attempt to isolate the export promotion effect of the bonus scheme one should make some attempt to "net out" the effects of these other measures.

Since East Pakistan does not export any cotton cloth and a negligible amount of cotton yarn the bonus scheme does not seem likely to have contributed to the growth of these sectors in that province. As her production of both cotton yarn and cotton cloth is too small, she has to import both from West Pakistan to meet domestic demand. So, combined demand of both the wings for these two commodities have to be taken into consideration for any study of their export performance. To the extent that East Pakistan produces yarn and cloth, her claim on West Pakistan's production of the goods is less. Therefore, the combined production of both the provinces has to be taken into account. Hence, the analysis for these two sectors will be made on the basis of the country as a whole.

#### **1) Cotton Yarn**

The relevant data on cotton yarn have been presented in Table VIII. The behaviour of the export series is so irregular that it is not possible to estimate expected values of exports (in the absence of the bonus scheme) in different years by the method that was used in the case of jute sacking and hessian. Some other device has to be used, and so it seems necessary that we have a look first at the behaviour of the export series over the period under review.

The bonus on yarn, as mentioned earlier, has been changed many times. This changing bonus on yarn seems to have influenced to a large extent the

behaviour of yarn exports. Another closely related factor which seems to have been influential in this regard is the behaviour of the premium. Traders of cotton yarn appear to have reacted strongly to a change in the bonus and/or premium. Thus, in general, lower export has been associated with lower bonus and lower premium.

Column (1) of Table VIII requires an explanation. The "surplus" yarn during a period is total production of yarn during that period minus consumption of yarn in the weaving sheds of the mills, which produce yarn, for the production of cloth. But this "surplus" is not identical with the surplus available for export. Out of this "surplus" the demand of those mills which only do weaving, the handloom industry, the threadball industry, the net-making industry and the hosiery industry has to be met. Since no data are available on the consumption of yarn by these industries it is not possible to isolate the exportable surplus.

The developments in cotton yarn up to 1961 has been clearly explained in [1, pp. 38-40]. The introduction of the bonus scheme at a time when there was supply of yarn available for export, resulted, as expected, in an expansion of exports at lower prices. Then as the bonus rate was reduced, accompanied by a falling premium, exports declined and the export price rose. Nevertheless, supply does not seem to have been a constraint and when, in February 1961, the bonus was completely withdrawn, the export of yarn fell to negligible amounts. The reason for such a drastic decline was not limited supply available for export, nor was it the unwillingness of the domestic market to release output (as stocks appear to have been increasing). The reasons, as pointed out in [1, p. 41], were complete absence of artificially created incentives for the first time since 1956, preference of the traders to carry stocks of yarn in anticipation of some change of export policies affecting yarn and probably the fact that the export of cloth was still earning bonus. Up to June 1962, there was no bonus on yarn and the reasons for the low export of yarn in the period January-June 1962 are similar to the ones listed above.

In August 1962, a 10 per cent bonus on yarn was reintroduced. During July-December 1962, the export price went up by 8 per cent over that of the previous shipping period and yet exports declined to 2,075 thousand pounds in the face of a weak domestic market (domestic price fell by 3 per cent). The reason for this negative response seems to be that the 10 per cent bonus did not provide enough incentive to expand exports at lower prices. The premium at that time stood at Rs. 148 — near enough to the six-year mean not to be a significant factor.

During the next two shipping periods the domestic market was relatively weak, as domestic prices declined slightly in January-June 1963 and rose by about



TABLE VIII

## STATISTICAL POSITION OF COTTON YARN (PAKISTAN), 1957-1965 (January-June)

(quantity in 000 pounds)

Year	'Surplus' yarn	Export	Foreign exchange earned	Average value of exports (000 Rs.)	Domestic wholesale price indices (1959-60 = 100)	Per cent of surplus exported
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1957	January-June	83,241	26,676	51,875	19.4	32.0
	July-December	90,444	13,788	25,135	18.2	
1958	January-June	86,459	1,673	3,180	19.0	113.98
	July-December	102,244	5,091	9,135	17.9	
1959	January-June	112,686	22,970	34,371	15.0	96.96
	July-December	119,198	59,558	88,511	14.8	
1960	January-June	111,665	63,538	86,887	13.6	100.00
	July-December	126,445	25,946	49,846	19.2	
1961	January-June	105,147	13,284	23,766	17.9	110.84
	July-December	117,361	1,966	4,199	21.4	
1962	January-June	108,913	3,003	5,973	19.9	110.68
	July-December	122,679	2,075	4,461	21.5	
				(+8.0)	(-3.2)	1.7
1963	January-June	118,313	6,423	12,183	19.0	106.19
	July-December	155,752	10,047	19,471	(-11.6)	
				19.6	(- .8)	5.4
				(+3.1)	(+4.0)	6.5
1964	January-June	142,462	48,930	79,687	16.3	113.18
	July-December	151,941	40,991	70,386	(-16.8)	
				17.1	(+2.4)	34.3
				(+4.9)	113.25	27.0
1965	January-June	146,468	36,772	71,774	19.5	118.25
				(+16.8)	(+4.4)	

Figures within brackets are percentage changes relative to previous period.

Source: CSO Statistical Bulletins.

4 per cent in the following period. The premium picked up and was Rs. 166.00 and 159.00 respectively. During January-June 1963, the export price declined by 11 per cent, but rose by 3 per cent in the following period. Exports were only 6,260 and 8,619 thousand pounds respectively. It appears that traders were still not happy with a 10 per cent bonus of these two periods; otherwise there seems to be no reason why prices were not lowered to increase exports. The export market appears to have been strong enough to accept larger quantities of exports at favourable prices.

In January 1964, the bonus on cotton yarn was raised to 15 per cent and on June 12, 1964, to 20 per cent. In the January-June 1964 period, exports rose to 48,930 thousand pounds at a price which was 17 per cent lower. The traders responded to the incentive provided by the increased bonus by lowering the export price to increase exports. In the following two shipping periods, July-December 1964 and January-June 1965, the bonus rate was 20 per cent and the premiums were Rs. 144.0 and Rs. 150.0 respectively. But exports declined by 16 per cent and 10 per cent in the two periods, respectively. The domestic price rose slightly in July-December 1964, and by about 4 per cent in the following period. The 4 per cent rise in domestic prices during January-June 1965 appears to be due to deliberate restriction of supply to the domestic market for speculative purposes. This conclusion is suggested by the fact that the supply available for domestic use from the current output was the same as that in the previous period, because the fall in "surplus" in this period was matched by the fall in exports.

Domestic demand for yarn may also have been rising, but the domestic market does not seem to be the constraint. The low premium in these two periods had some depressing effects but this cannot explain the total variations. Another factor that seems to have been responsible for falling exports is the existence of a lower bonus on yarn than on cloth. During these two periods the bonus on cotton cloth had been 30 per cent. The 20 per cent bonus on yarn during these periods provided comparatively less incentive than was provided by the 30 per cent bonus on cloth.

Similarly, during January-June 1964, when the spread between the bonus on yarn and that on cloth was even larger, the export of yarn did not increase, while the supply was sufficient and foreign demand was such as would allow larger exports at favourable prices. All this, however, boils down to speculation and expectation on the part of traders, because the supply of yarn does not appear to have been so limited in any year under review to make it necessary for either the domestic market or the export market to have to bid away yarn from each other. If it was necessary for the two markets to compete with each other for a limited supply, then the spread between the bonus allowed on yarn and on cloth would have been of importance.

Our conclusion, then, is that a changing bonus on yarn, a changing premium and above all speculation and expectations on the part of traders are the factors responsible for the erratic behaviour and unsatisfactory performance of the export of yarn.

The question raised in the Bruton and Bose monograph [1, p. 41] about the extent to which yarn and cloth were exported at the expense of each other does not seem to be relevant if we use the definition of "surplus" yarn which was given at the beginning of this section, and note that only a small percentage of total production of cloth has to use yarn from the "surplus". We shall make an attempt to quantify the effects of the scheme on yarn exports in sub-section 3.

## 2) *Cotton Cloth*

The relevant data are presented in Table IX. The nature of the export series does not allow estimation of trend values by fitting a time trend. It is necessary to use some other device to estimate trend values, and so it seems better to examine first through the year-to-year developments.

The developments up to 1961 have been explained in [1, pp. 35-37]. Nevertheless, it seems necessary to start from 1959, as certain points need emphasis. There was a very good response from the traders immediately after the scheme was introduced and exports jumped in 1959 by about 308 per cent over the 1957 level despite a 34 per cent fall in the export price (comparison is made with 1957 rather than with 1958 as the condition of textile trade was unusually depressed in the latter year). Even though the increase in the export was matched by an increase in production, there was a rise in domestic prices—which may be attributed to increased domestic demand and/or to deliberate reduction in the supply to the domestic market for the building up of stocks for future exports. However, exports accounted for only 6.8 per cent of production and supply does not appear to be much of a barrier to further expansion of exports in this period. Foreign demand also appears to be such as would justify further lowering of prices for expanding exports. It appears, therefore, that speculation and expectation have had much to do with restricting any further expansion of exports in 1959.

In 1960, exports rose by 79 per cent in the face of a 17 per cent rise in the export price. This means that the foreign demand in that year was very strong. But further increase in exports was prevented by failure of output to increase more than 2 per cent, and strong competition by the domestic market for the limited output. The failure of output to rise has been attributed to limited raw cotton [1, p. 37]. Raw cotton was limited, no doubt, but, as we have seen, stocks of cotton yarn were increasing. Why were these stocks of yarn not used to produce cloth? The answer cannot be found without reference to speculative demand on

TABLE IX

## STATISTICAL POSITION OF COTTON CLOTH (PAKISTAN), 1956-1965 (JANUARY-JUNE)

Year (1)	Output (2)	Export (3)	Average value of exports (per 100 yards) (4)	Index numbers of domestic wholesale price (1959-60=100) (5)	Per cent of output exported (6)
<i>(quantity in million yards)</i>					
1956 { January-June July-December	{ 236.9 263.5	{ 8.4 8.5	{ 16.9		{ 3.4
1957 { January-June July-December	{ 258.2 268.8	{ 8.2 2.1	{ 10.3 91.7	{ 90.5 96.5	{ 2.0
1958 { January-June July-December	{ 287.1 289.2	{ 1.1 3.0	{ 4.1 102.9	{ 74.9	{ .7
1959 { January-June July-December	{ 308.9 309.6	{ 9.8 32.3	{ 42.1 60.4	{ 61.7 60.4	{ 6.8
1960 { January-June July-December	{ 296.0 332.8	{ 46.8 28.7	{ 75.5 70.4	{ 70.4 99.43	{ 12.0
1961 { January-June July-December	{ 350.3 348.8	{ 32.0 21.7	{ 71.2 74.5	{ 99.43 101.25	{ 7.7
1962 { January-June July-December	{ 357.5 367.7	{ 21.5 41.6	{ 72.9 63.1	{ 99.53 97.80	{ 8.7
1963 { January-June July-December	{ 359.1 371.7	{ 42.6 50.7	{ 70.3 62.4	{ 96.68 96.48	{ 12.8
1964 { January-June July-December	{ 369.7 384.8	{ 97.6 100.3	{ 59.8 62.7	{ 96.68 95.32	{ 26.2
1965 { January-June	{ 374.8	{ 96.0	{ 61.2 64.2	{ 94.82 97.25	{ 25.6
		(-4.0)	72.2	(+2.0)	

Figures within brackets are percentage changes relative to previous period.

Source: CSO Statistical Bulletins.

the part of yarn holders. Thus it seems that unwillingness of yarn traders to make yarn available for the production of cloth was the more important barrier.

In 1961, output increased by 11 per cent (70 million yards), but exports declined by 29 per cent (22 million yards), with the export price going up by 6 per cent. The domestic market was not a very strong competitor, as domestic prices rose by less than 1 per cent. The decline in exports was, therefore, probably due to the falling premium and speculative restrictions. The foreign market appears to have been strong enough to accept a larger quantity at favourable prices, and the supply was not a barrier in that year.

In 1962, output rose by about 4 per cent (26 million yards), and exports by 17.5 per cent (10 million yards) through a 12.5 per cent reduction in export prices. Of the total export of 63.1 million yards in that year, over 41 million yards were exported during July-December 1962. As was noted earlier, the bonus on cotton cloth was raised to 30 per cent in July 1962. The jump in exports in July-December 1962 seems to have been primarily due to this. If we looked at the six monthly exports from January-June 1961 to January-June 1962, we can conclude that after the initial impetus the 20 per cent bonus was probably not providing sufficient incentive. Otherwise there seems to be no reason why exports were not expanded at lower prices, while the domestic market was not a strong competitor, as evidenced by domestic prices. Thus with the bonus raised to 30 per cent there was a good response. But the supply would definitely allow, and the foreign market would surely accept, at favourable prices, a larger quantity of exports. A low bonus in the first half of the year and a low premium in the second half seem to have had depressing effects on exports.

In 1963, exports rose by 48 per cent (30 million yards), with the export price falling by 8 per cent. Foreign demand in this year also appears to have been strong enough to allow further expansion of exports at acceptable prices. But output increased by less than 1 per cent, and the failure of output to increase prevented a further increase in exports, while a weak domestic market was conducive to such an increase. Why did output fail to increase? Mill capacity was surely not the barrier as both the number of looms and the number of spindles increased in that year. The reasons, again, seem to have been *i*) limited raw cotton (as the export of raw cotton jumped by 131 per cent in 1962-63), and *ii*) speculative withholding (by yarn holders) of yarn from the production of cloth.

In 1964, output rose by 4 per cent (24 million yards) and exports jumped by 112 per cent (105 million yards), while the export price rose by 5 per cent. The domestic market was very weak in that year, as in the face of 80 million yards reduction in the supply to the domestic market from the current output, the

domestic prices declined by more than 1 per cent. The foreign market, however, was obviously very strong. Therefore, 1964's excellent export performance was largely due to the strong foreign demand.

During January-June 1965, exports were 96 million yards and the export price was 12.5 per cent higher than that prevailing during the previous six months. Only a 4 per cent reduction in exports in the face of 12.5 per cent jump in the export price seems to indicate that the foreign demand was quite strong. In the domestic market, on the other hand, domestic prices rose by only 2 per cent in the face of a 2 per cent reduction in quantity taken from the current output. We can argue that the excellent export performance was possible because of strong foreign demand in the face of relatively weaker domestic market.

If we looked at the six-monthly export figures we shall see that both exports and export prices had been rising from January-June 1963 up to July-December 1964; and then in January-June 1965, exports declined only by 4 per cent with the export price shooting up by 12.5 per cent. The conclusion that emerges is that the foreign demand for Pakistani cotton cloth has been rising for the past two and a half years and larger exports probably would have been attained if, in keeping with the idea behind the bonus scheme, expansion of exports was sought at lower prices. It is true that production did not keep pace with the increase in exports, but supply does not seem to have constituted much of a barrier, as the domestic market was weak, and so an easy shift of output from the domestic market was possible. Speculation, expectations and a falling premium are probably the factors which prevented any further increase in exports.

3) We shall now make an attempt to quantify the export promotion of yarn and cloth due to the bonus scheme. It is, strictly speaking, impossible to do so, as what the situation would have been in the absence of the bonus scheme is not known, and the behaviour of the export series in both cases is so irregular as to make it impossible to use a simple statistical method for the estimation of export performances in the absence of the scheme. However, we make an estimate below on the basis of some rather arbitrary assumptions, as has been done in [1, p. 43].

We shall make the same assumptions as have been done in [1, p. 43] up to 1961 for both yarn and cloth. Thus, in the case of cotton cloth we shall assume that exports in 1959 would have been the same as in 1957 and that they would have increased by a mere 2 per cent annually up to 1961, and that the export price would have been Rs. 0.73 per yard throughout. We shall also assume a 2 per cent increase in exports and an export price of Rs. 0.73 per yard in 1962.

In view of the strong foreign demand in the face of a weak domestic demand prevailing during 1963 through June 1965, we shall assume a 50 per cent increase in exports in 1963 over the small export of 1962 and, then, a 50 per cent increase in 1964 as well as a 50 per cent increase in January-June 1965 over half of 1964's exports. For these years we shall, however, continue to make the same assumption about the export price, *i.e.*, Rs. 0.73 per yard. The results are shown in Table X.

**TABLE X**  
**CONTRIBUTION OF THE BONUS SCHEME TO COTTON CLOTH**  
**EXPORT, 1959-1965 (January-June)**

*(quantity in million yards and value in million rupees)*

Year (1)	Actual export		Presumed export		Export attributable to the bonus scheme	
	Qty. (2)	value (3)	Qty. (4)	value (5)	Qty. (6)	value (7)
1959	42.1	25.5	10.2	7.5	31.9	18.0
1960	75.5	53.2	10.4	7.6	65.1	45.6
1961	53.7	40.0	10.6	7.8	43.1	32.2
1962	63.1	41.1	10.8	7.9	52.3	33.2
1963	93.3	55.8	16.2	11.8	77.1	44.0
1964	197.9	124.4	24.3	17.7	173.6	106.7
1965 (January-June)	96.0	69.2	18.3	13.3	77.7	55.9
					520.8	335.6

The estimate of foreign exchange "gain" from cotton cloth exports during January 1959 to June 1965 due to the bonus scheme is, on the assumptions made, Rs. 335.6 million.

In the case of cotton yarn we shall also assume that exports would have remained at the 1959 level (roughly 40 million pounds) from 1959 through 1961 and that the export price would have been Rs. 1.82 per pound throughout. The developments after 1961 are, as we have seen, very complicated, and we do not know what assumptions about exports and the export price would be reasonable. Under the circumstances we think we can do no better than to assume that exports would have been maintained at 40 million pounds in 1962, 1963 and 1964, and 20 million pounds in January-June 1965 and that the export price would have remained Rs. 1.82 per pound throughout this period also. The results are shown in Table XI.

TABLE XI

**CONTRIBUTION OF THE BONUS SCHEME TO COTTON YARN EXPORTS  
1959-1965 (January-June)**

*(quantity in million pound and value in million rupees)*

Year (1)	Actual export		Presumed export		Export attributable to the bonus scheme	
	Qty. (2)	value (3)	Qty. (4)	value (5)	Qty. (6)	value (7)
1959	82.5	122.9	40.0	72.8	42.5	50.1
1960	89.5	136.7	40.0	72.8	49.5	63.9
1961	15.3	28.0	40.0	72.8	24.7	44.8
1962	5.1	10.4	40.0	72.8	34.9	62.4
1963	16.5	31.9	40.0	72.8	23.5	40.9
1964	89.9	150.1	40.0	72.8	49.9	77.3
1965 (January-June)	36.8	71.8	20.0	36.4	16.8	35.4
					75.6	78.6

The estimate of foreign exchange "gain" from cotton yarn exports during January 1959 to June 1965 due to the scheme is, on the assumptions made, Rs. 78.6 million.

One point that needs emphasis is that the assumptions on the basis of which the effects of the bonus scheme on cotton cloth and cotton yarn have been quantified are surely arbitrary and one can question them. But we believe that by changing the assumptions one can change the magnitude of the result only, but cannot change the direction; and so the conclusion, in general, will remain valid. Another point that calls for explanation is the apparently negative effect of the bonus scheme on cotton yarn exports. It has been emphasized that the supply of yarn was not the bottleneck. The reasons for the negative effects on yarn exports seem to have been uncertainties in regard to the rate of bonus and the premium which led to speculative restriction of exports. In our view, if the scheme had never been put into effect, speculation and expectation would not have run so high and cotton yarn exports would have been maintained in or about the manner we have assumed above.

#### 4) Cotton Waste

As mentioned in [1, p.44] there was an upward trend in the export of cotton waste before the bonus scheme came into effect. It seems likely that its export



would have continued to grow normally without the scheme. It is clear from the data that there was an acceleration of the normal growth after 1959, and that this acceleration was probably due to the scheme. A detailed discussion of the development in cotton waste export is not necessary. The story is clearly told in Table XII.

For the calculation of the effects of the scheme on cotton waste exports we shall make the following rather arbitrary assumptions. We assume that the export in the absence of the scheme would have been 196.0 thousand cwt. in 1958-59<sup>9</sup> and would rise by a mere 5 per cent in the following year and thereafter, in view of the stronger foreign demand, as evidenced by increased exports in the face of high export prices, by 10 per cent annually<sup>10</sup>. As regards the price, instead of assuming a constant price for every year, as was done in [1, p.44], it seems more reasonable to assume that export prices would have been the same as those that actually prevailed, and we shall do the latter. The data and estimates are shown in Table XII.

TABLE XII

EFFECT OF BONUS SCHEME ON COTTON WASTE EXPORTS, 1959-1965 (Jan.-June)  
(quantity in thousand cwt, and value in million rupees)

Year	Actual exports			Presumed Exports		Bonus induced exports.	
	Qty.	Value	Average value of export (Rs. per cwt)	Qty.	Value	Qty.	Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1958-59	205.7	10.0	48.6	196.0	9.5	9.7	.5
1959-60	373.5	17.1	45.8	205.8	9.4	167.7	7.7
1960-61	286.0	15.0	52.4	226.4	11.9	59.6	3.3
1961-62	377.0	24.2	64.2	248.9	16.0	128.1	8.2
1962-63	460.4	28.3	61.4	273.8	16.8	186.6	11.5
1963-64	499.2	24.4	48.9	301.2	14.7	198.0	9.7
1964-65	460.6	28.3	61.4	331.3	20.3	129.3	8.0
							48.9

The estimated gain of foreign exchange from cotton waste exports of the bonus scheme, is, on the assumptions made, Rs. 48. 9 million during the period under review.

<sup>9</sup> Breakdown of quantity exported in 1958-59:

July-December 1958 96.0 thousand cwt.  
January-June 1959 109.7 thousand cwt.

We have assumed that if the bonus scheme had not been operative, the export in January-June 1959 would have been 100.0 thousand cwt.

<sup>10</sup> In 1963-64 the increase in export took place at a substantially reduced price but the increase is an indication of a strong foreign demand.

5) In this section we refer to the question: would not foreign exchange earnings have been greater if raw cotton had been exported rather than cotton yarn. We have seen that only in 1959, 1960, 1964, and 1965 (January-June) could the bonus scheme have caused the export of yarn to rise above what it would have been otherwise. Hence, we shall take only these years into account.

Estimates have been shown in Table XIII. We have found that in each of the four years, yarn was a better foreign exchange earner than raw cotton. The total foreign exchange "gain" due to yarn export rather than raw cotton during the four years under consideration has been found to be Rs. 52.2 million.

The export price of raw cotton which we have used for computations, however, needs clarification. Mallon [4] assumes an export price of raw cotton equal to its domestic price plus export duty. We consider his assumption unrealistic, as it does not reflect the foreign demand. We have taken the export price of raw cotton in each year as being equal to the average value of the export of raw cotton in that year. Furthermore, given the foreign demand for raw cotton prevailing in the years under consideration export prices would probably have been affected adversely if additional stocks were to be exported. A modification of the export price to this effect would show that yarn was a still better foreign exchange earner. If the foreign exchange earnings of cotton waste are taken into consideration "gain" from yarn exports will be still larger. Furthermore, one may question the wisdom of thinking that raw cotton would be a better foreign exchange earner than cotton yarn by asking if all the raw cotton used in the production of yarn for export would or could be exported.

### c) Conclusions

It seems in order to state again that data used are of questionable accuracy and that the estimates have been made on rather arbitrary assumptions. Heavy reliance on the estimates as such is not warranted. However, we believe that reasonable alternative assumptions would not affect the results significantly. The conclusions will, therefore, in general, remain the same. The following conclusions emerged from our analysis.

We have estimated that between Rs. 118.2 million and Rs. 95.5 million in foreign exchange were "lost" during 1959 through June 1965 due to the reduction in the export of raw cotton, caused by the bonus scheme. Also we have estimated that, during the same period, the "gain" in foreign exchange from the export of cotton manufactures due to the bonus scheme amounts to Rs. (335.6 + 78.6 + 48.9) i.e., Rs. 463.1 million. Thus, the "gain" in foreign exchange from the industry as a whole during the period is between Rs. 344.9 million and Rs. 367.6 million.

TABLE XIII  
NET GAIN DUE TO EXPORT OF YARN RATHER THAN RAW COTTON

(qty: in 000 lbs and value 000 rupees)

Year	Export of cotton yarn	Foreign exchange earned	Depreciation and other for- eign exchange costs <sup>a</sup>	Foreign exchange net of Col. (4) [col. (3)—col. (4)]	Raw cotton used to pro- duce yarn exported <sup>b</sup>	Export price of raw cotton	Foreign ex- change that could be earned by exporting raw cotton [col. (6) × col. (7)]	Net foreign exchange gain due to yarn export [col (5)—col (8)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1959	82,528	122,882	13,204	109,678	103,160	1.01	104,192	5,486
1960	89,484	136,733	14,317	122,416	111,855	1.08	120,803	1,613
1964	89,921	150,073	14,387	135,686	112,401	.93	104,533	31,153
1965 (Jan-June)	36,772	71,774	5,883	65,891	45,965	1.13	51,940	13,951
								52,203

a) Depreciation and other foreign exchange costs have been assumed to be Re. 0.16 per lb. of yarn produced. This is what has been assumed by Mallon [4]. Source: Table VIII and assumptions stated in the text and notes.

b) It has been assumed that 1 lb of yarn = 1.25 lbs of raw cotton. This is also Mallon's assumption [4]. Bruton and Bose [1] have assumed 1 lb of yarn = 1.20 lbs of raw cotton. We accept Mallon's assumption.

c) The export prices are those that prevailed in the respective years, and explained in the text.

ii) The Bruton and Bose conclusion, that the scheme was less effective in the case of cotton industry than for jute industry in terms of the impact on foreign exchange earnings, is still an important one. The reasons for this seem to be:

a) unlike the case with raw jute, more often than not supply of raw cotton appeared to be an important constraint;

b) while the bonuses on jute products were not changed at all, the bonuses on cotton products were being changed frequently;

c) with the changing bonus rates, the impact of the fluctuating premium was much stronger in the case of cotton than for jute products;

d) expectations and speculative motives also appeared to be stronger for cotton products; and

e) the behaviour of the domestic market seem to be more erratic for cotton products.

iii) Expectations and speculations seem to have sprung mostly from the fact that with bonus allowed on two stages of production—yarn and cloth—frequent changes were being made on the rates of bonus.

iv) We have concluded that yarn was always a better foreign exchange earner than raw cotton.

### CONCLUDING REMARKS

The bonus scheme, on the face of the evidence presented, has stimulated exports of both jute and cotton products and increased net foreign exchange earnings. However, our estimates of the foreign exchange "gain" are "gross" in the sense that we have not taken account of the import content of the manufactured items. The foreign exchange component of the cost of production of jute and cotton products is relatively unimportant. Therefore, we believe that even if this is taken into account, the conclusion we have reached, that the scheme was responsible for significant increases in the foreign exchange earnings, will remain valid. An attempt at finding the "net" foreign exchange "gain" has been made by Soligo and Stern in another study[6].

The scheme appears to have functioned differently over time. The failure of the scheme to work more smoothly over the years may be attributed to the inflexibility and unresponsiveness of the economy. Some flexibility in the scheme itself and provision of additional policies (such as taxes, subsidies, *etc.*) to exploit changing conditions are believed to be necessary conditions for achieving better results. We believe that, as opinions differ on various aspects of the policy

measures involved in the scheme and because of the vital nature of the policy measures in affecting Pakistan's balance-of-payments position, the research and discussion in this area should continue.

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