THE PAKISTAN EXPORT BONUS SCHEME

HENRY J. BRUTON

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INTRODUCTION

The purpose of this monograph is to examine the operation of the Export Bonus Scheme over the period of three years from 1959 through 1961.

The scheme was inaugurated in January 1959 (and is now scheduled to continue until 1965) for the announced purpose of increasing Pakistan's earnings of foreign exchange. There was no excess-saving problem in Pakistan over this period and any failure of the system to operate at full capacity was due to supply problems, especially imported raw materials and spare parts. Therefore, such an objective required that a larger proportion of the total domestic output of the products covered by the scheme be exported than was the case before the scheme was inaugurated. That such an objective be sought necessarily presumes that the existing exchange rate undervalues imports. Maintaining this inconsistency between the official nominal value and real value of imports required a form of rationing of foreign exchange than that effected by its cost. This was accomplished by a system of strict import-licensing and exchange control. The bonus scheme, on the other hand, is a form of altering the terms of sale of exports in such a fashion that exports become more attractive to producers at an unchanged official rate of exchange. On the import side, the scheme creates a small sector within the economy in which some foreign exchange is sold on a virtual free-market basis.

The scheme works in the following way: A Pakistani exporter earns the equivalent of (say) Rs. 1,000 in foreign exchange. This foreign exchange is immediately sold to the State Bank of Pakistan for Rs. 1,000. The exporter also receives a voucher that entitles its owner to purchase foreign exchange equal in value to 20 or 40 per cent (depending on the commodity exported) of the amount earned. The voucher is, therefore, a ration coupon honoured by the State Bank for obtaining foreign exchange for use in importing a wide range of goods. Vouchers are issued for all exports except raw jute, raw cotton, hides and skins, raw wool, tea, and most varieties of rice. Imports allowable under

bonus vouchers include more than 200 items; both capital and consumer goods are contained on the list.

The voucher is transferable and may be sold in the market at a price determined by the market. In the terminology commonly used, a premium is paid for the voucher. Thus for an exporter, who sells his voucher in the market, total earnings from his exports equal the rupee equivalent of the price the foreign importer pays plus the amount he receives for the voucher. Let

P_f = Price in rupees paid by the foreign importer

v = Per cent of P_f earned as a voucher. (This is 20 or 40 per cent)

r = Premium expressed as a percentage of the amount of foreign exchange that the voucher entitles one to purchase

P'_f = Price received by the exporter

Then, $P'_f = P_f + vrP_f$

or

$P'_f = P_f(1 + vr)$

If an exporter receives the equivalent of Rs. 1,000 for a given commodity that he exports and also receives a voucher equal to 20 per cent of his earnings and finally sells the voucher for 150 per cent of its face value, then $P'_f = 1000 [1 + (0.20)(1.50)] = 1300$. The foreign importer pays Rs. 1,000 for an object while the exporter receives Rs. 1,300 for it. It is convenient to refer to P_f as the foreign price and P'_f as the "exporter's price".

In this example, the purchaser pays Rs. 300 for the voucher. This means he pays Rs. 300 for the right to purchase Rs. 200-worth of foreign exchange. He must then pay the Rs. 200 necessary to buy the foreign exchange. He, therefore, pays Rs. 500 for Rs. 200-worth of foreign exchange valued at the official rate of exchange. It is evident of course that anyone willing to do this values foreign exchange significantly higher than the value given it by the official rate.

There are several questions that must be considered in appraising the effectiveness of this scheme as a device for increasing Pakistan's

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earnings of foreign exchange. The most important of these questions are the following:

1) What is the effect on foreign-exchange earnings? To answer this requires an examination of changes in both quantity and price of Pakistan's exports resulting from the functioning of the scheme. But, in examining the changes in foreign-exchange earnings of a given commodity, one must take care to note that this change may be counteracted by an induced change in the earnings of another commodity. For example, an increase in the quantity of jute manufactures exported due to the existence of the scheme may mean a reduction in the earnings of foreign exchange from the export of raw jute. Therefore, the question should always be the *net* effect of the scheme on foreign-exchange earnings.

2) What determines the level of the premium? To answer this requires an identification of the factors acting on both the demand and supply sides of the equation. It may also prove profitable to consider the question of an 'optimum' level of the premium. Finally, there is the question of the incidence of the premium, *i.e.*, who pays it.

3) What is the effect of the operation of the scheme on the internal price level? The success of the scheme requires that exports increase. It must increase relative to total output, unless output also increases, but this is not a sufficient condition to produce inflation. There is also a supply effect arising from increased imports under the scheme. In particular, the increased import of strategic spare parts or raw materials may result in fuller utilization or even an increase of domestic capacity. An examination of the effect of the scheme on the internal price level requires, therefore, an analysis of the impact on internal demand and on supply. Furthermore, if the rise in price occurs mainly in luxury items, the customary ill effects of inflation may be quite mild.

4) To what extent does the working of the scheme affect the allocation of resources in Pakistan? In some ways, the scheme approximates a multiple exchange-rate system, and in some ways, it approximates a free-exchange-rate system. In a longer-run context, any appraisal of the scheme must consider the manner in which it affects the pattern of growth of the economy. This amounts to the question: Does the scheme contribute to a misallocation of resources or does it contribute

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to a more rational allocation according to conventional criteria of allocation. An essential part of the analysis of this question has to do with the composition of imports obtained with bonus vouchers.

In Section I, we establish a rather formal framework for analysing the effect of the bonus scheme on foreign-exchange earnings. In Sections II, III and IV, we make use of this framework to examine the effect of the scheme on the important bonus-earning exports. Foreign-exchange earnings from these exports account for over 84 per cent of the total foreign exchange earned under the bonus scheme. A strong disclaimer is necessary. The data are of questionable accuracy and may be in error to the extent that our analysis is of little value. Furthermore because of limited resources, we have been forced to rely heavily on published information and thereby may have missed strategic bits of data that should have been considered. Finally, we have, for the most part, worked with annual figures; and, to some degree, this lumping of time hides significant developments. In spite of these difficulties, it is believed that some interesting results about the bonus scheme have been obtained.

THE ANALYTICAL FRAMEWORK

It is appropriate, and perhaps more revealing, to approach the analysis of the effect of the scheme on foreign-exchange earnings in terms of an individual producer. The producer sells part of his product to the domestic wholesalers and part of it he also exports. His decision-making then follows familiar lines. If he maximizes his profit, he will of course produce where his marginal costs are equal to marginal revenue. But as he is selling in two separate markets, the relevant marginal revenue is that which results from total sales, *i.e.*, sales in both the export and the domestic markets.

It is also clear that the producer will divide this output between sales to the domestic wholesaler and to abroad in such a manner that the marginal revenues in each market are equal to each other[1]. If this were not the case, then the producer could increase his revenue from a given output by shifting sales from the market where marginal revenue is lower to the market where it is higher.

Unless the demand curves, confronting the producer in the foreign and domestic markets, happen to have the same elasticity at same prices over the relevant range, the domestic price (P_d) and the foreign price (P_f) will not be the same. This seems unlikely enough to be ruled out of consideration. The special case in which both markets are perfectly competitive may also be safely ignored. In this case, the total quantity produced will be sold in the market where price is higher (because price and marginal revenue are identical if the demand curve is horizontal). Although Pakistan produces some commodities the total

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1. In a specific short-run period, the producer may export a quantity that will maximize his foreign-exchange earnings in order to obtain vouchers with which to buy imports of spare parts or machinery and thereby increase output in a future period. Although a distribution of output between domestic sales and exports for this reason may be important in a given period it should not be so in the longer run. Even in this case, the producer is dividing his sales in order to maximize the present value of his future profit-stream.

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quantity of which is exported, the reasons are other than the one just referred to. If both demand curves were horizontal at the same prices, then they would, in effect, constitute the same market and the producer would be indifferent as to the distribution of his sales. We may then conclude that the demand curve in at least one market, domestic or foreign, is negatively sloping. Can more be said?

Let E_d and E_f be the elasticity of demand in the domestic and foreign markets respectively. It is well known that marginal revenue equals average revenue (price) times ($1-\dfrac{1}{E}$) where E is the elasticity of demand[2]. If the marginal revenues in the domestic and foreign markets are equal, then:

$$P_d \left(1- \frac{1}{E_d}\right) = P_f \left(1 - \frac{1}{E_f}\right)$$

Price will, thus, be higher in the market with the less elastic demand curve. Furthermore, neither of the two elasticities can be less than unity; for, if they were, the marginal revenues would be negative and a firm would never produce at a point where marginal revenue is negative, unless marginal costs were below zero, which in the absence of subsidies is absurd.

Independently of this *a priori* treatment, it is reasonable, on empirical grounds, to assume that $E_f > E_d > 1$ for the items that earn bonus vouchers. It seems reasonable to assume that $E_f > 1$ because the output of bonus items offered by a Pakistani exporter constitutes only a very small part of the total supply in the export market; and, therefore, changes in the quantity of his export of these items are unlikely to affect export prices very much. It seems reasonable to assume that

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2. This can be proved in a number of ways. Let $P = \phi(X)$ be the demand function, then $R = XP = X\phi(X)$ is total revenue and

$$\frac{dR}{dX} \cdot \frac{d(XP)}{dX} = P + X\frac{dP}{dX} = P\left(1+ \frac{X}{P} \cdot \frac{dP}{dX}\right)$$

But, $E = -\dfrac{P}{X} \cdot \dfrac{dX}{dP}$ and then $\dfrac{dR}{dX} = P\left(1 - \dfrac{1}{E}\right).$

See any intermediate theory text for further elaborations and other methods of proof.

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$E_f > E_d$ for essentially the same reason: the proportion of the protected internal market supplied by a producer is likely to be much greater than that for the world market. If this inequality holds, then $P_d > P_f$.

In the preceding paragraphs the equilibrium conditions of a producer selling in the domestic market and abroad were outlined. Now the question is what happens when the Export Bonus Scheme is initiated. Assume for the moment that the premium, r, remains stable. Then, with the inauguration of the scheme, the demand curve from abroad shifts upward in the proportion vr. The exporter now receives a price equal to $P_f + vrP_f$ in rupees for any given quantity exported. It is evident that the marginal revenue in the export market will have risen and, therefore, the producer is encouraged to shift his sales from the domestic market to the export market. The process may be made clearer by considering two special cases.

Case A: Assume that $E_f > E_d > 1$, but that neither elasticity is infinite and that the demand curves may be represented by straight lines. In Diagram I, the continuous black lines represent the demand and cost curves prior to the initiation of the Export Bonus Scheme. Equilibrium output is $O''T$, the intersection of the marginal cost curve with the combined marginal revenue curves. This output is divided: OD in the domestic market and OF in the export market. The price in each market is given by the average revenue curve for that market, and the marginal revenues are the same in each market.

With the inauguration of the Export Bonus Scheme, the demand and marginal revenue curves in the foreign market shift upward in the proportion vr and are shown by the dotted black lines. Hence, the combined marginal revenue curve moves in the manner indicated by the dotted line in the combined market. It is recalled that the combined marginal revenue curve is obtained by summing horizontally the individual marginal revenue curves in the separate markets.

These shifts in the marginal revenue curves are intuitively evident but can be easily demonstrated. Marginal revenue now is $(P_f + vrP_f)(1 - \frac{1}{E_f})$, and as E_f on the old demand curve (solid line) and the new demand curve (dotted line) are the same at any level of

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In the preceding paragraphs the equilibrium conditions of a producer selling in the domestic market and abroad were outlined. Now the question is what happens when the Export Bonus Scheme is initiated. Assume for the moment that the premium, r, remains stable. Then, with the inauguration of the scheme, the demand curve for abroad shifts upward in the proportion vr. The exporter now receives a price equal to vrP' in rupees for any given quantity exported. It is evident that the marginal revenue in the export market will have risen and, therefore, the producer is encouraged to shift his sales from the domestic market to the export market. The process may be made clearer by considering two special cases.

Case A: Assume that $E'y >$ ... ... neither elasticity is
... ... and that the demand ... ... by straight
... In Diagram 1, the cont ... ... demand
a ... cost curve prior to the ... ... Scheme,
... librium output is O'T', th ... ... individ-
... the combined marginal r ... ... each
i ... domestic market and O ... ... market
market is given by the average ...
marginal revenues are the same in each market.

With the introduction of the Export Bonus Scheme, the demand and marginal revenue curves in the foreign market shift upward in the proportion vr and are shown by the dotted black lines. Hence, the combined marginal revenue curve moves in the manner indicated by the dotted line in the combined market. It is recalled that the combined marginal revenue curve is obtained by summing horizontally the individual marginal revenue curves in the separate markets.

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and the new demand curve (dotted line) are the same at any

DOMESTIC MARKET EXPORT MARKET COMBINED MARKET

PRICE

DD MR AR FF MR AR TT MR MC₂ MC₁

O O O QUANTITY

DIAGRAM 1

export, marginal revenue has risen in the proportion vr, and the producer will shift sales in favour of the export market [2]. The question now is: How much will exports increase?

It is evident from Diagram I that the increase in exports will be greater, the more elastic is the marginal cost curve, the domestic demand curve, and export demand curve, and the more slowly these elasticities fall as the quantities produced and the quantities sold in each market change [4]. If the output of $O''T$ is the maximum possible, then MC_2 is the relevant cost curve, while if some increase in output is possible we follow MC_1. With the scheme in operation, if MC_1 is the cost curve, the equilibrium output is $O''T''$ of which OD'' is sold at home and $O'F''$ is sold in the export market. If MC_2 is the cost curve, the corresponding quantities are $O''T'$ $(=O''T)$, OD' and $O'F'$.

3. That E_f is the same at the same quantity on both curves is a familiar proposition. At zero price both curves are the same, so we may proceed as follows:
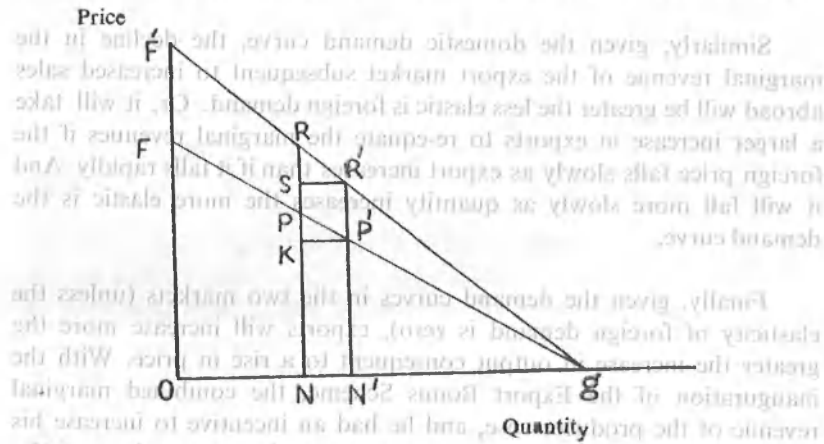
Elasticity (by definition) $= \dfrac{NN''}{ON} = \dfrac{NP}{PK} = \dfrac{KP'}{PK} = \dfrac{NP'}{Ng}$

But by the properties of similar triangles $= \dfrac{PK}{Ng} = \dfrac{PN}{NP} = \dfrac{PN}{Ng}$

Thus, elasticity $= \dfrac{Ng}{PN} \cdot \dfrac{PN}{ON} = \dfrac{Ng}{ON}$. Since both curves meet at g, Ng/ON is the same for both curves.

4. These statements can be proved rigorously. Also of relevance is the proportion of output sold in each market. The smaller the proportion of output exported to total output the greater will be the increase in exports. As this factor seems relatively insignificant, it may be ignored. The straight-line demand curves simplify the results but do not introduce substantive considerations into the argument.

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These results are of course intuitively appealing. If output cannot be increased beyond $O''T$, then it is evident that increments in exports must be at the expense of the domestic use of the commodity. If, as the supply provided the domestic market declines,the domestic price rises rapidly—if E_d is low—then the marginal revenues in the two markets will be equated again with only a small increase in exports. While if a minor price rise in the domestic market releases relatively large quantities from domestic use, then it will be possible to increase exports by substantially more. The effect of the introduction of the scheme on internal prices may be seen here also. The less elastic is internal demand, the greater will be the rise in the domestic price of the commodity upon the introduction of the scheme. In the extreme case if internal demand were completely inelastic in the relevant range and $O''T$ were the maximum output, the Export Bonus Scheme would result solely in a rise in the domestic price of the commodity and no increase in export. This would be true no matter how great was the elasticity of foreign demand.

Similarly, given the domestic demand curve, the decline in the marginal revenue of the export market subsequent to increased sales abroad will be greater the less elastic is foreign demand. Or, it will take a larger increase in exports to re-equate the marginal revenues if the foreign price falls slowly as export increases than if it falls rapidly. And it will fall more slowly as quantity increases the more elastic is the demand curve.

Finally, given the demand curves in the two markets (unless the elasticity of foreign demand is zero), exports will increase more the greater the increase in output consequent to a rise in price. With the inauguration of the Export Bonus Scheme, the combined marginal revenue of the producer rose, and he had an incentive to increase his rate of production. The greater that increase the greater the quantity of product available for export. If the marginal cost curve were horizontal throughout the relevant range, there would be no increase in the price the exporter receives in either market, no reduction in domestic use of the commodity, and exports would expand in an amount determined by the shape of the foreign demand curve.

Except in the case where one of the curves is completely inelastic, it is not technically possible to place the entire responsibility for the limitation on the quantity of exports on a particular curve. However,

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it is possible and fruitful to try to isolate what appears to be the primary bottleneck to the further increase in exports given the functioning of the scheme. Thus, it is important to determine whether a very inelastic domestic (or foreign) demand is the immediate obstacle or whether the difficulty is from the domestic supply side[5]. In each case, the correct policy to increase the effectiveness of the scheme is different. In the empirical part of this study, an effort is made to so identify a "primary stopper".
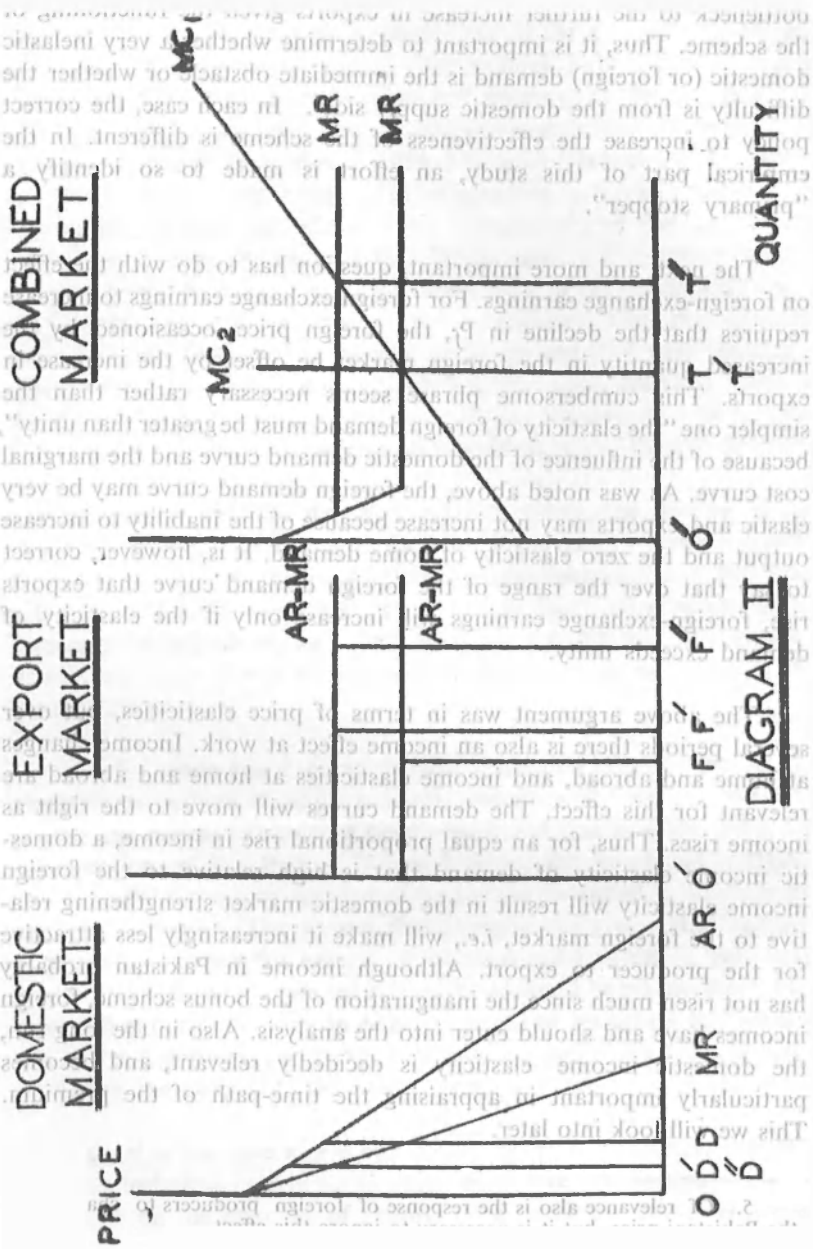
The next, and more important, question has to do with the effect on foreign-exchange earnings. For foreign-exchange earnings to increase requires that the decline in P_f, the foreign price, occasioned by the increased quantity in the foreign market be offset by the increase in exports. This cumbersome phrase seems necessary rather than the simpler one "the elasticity of foreign demand must be greater than unity", because of the influence of the domestic demand curve and the marginal cost curve. As was noted above, the foreign demand curve may be very elastic and exports may not increase because of the inability to increase output and the zero elasticity of home demand. It is, however, correct to say that over the range of the foreign demand curve that exports rise, foreign-exchange earnings will increase only if the elasticity of demand exceeds unity.

The above argument was in terms of price elasticities, but over several periods there is also an income effect at work. Income changes at home and abroad, and income elasticities at home and abroad are relevant for this effect. The demand curves will move to the right as income rises. Thus, for an equal proportional rise in income, a domestic income elasticity of demand that is high relative to the foreign income elasticity will result in the domestic market strengthening relative to the foreign market, *i.e.*, will make it increasingly less attractive for the producer to export. Although income in Pakistan probably has not risen much since the inauguration of the bonus scheme, foreign incomes have and should enter into the analysis. Also in the long run, the domestic income elasticity is decidedly relevant, and becomes particularly important in appraising the time-path of the premium. This we will look into later.

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5. Of relevance also is the response of foreign producers to changes in the Pakistani price, but it is necessary to ignore this effect.

PRICE

DOMESTIC MARKET

EXPORT MARKET

COMBINED MARKET

QUANTITY

MR AR O D D' D''

AR-MR F F' MC₂

MR MR MC T T'

DIAGRAM II

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It is evident how changes in the premium affect the demand curves and we do not need to elaborate on this point.

Case B: The second case worth specific attention is that in which the foreign demand curve may be assumed to be perfectly horizontal. This case is illustrated in Diagram II. The higher demand curves represent the demand situation after the Export Bonus Scheme becomes effective. The chief difference between this case and the preceding one is that now the outcome, in terms of both quantity and foreign exchange, depends entirely upon the increased quantity of the product that can be made available for export. For, now the foreign market will absorb all that can be supplied. Once more the role of home demand is crucial because of the likelihood, especially in the short run, of the inability to increase output [6].

In this case, it is possible to be more certain on the source of the stopper of the increase in exports. As just noted, foreign demand will allow unlimited absorption. If then evidence can be presented that shows the shape of the marginal cost curve, it is possible to say something rather firmly about the precise situation that limited the increase in exports. It is evident of course that any increase in the quantity of exports represents an increase in foreign exchange earned.

The preceding discussion was pitched in terms of an individual producing firm. Data are not available for single producing units, so in the empirical sections which follow it is assumed that all Pakistani producers are lumped together as a giant firm. This introduces some degree of error, but it is not thought to be significant. All firms face approximately the same foreign demand curve, and although different producers have different cost and internal demand curves, it is not believed that these differences are so great that the logic of the arguments is violated. In assuming that the industry acts pretty much as a cartel, we are more or less forcing the assumption of an elastic demand curve, as no monopolist will ever operate in the inelastic range of a demand curve.

6. As was implied earlier, the shape of the marginal cost curve may itself be affected by the bonus scheme because of the new availability of certain industrial imports allowed by the scheme.

SECTION II

JUTE PRODUCTS

Jute and its products have been Pakistan's chief foreign-exchange earner (except for 1952 and 1953) since the country was founded. Raw jute has been, and remains, the largest single item of export; but by the time the Export Bonus Scheme was inaugurated in 1959, Pakistan's jute manufacturing activity had reached significant proportions. By 1959, most of the jute exports took one of the following forms: raw jute, hessian cloth, or sacking bags. Other items such as hessian bags, rope and twine, jute yarn, and sacking cloth are also exported but in negligible quantities and are almost ignored in the analysis[1]. Of these all earn bonus vouchers of 20 per cent except raw jute which is not a bonus item. An analysis of the effect of the bonus scheme on the foreign-exchange earnings of jute and jute products must then be made for the industry as a whole. The question essentially is: What is the effect of the bonus scheme on the foreign-exchange earnings from the export of jute and jute products?

1) Raw Jute

The relevant data are presented in Table II.1. The analysis is complicated somewhat by the fact that a ceiling on acreage and a floor under export prices existed in some of the years under review, although there is some question as to how effective such devices were. It is, however, necessary to introduce these factors into the arguments about the effects of the bonus scheme on the jute industry.

From 1956 through 1960, total raw-jute production was about constant. The below-average figure for 1959 probably can be attributed to acreage limitation, the acreage in that year being 1.37 million as

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1. Trade data show significant quantities of hessian bags exported. Careful study of these data, however, has led us to the conclusion that they are incorrect. If hessian-bag exports measured in tons are added to hessian-cloth exports similarly measured, the total for each year greatly exceeds the total of hessian produced in these years. We have, therefore, assumed that all bags exported are sacking and have combined the figures shown for hessian bags with sacking bags for our figure for sacking.

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against 1.5 million acres in the preceding and succeeding years. The acreage-limitation rule was not effective for the 1960 crop, nor for 1961 when the total acreage reached 2 million. The acreage limitation was lifted in time for the 1960 crop to be affected, but only a minor increase in acreage over 1959 occurred, while an increase of about one-third in acreage occurred in 1961 compared to 1960. We are then entitled to assume that the big increase in 1961 was not due merely to the absence of acreage limitation, but to a direct response to the

TABLE II.1

RAW-JUTE PRODUCTION AND EXPORT

Year	Quantity produced (000 tons)	Quantity exported (000 tons)	Average value of exports (rupees per ton)	Foreign exchange earned (million of rupees)	Raw jute consumed by Pakistani mills (000 tons)	Percentage of raw jute exported	Index of domestic price of jute [a]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1956	984	845	888	750	140	85.9	100.0
1957	1,107	772	1,012	781	159	69.7	97.0
1958	1,071	891	941	839	186	83.2	81.5
1959	989	796	853	680	247	80.5	92.7
1960	1,004	745	1,081	806	280	74.2	180.0
1961	1,244	593	1,501	892	263	47.7	159.0

Source: Central Statistical Office.

[a]. This index is for raw jute white bottom average price at Dacca over the final six months of the year. The price over the last six months of each year is used because it is at this time that most domestic jute manufacturers purchase their raw jute. Although the price indices of all grades of jute do not move exactly together, they move nearly enough so that we may use this index as representative of the behaviour of raw-jute prices. Data on output are available on a split-year basis. A calendar year is used here, *e.g.*, 1956/57 is shown as 1956.

favourable prices prevailing in 1960. This single episode suggests that supply, at least in 1961, was quite responsive to price incentives. Whether it remains so is another matter. The Food and Agriculture Organization concluded in 1959 that a Pakistani crop of 1.1 or 1.2 million tons

represents a limit under present conditions[2]. Yields per acre have not risen and even declined a bit from 1959 to 1960 and considerably more in 1961. The decline in these years suggests that, as acreage increases, less suitable land is utilized for growing jute. This further suggests that increases in output after 1961 can be less readily achieved than that between 1960 and 1961[3].

There is a decided downward trend from 1958 in the absolute quantity of raw jute exported and in the proportion of the total crop that is exported. Thus in 1958, over 83 per cent of the crop was exported and by 1961 this proportion had fallen to 47 per cent. These downward trends are made more significant by virtue of the fact that the average unit value per ton exported was about 15 per cent higher in 1960 and almost 60 per cent higher in 1961 than in 1958. This of course suggests strongly that, unless there was a major upward shift in costs of production after the bonus scheme became operative, the downward trend in exports is due to the development of a more lucrative market. But an adverse cost effect would have surely been reflected in a limitation on output, and as Column (1) shows, this limitation was not present.

But, there is an additional consideration. From October 1958, a floor on the export price of Rs. 1,040 per ton of "export firsts" and corresponding floors for other qualities were effective. In July 1961, this floor on export price was raised by Rs. 133 for all qualities exported. Thus, this minimum price could also place a limit on the quantity that could be exported.

It would seem correct to argue, however, that the floor had little effect in 1959 and 1960. In 1959, the quantity exported declined by almost 11 per cent, while consumption by Pakistani mills increased by about 18 per cent (see, Table II.2). This large increase in quantity used in the face of a 14-per-cent increase in domestic price entitles us to assume that the local market bid away the raw jute from the export market rather than the foreign market releasing the jute because of weak foreign demand. It is evident, however, that the faltering foreign price in 1959 made relatively easy this bidding-away process. Thus in

2. *Monthly Bulletin of Agricultural Economics and Statistics*, October 1959, p. 24.

3. *The Second Five Year Plan (1960-65)* of Pakistan calls for a 22-per-cent increase in raw-jute production over the course of the plan period.

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TABLE II.2

EFFECT OF BONUS SCHEME ON RAW JUTE

Year	Change in output (000 tons)	Change in exports (000 tons)	Change in domestic use (000 tons)	Per-cent change in domestic price	Per-cent change in average value of export
	(1)	(2)	(3)	(4)	(5)
1959	—82	—95	+61	+14	—9
1960	+15	—51	+33	+95	+25
1961	+240	—152	—17	—11	+49

Change is from previous year in each case.   Source: Table II.1.

1959, the increase in the domestic use of jute (61,000 tons) was effected despite a decline in output (82,000 tons) through a decline in exports (95,000 tons) brought about by a rise in the domestic price (14 per cent) and a decline (9 per cent) in foreign price.

In 1960, the argument appears even more clearly. For, in this year the foreign price jumped 25 per cent; and despite this, the quantity of exports decreased while total output rose. Clearly, a more lucrative market presented itself to the jute producer. That this occurred is evident from the big jump (95 per cent) in the domestic price index. Thus, domestic jute mills were so interested in obtaining raw jute that they bid up the domestic price by almost 100 per cent compared to the previous year to attract the raw jute away from an obviously strong foreign market.

The picture shown in Tables II.1 and II.2 for 1959 and 1960 are exactly what our theoretical construct in Section I would lead us to expect. As noted above, raw jute is not a bonus item, while jute manufactures are. With the beginning of bonus scheme, jute manufacturers had—for reasons detailed in Section I—an incentive to increase output and to increase sales abroad. Thus, their demand curve for raw jute was shifted rapidly to the right as a consequence of the bonus scheme. At the pre-bonus-scheme prices, the quantity of raw jute demanded by jute manufacturers increased, but the supply in 1959 and 1960 did not respond

adequately, so prices of raw jute had to rise. This rise in the domestic price was necessary to bid the raw jute away from the export market. Furthermore, with a relatively stable premium established from the outset of the scheme, the big shifts from exports to domestic sales would occur during 1959. After that—except for lags in adapting to the new situation—changes in the relative quantity exported would be explained in terms of changes in the premium which would further shift the domestic jute manufacturer's demand curve for raw jute. At any rate, it is to be expected that the shifting effect of the bonus scheme would be much less in 1960 than in 1959. Thus, Table II.2 shows an increase of 33,000 tons in domestic use in 1960 over 1959, and a 61,000-ton increase in 1959 over 1958. Neither of these increases is due entirely to the bonus scheme of course (an increase in manufacturing capacity, independent of the bonus scheme, was taking place), but the difference in the two years probably should be explained in these terms.

So far everything is perfectly consistent and evidently so with the model developed in Section I, but 1961 events are not so clear. Attention has already been called to the big jump in output, and the fact that this jump seems to be a direct response to the strong demand in both the domestic and foreign markets in 1961. But the data in Table II.1 raise other questions. The big drop in exports in face of the very high foreign average value and the modest declines in domestic use and in the domestic price index call for some additional explanation.

Consider first developments in the foreign markets. In July 1961, the minimum export price was increased on all grades by 133 rupees per ton. In view of the declining domestic market, why did not jute producers export a sufficient quantity of raw jute to drive the export price down to this minimum [4]. To a very large degree, they did do just that. The following breakdown of the annual figures shows this:

Period	Quantity (tons)	Value (000)	Average value
January-June	196,632	Rs. 398,792	Rs. 2,028
July-December	397,337	Rs. 493,523	Rs. 1,242

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4. It may be noted that the average values shown in Column (3) Table II.1 represent the average price of all grades of jute exported and the "price" shown there depends on the composition of grades of jute. Therefore, we cannot say exactly whether the price shown in Column (3) is approaching the floor. "Export first" prices approximate the average and may be cautiously used as such.

In the first half of 1961 the average value was extremely high with a relatively small quantity exported. This seasonal pattern exists in all years though not in this extreme form. In July, when the new 1961 crop began to be harvested, exports increased and the foreign price was pushed rapidly downward. However, the average value for the July-December period was probably above the floor, and some raw jute of various grades could have been exported without violating the minimum.

It is evident from Columns (5) and (7) of Table II. 1 that, after the strong 1960 domestic market, 1961 was decidedly weak. The total of raw jute absorbed by the domestic market declined relative to the previous year for the first time in Pakistan and the domestic wholesale price index fell by 11 per cent; but even so, the market was not cleared and stocks increased almost unbelievably. The complete explanation (assuming the data are correct) of this observed phenomenon involves several variables not yet introduced, chiefly the bahaviour of the premium and the demand (foreign and domestic) for jute manufactures[5]. Similarly, there were doubtless some speculative forces at work. A complete explanation is not attempted (we will note the demand for jute manufactures in a moment), but one thing seems clear: the "stopper" (as defined in Section I) in 1961 was not the supply of raw jute.

We have thus reached a very important conclusion. In 1959 and 1960, the supply of raw jute together with increased domestic demands constituted an important bottleneck. This conclusion is especially clear for 1960, but in both years it seems safe to conclude that it was the bonus scheme shifting the domestic manufacturer's demand curve rightward that in turn resulted in the domestic market bidding away raw jute from the export market. In 1961, no such bidding-away was necessary as supply leaped forward in response to the good 1960 market, and foreign-exchange earnings in the jute industry were not impeded from the raw-jute supply side as they surely were in 1959 and 1960.

Consider now the question of how the foreign-exchange earnings from raw jute were affected by the bonus scheme. Attention has already

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5. The marketing of the 1961 crop takes place from July 1961 to June 1962 and this makes it necessary to use our results (especially the apparent large increase in stocks) somewhat cautiously.

been directed to the rising trend in the domestic use of raw jute. We need to know how much of this increase was attributable to the operation of the scheme and if this amount had been placed on the foreign markets what would have been the effect on foreign-exchange earnings. Of course, neither question can be answered categorically, but some light can be shed on the matter.

It seems evident from Table II.1 that the total amount of raw jute consumed by Pakistani mills was increasing prior to 1959. This trend may be attributed to a rising domestic demand consequent to normal increases in exports and to increasing total output and industrialization in Pakistan. If the bonus scheme had an effect on this trend, it should show up in a jump in the rate of increase in the domestic use of raw jute. The following data show the annual percentage rate of increase (relative to the preceding year) in domestic consumption of raw jute:

1957	13.6
1958	17.0
1959	32.8
1960	13.3
1961	— 5.4

There seems little doubt that the bonus scheme speeded up a trend already in operation. As a rough approximation then we proceed as follows. Prior to 1960, it is assumed that about a 15-per-cent-per-year increase in domestic consumption is due to normal increase in exports, rising national output and increased industrialization, independent of the bonus scheme. After 1959, it is less, say 10 per cent, because the big leap in 1959 was not matched by an equally big leap in the rest of the economy, and because of limited capacity. Thus, the absolute amount of the trend increment in 1960 and 1961 was such that a 10-per-cent increment over the larger 1959 base met the trend-generated needs. These assumptions yield the following results as to domestic use of raw jute:

(in '000' tons)

Year	Assumed trend value	Actual value	Due to scheme
1959	214	247	33
1960	235	280	45
1961	258	263	5

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If these quantities had been exported, what amount of foreign exchange would they have earned ? If the increased exports had no effect on foreign prices, the answer is evident. Multiply the numbers in the third cloumn above by the corresponding-year prices from Table II.1 and sum the products. The total, Rs. 84 million, represents the estimated foreign exchange cost—the estimated foreign exchange forgone—of the bonus scheme in the jute industry.

This figure is perhaps an upper limit as increments in exports of 33,000 and 45,000 in 1959 and 1960 respectively could probably have not been marketed without some reduction in export price[6]. Without knowledge of the demand curve, it is not possible to ascertain the price that would have prevailed with the larger quantities exported. For no very good reasons, we have reduced the average unit value of exports in 1959 by 2 per cent and by $2\frac{1}{2}$ per cent in 1960. It is also assumed that, were exports a mere 5,000 tons larger in 1961, the foreign price would not have been adversely affected. The assumed reduction in prices may imply a price elasticity of demand higher than seems warranted. The world market however has seemed fairly strong and growing in recent years, especially after 1959 and in the other Asian countries. Also, the period is not long enough for any downward trend in the income elasticity of demand to make itself felt. Using these estimates of changed prices (applying of course to the total quantity exported), the "cost" of the bonus scheme amounts to Rs. 48 million over the three-year period, 1959-1961.

Both of these estimates assume that jute manufacturing would have tended to increase even, had the bonus scheme not been put into force. This is a very important assumption in our estimates of foreign exchange "lost" in the jute industry due to the scheme. If one argued that there were no upward trend in the figures of Column (5) of Table II.1 and that all increases after 1958 were due to the operation of the bonus scheme, then of course the foreign exchange forgone would be much greater than the higher estimate obtained above[7]. It is believed however that the estimates used above are more realistic and that from

6. Pakistan produces about one-half the world's supply of raw jute, but virtually all exports are from Pakistan.

7. Unless one also assumed that the demand for raw jute abroad was much less elastic.

TABLE II.4

SACKING PRODUCTION AND EXPORTS

Year	Total output (000 tons)	Total exports (000 tons)	Foreign exchange earned (mil. rupees)	Average value (Rs. per ton)	Percentage of output exported	Available for home use (000 tons)
	(1)	(2)	(3)	(4)	(5)	(6)
1956	103.6	..	...	..	..	..
1957	106.7	40.2	53.5	1,330	37.67	66.5
1958	120.5	52.0	60.3	1,159	43.15	68.5
1959	161.9	127.2	131.3	1,032	78.56	34.7
1960	184.8	106.6	134.7	1,263	57.68	78.2
1961	169.4	142.5	219.6	1,541	84.12	26.9

Source: Central Statistical Office.

Note: Export quantity estimated on the assumption that 1,100 bags weigh one ton.

Section I. We are interested in two remaining questions: What was the quantitative significance of the scheme in these sectors and what was the exact mechanism by which the scheme worked itself out?

Consider the first question. We have already noted that an upward trend in output and exports was in existence before the bonus scheme became effective. Employing the same logic as used in the raw-jute case, we estimate the trend values and attribute the excess to the impact of the scheme. The quantity of exports in 1957 was much less than that in 1958 despite a recession in a number of jute-importing countries in 1958. For no very strong reasons, we assume a 10-per-cent trend effect in hessian and a 12-per-cent in sacking for 1959 and an 8- and 10-per-cent respectively in 1960 and 1961. The reduced trend after 1959 is based on the same argument as used for raw jute. These trend assumptions are not inconsistent with that employed for the trend in output and export of raw jute.

The bonus-induced exports is the difference between the trend and the actuals. The results of these assumptions are shown in Table II.5:

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TABLE II.5

EFFECT OF THE EXPORT BONUS SCHEME ON QUANTITY OF HESSIAN AND SACKING EXPORTED

(in '000' tons)

Year	Sacking			Hessian		
	Computed trend	Actuals	Bonus-induced	Computed trend	Actual	Bonus-induced
	(1)	(2)	(3)	(4)	(5)	(6)
1959	58.2	127.2	69.0	30.4	47.7	17.3
1960	63.8	106.6	42.8	32.8	57.5	24.7
1961	70.4	142.5	72.1	35.4	62.5	27.1

Source: Tables II.3 and II.4 and text assumptions.

When we apply the unit values from Tables II.3 and II.4 for the corresponding years to the quantities in Columns (3) and (6) of Table II.5, we obtain an estimate of the foreign-exchange earnings from the export of hessian and sacking attributable to the operation of the bonus scheme. It amounts to 236.3 million rupees for sacking and 120.9 million rupees for hessian, a total of 357.2 million rupees[9].

Consider now the mechanism by which this result was brought about. The basic data for hessian are shown in Table II.6. In both 1959 and 1960, the increment in exports was virtually matched by an increment in output. However, the big (72 per cent) increase in exports in 1995 did put pressure on domestic prices, and the domestic prices of hession increased in 1959 relative to 1958 by 12 per cent.

The rise in the internal price in 1959 as the quantity available from current output declined suggests that there were few stocks carried over from which to supply an obviously enlarged home demand. Thus,

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9. Head the bonus-induced exports not occurred, would the smaller quantity of exports have obtained a price higher than the one which in fact prevailed? This seem unlikely. Comparing quarterly changes in quantity exported with average values suggests little or no negative relationship between price and quantity in the case of jute manufactures.

TABLE II.6

IMPACT OF THE EXPORT BONUS SCHEME ON HESSIAN

Year	Change in output (000 tons)	Change in exports (000 tons)	Col. (1) minus Col. (2) (000 tons)	Change in domestic price (%)	Change in foreign price (%)
	(1)	(2)	(3)	(4)	(5)
1959	16.3	20.0	—3.7	12.0	—4.4
1960	10.3	9.8	+0.5	32.7	8.0
1961	—1.9	4.9	—6.8	12.1	13.1

Source: Table II.3 and Central Statistical Office.

Note: Change is from the preceding year.

the 72-per-cent increase in exports occurred in the face of rising domestic prices. Furthermore, the 4-per-cent fall in export price in the face of a 72-per-cent increase in the quantity exported suggests that foreign demand was such that an even larger quantity could have been exported at satisfactory prices, had it been available. Also the 14-per-cent rise in the domestic price of raw jute means that the cost of production of hessian was going up. In view of this evidence it is reasonable to argue that the supply side was the immediate obstacle to a greater increase in foreign-exchange earnings than the one which occurred.

In 1960 the picture is much simpler. A smaller increase in output than in 1959 was almost exactly matched by an increase in exports. Domestic prices shot up by 33 per cent and foreign prices by 8 per cent. Again in this year, the foreign market clearly could have absorbed more at very favourable prices. However, the strong rise in domestic prices prevented any shifting-away from the Pakistan market. Thus in 1960 also, the domestic market was a strong competitor for the current output of hessian. The price rises in both the domestic and foreign markets also indicate that, had a larger supply been forthcoming, it could have been absorbed at satisfactory prices.

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The "stopper" this year (1960) was supply to the export market. It does not seem possible to say with much confidence whether, apart from the strong pull of the domestic market, this supply stopper was at the raw-jute stage or at the mill-capacity stage. As we have already noted, the domestic price of raw jute went up by almost 100 per cent in 1960, and the jute crop in that year was not especially large. Also, the slight decline in hessian output in 1961 suggests possibly that mill capacity had been reached in 1960. But we can say quite confidently that supply limitations in two forms—failure of actual output to increase and the refusal of the domestic market to release output—constituted the immediate "stopper" to the increase in foreign-exchange earnings from hessian in 1960.

The year 1961 is equally clear for hessian. Output did not respond to the good price incentives prevailing in 1960. The 13-per-cent increase in export average values did result, however, in over 90 per cent of the reduced total output being exported. This strong pull of the export market obtained despite the fact that the premium was much lower in 1961 than 1960. Indeed, it began to decline markedly in the last half of 1960, and by 1961 the exporter had a considerably reduced incentive to maintain his 1960 level of exports. Added to the impact of the falling premium was a ruling established in July 1961 which made non-transferable 50 per cent of the vouchers earned by the jute industry. This ruling was unpopular with the jute manufacturer and further reduced his incentive to export. It is abundantly clear that the supply problem was not raw jute as the raw-jute crop was very large and domestic stocks were increased by a huge amount.

The question of the effects of developments in the sacking industry on hessian exports (and vice versa) will be considered after a quick look at the sacking industry.

For sacking, the basic data are given in Table II.7. A less detailed argument is called for here as the picture in general is very similar to that of the hessian. The foreign price decline in 1959 was 11 per cent; the mild rise in the domestic market in spite of a 50-per-cent drop in quantity supplied from current output suggests the availability of stocks. The big jump in output can, at least in part, be explained in terms of favourable expectations created by the bonus scheme.

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In 1960, the big surprise is the 16-per-cent drop in the quantity exported despite a 22-per-cent jump in foreign prices and a 14-per-cent increase in output. But this result is easily and evidently explained by the big domestic price rise in this year relative to the previous one.

TABLE II.7

IMPACT OF BONUS SCHEME ON SACKING

Year	Change in output (000 tons) (1)	Change in exports (000 tons) (2)	Change in domestic availability (000 tons) (3)	Percentage change in domestic price (4)	Percentage change in average value of export (5)
1959	41.4	75.2	—33.8	+3.5	—11.0
1960	22.2	—20.6	43.5	+41.8	+22.4
1961	—15.4	35.9	—51.3	+5.5	+22.0

Source: Table II.4 and Central Statistical Office.
Note : Change in each case is from the preceding year.

In 1961, the domestic market was strong enough to prevent as large a shift as the foreign market would have accepted at favourable prices. But even so, an apparent reduction of 51,000 tons in sacking available for home use took place. The reduced premium and the limitation on the disposal of vouchers mentioned in connection with hessian did not seem important for sacking also. The stronger upward price is perhaps chiefly responsible.

In none of the three years did exports reach the level that foreign demand would have justified (*i.e.*, foreign prices would have made profitable—in terms of foreign exchange—a larger quantity of exports than was achieved). In 1959, the domestic market was weak; but in the other two years, the foreign market had to bid against a strong domestic market. In 1961, there was a big shift away from the domes-

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tic market, but even this shift was not large enough to reduce the foreign price to the extent required if the full working-out of the bonus scheme had occurred.

We have been talking about the competition of the domestic and foreign markets for hessian and sacking. But there was another competition going on also in 1959 and 1960 that affected the level of foreign-exchange earnings, that between hessian and sacking for raw jute. Can we reach any conclusion on the question as to which sector outcompeted the other and the effect of this result on foreign-exchange earnings? Raw jute was in such ample supply in 1961 that it hardly seems useful to ask the question for that year.

The annual percentage increases in output of the two products moved quite close together. In both years it seemed clear that foreign demand for hessian was such that, had a larger quantity been available for export, it could have earned satisfactory prices; and these prices were significantly higher than the prices for sacking. Also in 1960, there was a big drop in sacking exports, while output continued to rise. In view of these events it seems clear that the jute industry's foreign-exchange earnings would have been greater, had sacking been less successful in securing raw jute in 1959 and 1960. The chief question about this hypothesis has to do with mill capacity for hessian in 1960. If capacity were fully utilized as it apparently was then of course hessian output could not have increased, even had raw jute been available. But this factor is also modified if sacking and hessian capacity are to some degree substitutable, and hessian output could be increased at the expense of sacking.

If this argument (including the possibility of substitution) is accepted, then an important conclusion emerges: the bonus scheme would be more effective, i.e., produce more foreign exchange with the same resources, if it were supplemented by a tax or subsidy programme that countered elasticities which resulted in less than maximum foreign-exchange earnings.

Exports of two minor jute products made a spectacular progress during the 1959-61 period. These are: miscellaneous jute manufactures, and rope and twine. Export expansion has been achieved by substantial price reduction. It seems reasonably certain that the in-

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creased export was almost entirely bonus-induced. Export earnings are shown below (in million rupees):

1957	0.63	1960	5.64
1958	0.67	1961	11.23
1959	3.28	1959-61	20.15

Looking at the trend of exports from 1957, we conclude that Rs. 15 million out of Rs. 20 million was bonus-induced export earning.

3) Conclusions

It is to be emphasized that our approach has been an extremely crude one. Our analysis is much more heuristic than rigorous and it is easy to question the results at every step of the way. Also the data are of very questionable quality. It is believed, however, that our results are sufficiently accurate to warrant attention. The following conclusions have emerged:

i) We have estimated that between Rs. 48 million and 84 million were "lost" in the years 1959-61 due to the reduction in exports of raw jute, caused by the bonus scheme. Also we concluded that possibly Rs. 357 million of foreign-exchange earnings from export of hessian and sacking could be said to be due to the operation of the scheme. The other jute manufactures added another Rs. 15 million. Perhaps, we may say that net about Rs. 315 million of foreign exchange was earned during 1959-61 that would not have been earned, had the bonus scheme not been introduced. Even if it is believed that our trend figures for hessian and sacking are too low, a reduction of 10 or 20 per cent would still mean that foreign-exchange earnings were significantly increased (possibly by one-third) in the jute industry due to the scheme.

ii) It seems clear that the primary factor preventing an even greater increase in earnings was domestic supply and demand conditions, not foreign demand. Except possibly in 1959 is there convincing evidence that exporters were forced to reduce prices

to increase the sales of hessian and sacking abroad. As we have seen—an increased supply of exports has two sides, increased output and/or decreased domestic sale. Although part of the increased exports of both hessian and sacking did come from a diversion of supply away from the domestic market, the domestic market was—except in 1959—willing to offer increased prices to keep the jute manufactures at home. This apparent low price-elasticity and possibly high income-elasticity of home demand for jute products is, if valid, a very important considera-tion. The supply of raw jute may have been a bottleneck in 1959 and 1960, but such was certainly not the case in 1961.

iii) The logic of the bonus scheme implies that price reductions to increase exports are made profitable. As we have just seen, no price reductions were really necessary (except in 1959 for sacking). World trade in jute goods, however, is not rising and Pakistan's increasing exports will infringe on other coun-tries' export markets. Thus, the results for the three years here reviewed may not be applicable in the future.

iv) We have concluded that a larger supply of jute manufactures for export would have resulted in larger foreign-exchange earnings. It was also concluded that an increase in the export of hessian at the expense of sacking would have contributed to additional earnings without adding to domestic problems. Thus, we reached the important conclusion that when voucher-earning products are competing for the same raw material and for the same mill capacity, additional policies (*e.g.*, taxes) may encourage the export of the product with the larger domestic value added. We should however have to consider—especially in a longer-run analysis—the foreign-exchange-earning power (or import-saving power) of the inputs creating this additional value added before reaching a final verdict on this point.

SECTION III

COTTON PRODUCTS

Cotton products are also worth considering in detail as the resul.: here seem to be different in many respects from those for jute products.

Cotton products are the second largest foreign-exchange earner among the exports receiving bonus vouchers. Cloth and yarn are the principal exports, with cotton waste an unimportant third item. The bonus on cloth has been 20 per cent from the beginning of the scheme. On yarn it was 20 per cent from January 1959 until January 1960, 10 per cent until February 1961, and abolished completely from that time. Both commodities are manufactured from domestically produced raw cotton, which was Pakistan's second largest foreign-exchange earner until 1958. The problem is to assess the effect of the bonus scheme on the foreign-exchange earnings of the group of cotton products (raw cotton, yarn, and cloth) as a whole.

1) Raw Cotton

The story on raw cotton is clearly told in Table III.1. Output has remained virtually stagnant since 1952. Since 1953, textile production has been heavily protected from foreign competition and the domestic textile industry responded strongly to this protection. These two factors necessarily resulted in declining exports of raw cotton well before the bonus scheme became effective, but, as we shall argue in detail later, there is little doubt that the bonus scheme contributed to a more rapid decline in raw-cotton exports.

We begin as in the case of jute by trying to estimate the "loss" of foreign exchange earned from raw-cotton exports due to the bonus scheme. If the period from 1956 through 1958 indicates the "normal" trend of domestic cotton consumption, any acceleration in this trend after 1958 may be attributed to the operation of the bonus scheme. On the basis of the data in Column (4) of Table III.1, we assume a

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normal trend increment of 11 million tons per year from 1959 through 1961. The assumption as to the price effect of the increased exports is necessarily equally crude. The simplest assumption and one that is fairly realistic is that foreign prices would not have been affected by the increased quantity exported (Column (8a) Table III.2). On the other hand, if prices had declined moderately, say 2 per cent, then the "loss" would be slightly less as indicated in Column (8b). These assumptions give estimates of the "loss" of foreign exchange resulting from reduced cotton exports of Rs. 99.2 million and Rs. 86.4 million respectively.

The price behaviour, producing the accelerated decline in raw-cotton exports, is clear enough in 1959 and 1960. Both export and domestic prices weakened a bit in 1959 relative to 1958. A slight decline (3 per cent) in domestic prices took place in the face of a 15-percent increase in home consumption while the foreign price dropped

TABLE III.1

PRODUCTION AND EXPORT OF RAW COTTON

Year	Output (000 tons)	Export (000 tons)	Average value of exports (rupees per ton)	Home consumption (000 tons)	Whole sale price index	Imports (000 tons)
	(1)	(2)	(3)	(4)	(5)	(6)
1952	314	242	3,570	33	—	—
1953	252	277	2,278	60	—	—
1956	304	130	2,805	168	100.0	—
1957	291	113	3,938	178	98.3	7
1958	271	96	2,508	189	86.2	3
1959	290	53	2,265	217	83.6	2
1960	299	87	2,424	227	102.2	1
1961	298	38	2,727	230	103.3	N.A.

Source: Central Statistical Office.

Note: Data on output are available on a split-year basis. Calendar years are used here, *e.g.*, 1956/57 is shown as 1956.

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TABLE III.2

EFFECT OF THE BONUS SCHEME ON COTTON EXPORTS

Year	(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8a)	(8b)
	(.........000 tons..........)					(.........million rupees..........)				
1958	189	189	0	96	96	240.5	240.5	240.5	0	0
1959	217	200	17	53	70	120.7	159.2	156.0	38.5	35.3
1960	227	211	16	87	103	211.1	249.9	243.9	38.8	32.8
1961	230	222	8	38	46	103.7	125.6	122.0	21.9	18.3
									99.2	86.4

Columns: (1) Actual domestic consumption.

(2) Expected domestic consumption in absence of the scheme.

(3) Decrease in cotton export due to the scheme [(1)—(2)].

(4) Actual cotton export.

(5) Expected cotton export in absence of the scheme [(1)+(4)],

(6) Actual foreign exchange earned.

(7a) Estimated foreign exchange if quantities of Column (5) could be sold at prevailing export prices.

(7b) If two-per-cent price reduction were necessary.

(8a) 'Loss' of foreign exchange under assumption of (7a) (7a-6).

(8b) 'Loss' of foreign exchange under assumption of (7b) (7b-6).

Source: Computed on basis of assumptions stated in the text.

10 per cent with exports falling by almost one-half. This suggests that the domestic market was much stronger than the foreign market. Similarly, in 1960 the domestic market was stronger; but in that year, it was necessary for the domestic market to bid raw cotton away from the export sector. There is little doubt that in 1960 Pakistan could have earned considerably more foreign exchange, had her raw cotton output been larger.

In 1961, the domestic- and export-price behaviour do not lend themselves to a clearcut interpretation. Export prices rose by about 12 per cent but the quantity exported fell by more than 50 per cent. Domestic consumption and domestic prices both increased by less

than one per cent. With a strong upward movement of export prices and virtually constant domestic prices, it is to be expected that a shift away from exports would not occur, but it did. More on this when we consider the yarn and cloth story. But again, it is evident that the export market could have taken a larger quantity at acceptable prices than Pakistan was able to supply.

2) Cotton Cloth

Consider now cotton cloth. The relevant data are shown in Table III.3. There was a large increase (307.5 per cent) in export volume during 1959 compared to 1957 associated with a 34-per-cent fall in price. (A comparison with 1957 is more meaningful than with 1958 because of the depressed condition of textile trade in the latter

TABLE III.3

COTTON-CLOTH PRODUCTION AND EXPORT

Year	Total output (m. yds.)	Total quantity exported (m. yds.)	Foreign exchange earned (m. Rs.)	Average value of export (Rs. per 100 yds.)	Domestic price (Rs. per 100 yds.†)	Percentage of output exported
	(1)	(2)	(3)	(4)	(5)	(6)
1956	500.4					
1957	527.0	10.2	9.3	91.5	84.0	1.9
1958	576.2	3.8	2.8	72.9	84.0	0.7
1959	618.5	41.6	25.1	60.3	87.0	6.7
1960	628.8	74.2	51.1	68.9	102.0	11.8
1961	699.0	52.5	38.1	72.6	112.0*	7.5

Source: Central Statistical Office.

† grey long cloth 44 inches wide, Karachi.
* average of eight months only.

TABLE III.4

IMPACT OF THE BONUS SCHEME ON COTTON CLOTH

Year	Change in output (m. yds)	Change in exports (m. yds)	%change in average value of exports	%change in domestic price
	(1)	(2)	(3)	(4)
1958	49.2	—6.4	—20.0	0.0
1959	42.3	37.8	—17.3	+3.6
1960	10.3	32.6	+12.6	+17.0
1961	70.2	—21.7	+5.3	+9.8

Source: Table III.3.

Note : Change in each case is from the preceding year.

year). This suggests that, in this case (unlike the hessian-cloth and jute-bag cases), the Pakistan cloth-producer faced a negatively sloping foreign demand curve[1]. The increase in export volume in 1959 was more than matched by increased production during the year, yet the domestic price went up by about 4 per cent. This price rise may be due to increased domestic demand, but it seems more likely that there was a deliberate reduction in the quantity supplied to the home market in order to build stocks for future exports.

During 1960, both the quantity and price of cloth export were above 1959 levels. In addition to the bonus incentive, there was a clearcut rise in external demand. But production was not up to the challenge and increased by less than 2 per cent; and furthermore, the domestic market was clearly competing strongly for that output. As we saw in Section I, the lower the price elasticity and the greater the income elasticity of domestic demand, the less the quantity released

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1. To demonstrate this conclusively would require more data than is available, including prices of the cotton-cloth exports of other countries.

from the domestic market in order to reestablish an equilibrium distribution between foreign and domestic sales. Thus, the 17-per-cent rise in the domestic price of cloth in 1960 also contributed to the failure of full exploitation of an apparently very favourable foreign demand situation.

Was the limited increase in cotton-cloth output due to limited output of raw cotton, to limited textile production capacity, or to competition of yarn exports for the raw cotton? The number of looms was the same from 1959 through 1961 while the number of spindles increased by a very small extent. But 1961 output was much higher than in 1959 and 1960. A possible explanation then becomes that an inflow of textile machinery spare parts and other complementary equipment made possible the full utilization of capacity in 1961 and hence the big increase in output relative to 1959 and 1960[2]. But this explanation is questionable because the textile industry was earning foreign-exchange vouchers in 1959 and 1960 and could have obtained the necessary imported inputs early enough to affect 1960's capacity. It seems, therefore, more likely that raw cotton was the major barrier. As we have already seen, raw-cotton exports almost doubled in 1960 relative to 1959 and the Pakistan textile-producer was able to obtain only 10,000 tons more in 1960 than in 1959 in spite of paying about 20 per cent more in the later year. It should be noted also that the decontrol of cloth prices also added to the incentive to increase cloth output. The question of whether cotton-yarn producers were better able than cloth producers to acquire raw cotton can best be considered in the context of examination of the yarn industry.

In 1961, as Table III.4 shows, output of cloth jumped 70 million yards but exports declined by almost 22 million. Both foreign and domestic prices rose, the latter a bit more than the former. The decline in export seems to be due to the behaviour of the premium. The premium began to decline in the third quarter of 1960 and remained much lower during the first eleven months of 1961 than it generally was in 1960. As pointed out in Section I, such a result means that the foreign demand curve, as viewed by the Pakistan exporter, shifted to the left. In the domestic market, the removal of price controls in early

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2. Data are available for spindle- and loom-hours worked in 1957, 1958 and 1961. The figures for 1961 are much greater than in the other two years, but we do not know how working time changed in 1959 and 1960.

1961 allowed the domestic demand curve, as seen by the producer, to shift to the right. The resulting reallocation of sales between the foreign and domestic markets thus appears understandable[3].

In light of these results, the following conclusions seem reasonable: 1) export of cotton cloth from Pakistan is facilitated by the willingness of the exporter to reduce his price and therefore fluctuations in the premium are of relevance; 2) except for 1959 (when the carryover from 1958 was large) a supply problem, due chiefly to raw cotton (and indirectly to the attractiveness of yarn exports), limited foreign-exchange earnings; 3) domestic demand for cloth was such that shifting sales from the domestic market to the export market resulted in rising domestic prices that effectively limited the extent of the shift; 4) in 1961, the interpretation of price behaviour is complicated by the decline in premium and apparently some speculative activity. In this year, the decontrol of domestic-cloth prices made the internal market more attractive and thereby hampered exports.

3) Cotton Yarn

Consider now cotton yarn. The relevant data are shown in Tables III.5 and III.6. A large increase (105.4 per cent) in volume was achieved in 1959 over 1957 through a 22-per-cent decline in the export price. Price in the domestic market declined by 8.9 per cent, but this was relatively slight considering the very strong supply position. Thus, with what was surely a large carryover of yarn from 1958, the bonus scheme came as a major windfall to the yarn producer; and, as the high premium came to be established by mid-1959, huge quantities were exported.

During 1960, the quantity was a bit below and the price of exported yarn was above that of 1959. Early in 1960, the voucher bonus on yarn was reduced to 10 per cent and in the second half of the year the premium fell, as we have seen, by a considerable amount. These two factors should have produced a reduction in exports and this reduction along with a stationary demand curve should have been accompanied

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3. It can be shown diagramatically under usual assumptions that in a situation of effective price control, with no quotas fixed for the domestic market, producers maximize profit by curtailing domestic sales and increasing export; and some diversion of sales from the export to the domestic market becomes profitable after decontrol, whether or not output increases.

TABLE III.5

OUTPUT AND EXPORT OF COTTON YARN

Year	Mill supply of yarn (000 lbs.) (1)	Export of yarn (000 lbs.) (2)	Foreign exchange (m. Rs.) (3)	Average value of export (Rs./10 lbs.) (4)	Percentage of output exported (5)	Domestic price† (Rs./10 lbs.) (6)
1957	173,685	39,773	76.5	19.2	22.9	19.1
1958	188,703	6,418	11.7	18.2	3.4	19.1
1959	231,884	81,707	121.4	14.9	35.2	17.4 *
1960	237,495	78,828	134.4	17.0	33.2	18.9
1961	222,508	13,522	25.2	18.6	6.1	19.9

Source: Central Statistical Office.

† Wholesale price of 20/1 yarn, Karachi.
* November and December missing.

TABLE III.6
ANNUAL CHANGES IN PRICES AND QUANTITIES OF YARN

Year	Change in output (000 lbs) (1)	Change in export (000 lbs) (2)	% change in average value of export (3)	% change in domestic price (4)
1958	15,015	—33,355	—5.2	0.0
1959	43,181	75,289	—18.1	—8.9
1960	5,611	—2,879	14.1	8.6
1961	—14,987	—65,306	9.4	4.2

Source: Table III.5

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by an increase in the export price. If we split 1960 into two halves, we see that this is exactly what happened:

Yarn Exports: 1960

	Quantity (m. lbs.)	Foreign exchange (m. Rs.)	Average value (Rs./lb.)
January-June	52.0	86.0	1.65
July-December	26.8	48.3	1.80

It seems clear that, by the middle of 1960, the yarn-export boom was already over. It should also be noted that the 20-per-cent bonus prevailed through the first three weeks in January 1960 and that a considerable quantity of exports that actually took place in early 1960 was contracted in late 1959 when the premium was still high and the bonus still 20 per cent.

The decline in the quarterly rate of yarn exports started from the second quarter of 1960, but became much more pronounced from the third quarter. After the withdrawal of the bonus from yarn in January 1961, yarn export collapsed. Why should it fall below the 1957 level? The price of yarn exports of other countries did not markedly decline; so there is no evidence of a collapse of the world market. The answer surely is to be found in the fact that though the bonus was removed from yarn it was not removed from cloth. As a consequence, it became much more profitable to export yarn as cloth than as yarn. Also, it may be recalled that domestic price controls were removed from cloth in early 1961 making it more attractive to the producers as well. However, the increased output of cloth has not absorbed the total amount of yarn produced, and stocks of yarn have accumulated. It seems clear that yarn producers were holding yarn in anticipation of some change in export policies affecting yarn and not merely for the domestic market. In addition to a speculative motive, their willingness to accu-

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mulate stocks rather than to export was more understandable when
it is recalled that, even prior to the bonus scheme, there was an export-
promotion programme in effect that encouraged yarn exports. Thus,
when yarn was removed as a bonus item in January 1961, yarn expor-
ters were without artificially created incentive for the first time since
1956. Also, we have already suggested that the yarn exporter faces
a downward sloping foreign demand curve.

The switch in the distribution of sales of yarn thus is to some degree
understandable despite the fact that foreign prices rose by 9.4 per cent
in 1961 relative to 1960 and domestic prices by only 4 per cent [4].
There is little doubt that, if the bonus scheme had been removed from
cloth also, the export of yarn would not have declined so drastically.
The question of the quantitative significance of this "loss" from reduced
yarn exports is discussed in the next subsection. But it is important to
recognize that the total reduction in yarn exports cannot be explained
in terms of input requirements for the higher rate of output of cloth.

There remains the question of the extent to which yarn and cloth
were exported at the expense of each other. It is difficult indeed to
reach a decision on this matter; but in 1960, the huge yarn export volume
was probably partly at the expense of cloth production and export.
This contention is supported by the fact that in October 1959 the gov-
ernment revoked an existing regulation which compulsorily required
three-shift weaving by the mills. The case for production is clearer
than that for export. Production of cloth increased by 10 million
yards over 1959 levels, but exports increased by 32 million yards. Still,
both the domestic price and the foreign price were higher than in 1959
and there is no doubt that the domestic market and probably the foreign
market could have absorbed a larger quantity of cloth at acceptable
prices. Available data for the first six months of 1960 are more con-
vincing as to this argument than for the year as a whole. The domestic
value added to exported cloth is of course greater than that of yarn

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4. There is a complicated set of relationships involved here that can be
analysed only under extremely simple assumptions. We have three stages of
production: raw cotton, yarn, and cloth. There is no bonus on raw cotton, a
declining bonus on yarn, and a constant one on cloth. To account for the pro-
duction, export and domestic sales of these several products in a model similar to
that worked out in a much simpler case in Section I is an exceedingly difficult task.
The argument in the text seems adequate for our present purposes.

so that if yarn is exported at the expense of cloth, foreign-exchange earnings suffer.

In 1959, the external cloth market was apparently not strong enough to warrant a much greater increase in export than in fact occurred. And clearly, yarn was not a bottleneck for cloth production in 1961.

But it is necessary to go one step further back and ask if yarn was a better foreign-exchange earner than raw cotton, *i.e.*, were the value added and the supply and demand elasticities such that if raw cotton had been exported rather than cotton yarn, foreign-exchange earnings would have been greater. Although a number of rather arbitrary assumptions have to be made, it is worthwhile to make them and trace out the consequences. Computations are made for 1959 and 1960 only as no bonus was attached to yarn in 1961.

To produce 100 pounds of yarn requires about 120 pounds of raw cotton. Thus, to produce the 160.5 million pounds of yarn exported in 1959 and 1960 required 192.6 million pounds of raw cotton. The average value of raw cotton exported in 1959 was Rs. 1.01 per pound and in 1960 Rs. 1.08 per pound. It is doubtful that 192.6 million pounds (98 million in 1959 and 94.6 million in 1960) more could have been exported without affecting the price. The world market did appear strong however and Pakistan is not a large exporter in terms of world demand, therefore an assumption of a very modest price reduction seems appropriate, say about 2 per cent. Thus, for the two years an average price of Rs. 1.025 is assumed and hence the opportunity cost of exporting 160.5 million pounds of yarn was Rs. 190.8 million (192.6 million *times* Rs. 1.025 *minus* the effect of the assumed lower price on the actual quantity exported). Total foreign-exchange earnings from yarn exports in the two years amounted to Rs. 256 million. With our assumptions then, we conclude that yarn exports added about Rs. 66 million to foreign-exchange earnings over what would have been earned if all the raw cotton used in yarn production had been exported . The most questionable assumption here is that all raw cotton used in the production of yarn for export would be exported. This probably is an exaggeration but we think a minor one. One may also quarrel with the assumption as to the price of raw cotton, but a slight modification would not affect our conclusion markedly.

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4).   The Foreign-Exchange Gain in the Cotton Industry from the Export Bonus Scheme

The apparent rise in export earnings is no measure of the net contribution of the bonus scheme to export promotion. It is virtually impossible to isolate the effect of the scheme and quantify it in terms of the net addition to foreign exchange earned. It would be possible to do this only if we could know quantitatively the actual situation that would have prevailed in the absence of the bonus scheme. An attempt can, however, be made in this direction on the basis of some rather arbitrary assumptions.

Assume that after the recession of 1958 cotton-yarn export would have been maintained at the 1957 level (roughly 40 million lbs) during 1959 through 1961 and the export price would have been that of 1958 (*i.e.*, Rs. 1.82/lb.) Assume that cotton-cloth export in 1959 would have been the same as in 1957 and increased by a mere 2 per cent annually thereafter. The export price would have been Re. 0.73/yd throughout. The contribution of the scheme to yarn and cloth export is shown on this basis in Tables III.7 and III.8.

TABLE III.7

CONTRIBUTION OF THE BONUS SCHEME TO COTTON-YARN EXPORTS

(Quantities in million lbs.)   *(Values in million rupees)*

Year	Actual export		Presumed export in absence of the scheme		Export attributable to bonus scheme Cols. (1)—(2)	
	Qty. (1)	Value	Qty. (2)	Value	Qty. (3)	Value
1959	81.8	121.4	40.0	72.8	41.8	48.6
1960	78.8	134.4	40.0	72.8	38.8	61.6
1961	13.5	25.2	40.0	72.8	—26.5	—47.6
					54.1	62.6

Source: Central Statistical Office, and computed from assumptions stated in the text.

TABLE III.8

CONTRIBUTION OF THE BONUS SCHEME TO COTTON-CLOTH EXPORTS

(Quantities in million yds.)   *(Values in million rupees)*

Year	Actual export		Presumed export in absence of the scheme		Export attributable to bonus scheme Cols. (1)—(2)	
	Qty.	Value	Qty.	Value	Qty.	Value
	(1)		(2)		(3)	
1959	41.6	25.1	10.2	7.5	31.4	17.6
1960	74.2	51.1	10.4	7.6	63.8	43.5
1961	52.2	38.1	10.6	7.8	41.9	30.3
					137.1	91.4

Source: Computed from assumptions stated in the text.

Note: It should be noted here that changes in exports attributable to the scheme (as shown in Column (3) above) do not indicate changes in output under the bonus impact. As has already been mentioned, changes in exports could be met through changes in output and/or changes in domestic absorption of the commodity.

The net gain from cotton-waste export should also be included here. Quantity of cotton-waste export has been increasing since 1957 both absolutely and as a percentage of domestic cotton consumption. Even in 1958 quantity exported was much higher (45 per cent) although price was much lower than in 1957. A normal rise in quantity exported can be expected for the future. But we simply assume that over the 1959-61 period in the absence of the scheme average quantity exported would have been 200,000 cwt. and the price would have remained at 1959 level. The data and estimates are shown in Table III.9.

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TABLE III.9

EFFECT OF BONUS SCHEME ON COTTON-WASTE EXPORTS

(Quantities in '000' cwt)   *(Values in million rupees)*   *(Unit price in Rs./per cwt)*

Year	Actual export			Presumed export in absence of the scheme			Bonus-induced export value
	Qty.	Value	Price	Qty.	Price	Value	
		(1)			(2)		(1)—(2)
1958	184.1	7.3	39.9				
1959	242.9	11.6	47.9	200	48	9.6	2.0
1960	386.4	17.5	45.4	200	48	9.6	7.9
1961	350 0	21.5	60.1	200	48	9.6	11.9
							21.8

Source: Actual export: C.S.O. Other computations from assumptions stated in the text.

On these assumptions, the increase in foreign-exchange earnings from the export of cotton manufactures amounts to Rs. 175.8 million for the three-year period 1959-61. From this is subtracted Rs. 86.4 to Rs. 99.00 million due to reduced raw-cotton exports, leaving a net figure of Rs. 76.00 to Rs. 89.00 million due to the scheme or about 20 per cent of total foreign-exchange earnings of cotton products. It is easy to question the assumptions by which we have arrived at these estimates; but in general, they appear consistent with production and world-trade figures over the same period. Minor variations in the assumptions will not affect our results significantly or modify the general conclusion about the effectiveness of the scheme.

5) Conclusions

Keeping in mind all the precautions as to data, the following conclusions may be stated:

i)   The scheme was clearly less effective for cotton products than for jute products in terms of the impact on foreign exchange earned.

ii)   The supply obstacle was not as clearcut for cotton as it was for jute.   Increased exports usually did produce a decline in the external price and reaction to a falling premium seemed stronger in the case of cotton than for jute products. Also, domestic demand as reflected in the behaviour of domestic prices was not as strong as for jute products although in some instances, *e.g.*, cloth for 1960 and 1961, domesti cdemand did clearly inhibit exports.

iii)   Expectations and speculative motives seem stronger for cotton. Yarn exports in 1961, for example, can hardly be explained without some reference to these motives.   Such factors may become even more important in the future.

iv)   Again there is some evidence that it is more profitable to the producer under some circumstances to export one product (yarn) at the expense of another (cloth) even though foreign-exchange earnings may be greater if cloth were exported.

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Conclusion : Sections II and III

The discussion in Sections II and III suggests quite strongly that for both the jute and cotton industry the bonus scheme resulted in significant increases in foreign-exchange earnings. This conclusion seems acceptable despite the questionable quality of the data and the long list of (arbitrary) assumptions that were necessarily employed. It should also be emphasized that we were dealing with a relatively short period during which the foreign markets were fairly strong. The short period considered enabled us to ignore the problem of the import-content of the manufactured items. There is virtually no imported raw materials used in jute and cotton products, but capital equipment, fuel and some processing equipment is, to a large degree, imported. In a longer run, it would be necessary to consider this import-content of increasing capacity. Similarly, a longer-period analysis would have to consider action by other countries affected by Pakistan's increased exports. Inclusion of these matters may qualify the results obtained from a limited short-period analysis.

But within the limitations just described, we believe three important generalizations about these major export items emerge from the results we have obtained.

1) The bonus scheme was designed to emphasize that the chief problem for the Pakistan exporter was that of foreign demand. But the analysis presented here indicates an equally important role to the strength of internal demand. In particular, we may say that the bonus scheme worked in the case of the jute and cotton industry by making the foreign market more attractive relative to the domestic market, not simply by enabling the exporter to reduce his price to the foreign importer. In addition, the scheme made the sellers more willing to undertake the added trouble and expense of exporting relative to selling at home.

2) The supply side was the bottleneck more often than was foreign demand. The success of the bonus scheme, in the narrow sphere in

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which we have analysed it, depends very heavily on increased production (or curtailing domestic consumption). It is important especially to emphasize the role of raw-cotton and raw-jute production in the argument as applied to the years we have considered. For this, or any, export-promotion scheme to work, increased rates of output must be forthcoming at all stages of the productive process.

3) The functioning of the scheme seemed to differ from year to year. Obviously, it is impossible to alter in a significant fashion on a short-term basis such a scheme, but some flexibility is required to exploit changing conditions. For example, the collapse of yarn exports in 1961 in the face of a large output may have been avoided, had the scheme contained further provisions for meeting the internal difficulties created by the huge exports of yarn in 1959 and 1960.

SECTION IV

BEHAVIOUR OF MINOR EXPORTS

Jute goods and cotton goods are the two main exports under the bonus scheme. In this section, we examine the impact of the scheme on some relatively more important items of the remaining exports. These items [1]. namely, fish, fine rice, oil cakes, sports goods, and gums and resins together with jute and cotton goods accounted for over 84 per cent of total bonus exports during the 1959-61 period. Considerable heterogeneity within a group of items treated as a single item, lack of output data and reliable domestic wholesale price series are serious handicaps for the analysis in this section.

1) Fish (uncanned)

Fish exports earn a 20-per-cent bonus. Almost the entire export is in the form of wet salted fish or dry salted fish. The aggregate export data are presented in Table IV.1. The average annual export value during 1954 through 1956 was Rs. 25.3 million. From 1959 onwards, export earnings have increased enormously. It is clear from Table IV.1 that by far the greater part of the increased earnings was due to rising export prices. Export prices have been rising ever since 1958. The fall in export quantity during 1958 in the face of a higher export price was apparently due to a reduced export supply caused by a fall in domestic production and/or a rise in domestic demand. In the absence of output data, it cannot be known whether increased export quantities since 1959 came *via* greater production or smaller consumption at home. A combination of both probably have made larger exports available.

Why did the export price rise, when larger quantities were exported? We think there was an increase in foreign demand. Data on two main forms of fish export presented in Tables IV.2 and IV.3

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1. Items earning less than Rs. 5 million in foreign exchange annually since 1959 have been excluded from consideration.

TABLE IV.1

EXPORT OF FISH (UNCANNED)

Year	Quantity (cwt)	Foreign exchange earnings (000 rupees)	Average value of export (Rs/cwt)
1957	449,000 (100.0)	23,524 (100.0)	52.4 (100.0)
1958	382,273 (85.1)	23,444 (99.7)	61.3 (117.0)
1959	499,857 (111.3)	37,698 (160.3)	75.4 (143.9)
1960	633,519 (141.1)	56,226 (239.0)	88.8 (169.5)
1961	558,138 (124.3)	57,982 (246.5)	103.9 (198.3)

Source: Central Statistical Office.

Note: Figures in brackets indicate percentages of 1957 values.

show that export prices of both have been increasing. Any suggestion that stoppage of smuggling and hence of underinvoicing of exports since 1959 raised the export price is untenable. If at all factually true, this might cause a once-and-for-all rise in export price during 1959, but could, in no way, contribute to a rise in export price every year.

It seems reasonable to conclude that the bonus incentive came on top of a strong and rising foreign demand. Unless the supply curve had shifted upward due to a rise in production cost or unless there had been a considerable forward shift in domestic demand, the pull of a rising foreign demand would be a sufficient stimulus for a large expansion of exports. Although no cost data are available, there is some evidence to show that costs probably did not rise. Fishing equipment, if imported through certain specified organizations, has been duty free since early 1959. Certain other facilities were provided for increased production particularly of marine fish. There may have been some rise in domestic demand for fish in recent years as urban population

TABLE IV.2

EXPORT OF FISH (WET SALTED)

Year	Quantity (cwt)	Foreign exchange (000 rupees)	Average value of exports (Rs./cwt.)
1957	320,257	17,767	55.5
1958	222,077	14,829	66.8
1959	292,339	26,507	90.7
1960	378,671	36,932	97.5
1961 : January-June	164,365	18,167	110.5

Source: Foreign Trade Statistics of Pakistan (C.S.O.).

TABLE IV.3

EXPORT OF FISH (DRY SALTED)

Year	Quantity (cwt)	Foreign exchange (000 rupees)	Average value of export (Rs./cwt)
1957	113,165	4,933	43.6
1958	152,657	8,087	53.0
1959	179,183	12,043	67.2
1960	232,727	17,198	73.9
1961: January-June	123,154	8,580	69.7

Source: Foreign Trade Statistics of Pakistan (C.S.O.).

increased. But such a rise in domestic demand, if at all, must have been almost insignificant compared with the large increase in foreign demand.

Export bonus obviously gave an additional incentive but in the face of an excellent foreign demand situation, it had very little to contribute to export expansion. The real problem was the rather small increase in export quantity. Output was not increasing much, and the domestic market was not releasing large quantities for export. Volume of export fell considerably (by 12 per cent) in 1961 although export price went up by about 12 per cent.

2) Fine Rice

Rice export is made through a combination of State monopoly and private trading. Rice here refers only to three superior qualities of rice (*Basmati, Parmal*, and *Begmi*) which are allowed to be exported. Each has earned a 20-per-cent export bonus since February 15, 1959. Table IV.4 shows that rice has become an important foreign-exchange earner:

TABLE IV.4

EXPORT OF RICE

Year	Quantity (long tons)	Foreign exchange (million rupees)	Average value of export (Rs./ton)	Average value of export (£/ton)
1957	0	0		
1958	1,629	1.62	992	74.0
1959	68,491	52.35	764	57.5
1960	67,602	51.76	766	57.6
1961	121,061	95.04	793	60.0

Source: Central Statistical Office.

It is difficult to assess the net effect of the bonus incentive since a number of other measures to promote rice export were introduced at about the same time. During 1956 through 1958, the export of rice was completely or partially banned. The ban was lifted in early 1959. Government procured almost the entire output of rice from the growers and *reserved* it for export. Domestic consumption was thus largely abolished by regulation, and rice had to be exported to clear the market. Government offered the procured rice for sale at fixed prices (*f.o.b.* Karachi) to exporters who were free to sell abroad at any price they found profitable because of the bonus gain.

The problem of equilibrium allocation between domestic and export markets does not exist in the case of rice. The problem is to sell the procured stock of rice in the export market without lowering total foreign-exchange earnings, *i.e.*, without moving into the inelastic range of the foreign demand. From available information and data it appears that there is a fairly strong and moderately elastic demand for Pakistani rice particularly in the Middle East, East Africa and the Far East. The elastic range of demand in the export market appears to be strong enough to absorb the exportable quantity (around 100,000 tons per year) Pakistan can offer. But the export price must give a margin of profit necessary to induce traders to export the entire lot procured by the government and offered for sale. This could be ensured if the government's selling price is low enough and/or the bonus incentive is adequate.

Available data indicate that the composition of rice exported during 1959 was roughly in the following proportions:

Basmati: Parmal: Begmi $= 2:1:2^2$

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2. *a)* Export target for 1959 as set by the government was: Basmati 35,000 tons; Parmal 16,000 tons; Begmi 30,000 tons.

b) Actual export during January-June 1960 was: Basmati 21,452 tons; Parmal 6,433 tons; Begmi 20,938 tons. (These figures were released by the Ministry of Food and Agriculture).

This gives the weighted average price per ton of rice in 1959 as below[3]:

Government's average procurement price	£ 42.2
Government's average selling price	£ 58.0
Average value of export	£ 57.5

Even allowing for transportation and packing, procurement cost in Karachi is unlikely to exceed £ 50.00 per ton. Hence, it appears that while the government was making a profit, the exporter was selling at or slightly below cost. The exporter's profit consisted solely of the bonus gains. With a 20-per-cent bonus and a 160-per-cent premium on the voucher (a conservative average estimate for 1959) the exporter's profit was roughly 32 per cent over cost[4]. The same incentive could be given to the exporter through a reduction of the government's selling price although the incidence of the export subsidy would have been different. That such a price reduction might be an alternative way of export promotion is indicated by the profits made by the government from rice export as shown in Table IV.5.

During 1958 exports were quite small, and during 1960 export trade was in private hands. Hence, most of the profits made during 1958/59 and 1959/60 (Rs. 10.4 million) were actually earned during 1959.

The margin of average export value over procurement cost at export point (Karachi) is of crucial importance in the contrived mechanism of rice export. If the procurement cost is low enough the entire stock can be exported at a profit. For the country's foreign-exchange earning it is irrelevant whether the government subsidizes the exporter

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3. Prices shown in pound sterling per long ton

Price	Basmati	Parmal	Begmi
Procurement price	52	40	34
Selling price (f.o.b. Karachi)	75	55	43

Since the greatest bulk of the year's exports took place after April, government's selling prices from May onwards are taken as representative for the year.

4. The exporter's actual capital outlay was much less. He had to deposit with the government only 2 per cent of the value of rice purchased. Thus, the rate of profit on capital outlay was very high.

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by selling rice at procurement cost or by export bonus. The margin obtaining during 1959 might be a sufficient or nearly sufficient inducement to export the entire stock if rice were sold to exporters at procurement cost.

TABLE IV.5

GOVERNMENT EARNINGS FROM RICE EXPORTS

(million rupees)

Year (July-June)	Foreign exchange	Profits
1958/59	22.3	3.8
1959/60	47.1	6.6
1960/61	65.7	3.3
1961/62	103.3	22.4

Source: Statement by Minister for Food and Agriculture, published in the daily *Dawn*, July 7, 1962.

During 1960 both procurement and export were left to the trade, while the bonus was continued. This might mean a double benefit to exporters[5]. They would earn bonus as well as the margin of export price over procurement price. But this extra incentive did not improve the export position in 1960. There is no evidence of any fall in domestic output, and foreign demand did not decline. It seems, therefore, that procurement by traders is less efficient and more costly than procurement by government. Whether it is due to noninclusion of administrative costs of the government procurement agency and cost of storing is immaterial for our purpose. This implies that government's selling price to exporters included a concealed subsidy.

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5. It seems that precisely for this belief the government decided to withdraw bonus on rice from December 1959. But due to some reason or other the decision was revoked before actual implementation.

During 1961 (actually from December 1960) procurement was again made a government monopoly. Procurement prices were fixed. The procured stock was sold for export to traders who offered the highest price. Even higher targets of procurement and exports were surpassed during the year. As the data indicate, there might be some rise in foreign demand. The spectacular performance of 1961 suggests the following important conclusion for rice export over the entire three-year period: Since the benefit of the bonus is not passed on to the grower, no production incentive operates. The key factor in rice export is virtual abolition or serious restriction of the domestic market and bulk procurement at low cost through a central agency by exporters, and *not* the particular form of export subsidy. It does not seem appropriate to attempt to quantify the impact of the bonus scheme.

3) Oil Cakes

Oil cakes earn a 20-per-cent export bonus. Cottonseed and rape sesamum cake account for over 90 per cent of oil-cake exports. Export data for the recent years are shown in Table IV.6 below:

TABLE IV.6

Year	Quantity (long tons)	Foreign exchange (000 rupees)	Average value of export (Rs./ton)
1955	..	15,141	..
1956	..	17,672	..
1957	57,539	11,409	198
1958	15,038	3,289	219
1959	82,503	19,672	238
1960	45,693	10,945	235
1961	31,312	7,545	241

Source: Computed from *Foreign Trade Statistics of Pakistan* (C.S.O.).

Except for 1959, oil-cake export made a poor performance during the bonus period. It is even doubtful if the increased exports during 1959 were due to the bonus scheme. Export price was much higher during 1959 than during 1957 or 1958, a fact we would not expect to find when the bonus incentive pushes up exports. A rise in foreign demand seems to be the most important reason for the export expansion in 1959. This expansion took place in spite of a ban on export of certain varieties of cotton cakes during the early part of the year. The higher export price was not due to a change in the composition of different kinds of oil cakes exported. The export prices of both the main varieties increased as shown in Table IV.7 :

TABLE IV.7

AVERAGE VALUE OF EXPORT (RS./TON)

	1957	1958	1959	1960
Cotton cake	212.8	225.5	262.6	246.4
Rape sesamum cake	180.4	136.6	226.4	212.2

Source: Computed from *Foreign Trade Statistics of Pakistan* (C.S.O.).

Export did not expand but declined sharply during 1960 and 1961, in spite of the bonus incentive. Domestic price of oil cakes started rising from 1958. Increased exports in 1959 seem to have raised it still higher. Wholesale price per maund of cotton cake in Karachi was Rs. 7.7 in 1957, Rs. 9.5 in 1958, Rs. 11.2 in 1959 and Rs. 10.9 in 1960. Oil-cake output in Pakistan is almost perfectly inelastic. Rise in domestic price indicates low price elasticity of domestic demand and/or its forward shift. Whatever it was, a tight domestic market seems to have thwarted exports during these two years.

Oil-cake exports amounted to Rs. 37.96 million during 1959 through 1961 and Rs. 44.22 million during 1955 through 1957. The year 1958 was a period of recession. Obviously, the bonus incentive did nothing to contribute to export expansion.

4) Sports Goods

Export of sports goods earns a 40-per-cent bonus. Tennis rackets, football covers, complete footballs and badminton rackets are the main items exported. Differences in quality and size are so important for these goods that it will not be very useful to talk in terms of quantity. We shall mainly confine our discussion to export earnings. These are shown in Table IV.8 below:

TABLE IV.8

EXPORT EARNINGS OF SPORTS GOODS

(in '000' rupees)

Goods	1955	1956	1957	1958	1959	1960	1961
Tennis rackets			3,177	2,233	2,226	2,577	3,015
Football covers			2,974	2,567	2,969	2,635	2,920
Complete footballs			431	520	679	1,226	1,516
Badminton rackets			2,997	1,837	1,023	596	662
Others			3,337	3,551	3,363	4,272	5,245
Total	7,543	11,937	13,016	10,708	10,260	11,306	13,358

The high bonus and high premium could not even raise export earnings during 1959 above the low level of 1958, presumably a recession year. Even with the small increases made in 1960 and 1961, the total foreign exchange earned during 1959 through 1961 was smaller than during 1956 through 1958. With the little information we have, we may discuss some of the relevant questions, but cannot precisely explain the failure of the scheme to boost export earnings.

It is reasonable to think that domestic output and export supply are both moderately elastic. Any upward shift in costs may also be ruled out. The main snag seems to be foreign demand for Pakistani products. For the group as a whole, foreign demand is probably elastic only over a small range. Available data suggest that efforts to increase exports through lower prices during the early months of the

scheme did not meet with much success. Quality and price competition by some other exporting countries might have squeezed Pakistan's export market.

This seems to have been particularly true for badminton rackets. Despite reduction in export price since 1959, exported quantity has been falling. Exports of tennis rackets and football covers seem to have held their own through some price reduction since 1960 (Table IV.9). Complete footballs (partly a rubber product requiring considerable import component) have made considerable headway in the export market, but export price has been rising since 1960. One probable reason for poor export performance of sports goods might be that inferior quality goods were exported at lower prices. It is not possible for us to comment on the validity of this oft-repeated argument. But it is plain that the simple profit incentive given by the bonus failed over the 1959-61 period.

TABLE IV.9

AVERAGE VALUE OF EXPORT OF SPORTS GOODS

(rupees each)

Goods	1957	1958	1959	1960	1961
Tennis rackets & frames	2.61	1.84	2.23	1.73	1.68
Football covers	4.71	3.83	3.85	3.25	3.75
Complete footballs	6.30	3.49	3.83	4.25	4.80
Badminton rackets and frames	1.80	1.80	1.50	1.15	1.28

Source : Computed from *Foreign Trade Statistics of Pakistan* (C.S.O.).

5) *Gums and Resins*

Gums and Resins earn a 20-per-cent export bonus. This incentive has raised the export earning of this very minor group of items to

significant proportions. Larger quantities were exported through price reduction made possible by the bonus gain. Foreign demand seems to be fairly elastic. This seems to be evident from the data shown in Table IV.10 below:

TABLE IV.10

EXPORT OF GUMS AND RESINS

Year	Quantity (cwt)	Foreign exchange (million Rs.)	Average value of export (Rs./cwt)
1957	2,000	0.91	45.6
1958	22,921	1.21	52.95
1959	192,109	5.22	27.19
1960	193,734	6.42	33.15
1961	182,883	7.85	42.92

The increase in average export value in 1960 and 1961 might be due to an improvement of quality or of foreign demand. But it is safe to conclude that most of the increased export earnings is attributable to the bonus scheme.

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Conclusions: Sections II, III and IV

We may now try to summarize the impact of the bonus scheme on foreign-exchange earnings. Relevant data in the aggregate are shown in Table IV.11. The coverage of this study is clear from the table.

TABLE IV.11

FOREIGN-EXCHANGE EARNINGS FROM BONUS ITEMS

(*million rupees*)

	1957	1958	1959	1960	1961	1959-61
A. All bonus items	320.1 (100)	213.4 (100)	565.7 (100)	694.0 (100)	711.6 (100)	1,971.3 (100)
B. Important bonus items	233.0 (72.8)	168.5 (79.9)	492.7 (87.1)	577.5 (83.2)	591.8 (83.2)	1,662.0 (84.4)

Source: Central Statistical Office.

Note: 1) Items of row B are those considered in this monograph.
2) 1961 figures exclude cotton-yarn export.
3) Bracketed figures in each column indicate percentage of foreign-exchange earnings of all bonus items.

Foreign-exchange earnings during 1959-61 averaged about Rs. 337 million per year over that of 1957. This is an increase in excess of 100 per cent. The percentage increase is considerably larger for "important items" than for the total of items earning a bonus. Also, it is evident from Table IV.11 that the major increase in foreign-exchange earnings occurred in the first year of the bonus scheme's operation. For reasons already elaborated, this large first-year increase relative to the increase experienced in later years is to be expected.

We have shown however that not all this increase can be attributed to the bonus scheme itself. According to our rough estimates, about Rs. 140 million per year is due to the operation of the bonus scheme. This figure represents about a 40-per-cent rise over the foreign-exchange earnings of 1957 for all bonus items. The percentage rise will be considerably less for the minor items, and very large for jute and cotton products.

A 40-per-cent increase in foreign-exchange earnings is a major achievement and is surely sufficient evidence to classify the scheme as a success. It is, however, necessary to be a bit cautious. First of all, the three years considered were favourable years, and although we have tried to discount for this effect there is little doubt but that had the scheme been initiated in 1956 its result for succeeding three years would not have been as favourable as they were for the years we considered.

A further source of caution is probably more important. Virtually the whole of the increase occurred in the export of jute and cotton manufactured products. There is very little evidence to support the hypothesis that new Pakistani products were brought into the export field or that there was an increased quantity of the less traditional export items as a result of the scheme. This conclusion is important for two reasons. In the first place, the long-run prospects for jute- and cotton-goods exports can hardly be called encouraging: substitutes for jute products have been developed and the increased emphasis on bulk shipping suggests rather strongly that the demand for jute products will not grow very rapidly in the future. Also virtually all countries seeking to industrialize begin with a textile industry, and as industrialization takes place in the rest of Asia, Pakistan's external markets for cotton cloth are sure to decline. In the second place, the failure of new products to develop suggests that incentives on the supply side generated by the scheme were not strong enough. Our data are slight indeed, but it is clear that supply failed—at least in the three-year period covered—to respond in the manner required to suggest that the scheme produced in Pakistan a trend toward less dependence on jute and cotton product as major exports.

But the supply effect may be a long-run effect, and before reaching a final decision on this matter it is necessary to examine other aspects of the scheme also, especially the price and allocation effects. It is here that we should find the longer-run implications of the scheme. It is, however, appropriate to state here as a conclusion of our study that for the three years under review the bonus scheme did produce a significant increase in foreign-exchange earnings. We need to consider now not only its longer-run implications, but also whether or not there were any adverse effects elsewhere in the economy due to the operation of the scheme.

SECTION V

THE BONUS SCHEME AND PRICES

The impact of the bonus scheme on the price level and on the price of individual commodities affected by the scheme is the subject of this section. As in previous sections, we begin with a theoretical discussion of the issues and then attempt to examine the data in light of the theoretical arguments discussed. Here however more than elsewhere in the monograph, we have to depend heavily on the conclusions deduced from theoretical considerations. This is necessary for two reasons. In the first place, price data on individual import and export commodities are extremely limited and only a few series are available. Therefore, the data requiring explanation are meagre. In the second place, there are many forces operating on individual prices and on the price level, and even with an adequate amount of data it is extremely difficult to measure the effect of a single factor. For these reasons then, our conclusions will depend largely on our theoretical arguments, and unhappily little on what the data show.

We shall first consider the question of the effect of the scheme on the price level and then on the prices of individual commodities that are exported and imported.

1) Effect of the Bonus Scheme on the Price Level

The effect of the scheme on the price level may be considered in terms of its impact on aggregative demand. To do this, we may establish a simple income-determination model along very familiar lines. Let

Y = income
V = investment *plus* consumption
X = exports
M = imports
m = marginal propensity to import
g = marginal propensity to spend[1]

then,

1. $Y = V + X - M$

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1. Hence, $1 - g$ = marginal propensity to save.

2. $V = gY + Va$ (where Va refers to expenditure unrelated to income)

3. $M = mY + Ma$ (where Ma refers to imports unrelated to income)

so,

4. $Y = gY - mY + Va + X - Ma$

5. $Y = (Va + X - Ma) \cdot \dfrac{1}{(1 - g + m)}$

6. $\triangle Y = \triangle (Va + X - Ma) \cdot \dfrac{1}{(1 - g + m)}$

The last equation is the simple "foreign-trade multiplier". In the multiplicand, there is the difference between total exports and autonomous imports and in the multiplier itself is the marginal propensity to import. In a fully employed economy, the multiplier cannot work itself out in the conventional manner for upward movements, but its use does enable us to show the extent to which aggregative demand would increase consequent to changes in the autonomous variables if it could work itself out completely.

It is immediately evident that we may rewrite Equation 4 as

4'. $Ma + mY = (Va + gY - Y) + X$

and then, Equation 1 becomes

1'. $M = (V - Y) + X$

These latter two equations show that imports are necessarily equal to exports plus the difference between domestic expenditure and domestic output. Note that V includes expenditure on imported as well as domestically produced goods and services. Write V_m for expenditure on imported goods and V_d for expenditure on domestically produced goods. Obviously, $M = V_m$ so that $Y - V_d = X$. Exports thus are the difference between domestic output and domestic use of this output. If Y in Equation 1' is the maximum capacity output then an equal expansion of X and M requires V_d to decline by an equal amount. Consider now the bonus scheme in terms of these equations.

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Exports increase as a result of the scheme. What happens to aggregative demand? With the tight and effective exchange controls on imports into Pakistan and the clear evidence of excess demand for imports at the official exchange rate, changes in the quantity of imports into Pakistan are determined by government decisions on import controls not by changes in income. This is certainly true over the ranges of income likely to prevail. We may assume then that the marginal propensity to import (prior to the inauguration of the scheme) is zero simply because changes in income as such have no effect on imports. Thus, any increase in imports may be considered autonomous, and the m in Equations 5 and 6 disappears. We may then write Equation 6 as

$$6'. \quad \triangle Y = \triangle (Va + X - M) . \frac{1}{1-g}$$

This means that we no longer need distinguish between autonomous and induced imports. All imports are determined by governmental decision as to licensing policy.

If $m = 0$ for the relevant levels of income then the foreign-trade sector does not enter into the multiplier, but only in the multiplicand and here it is the export surplus that is relevant not total exports. If then imports are allowed to increase in the exact amount and simultaneously with increases in exports, it would appear from Equation 6 that there is no increase in aggregative demand. But the story has other complications.

We have divided V in Equation 1 between V_m (expenditure on imported consumer and investment goods) and V_d (expenditure on domestic goods). Therefore, if imports increase V_m must also increase, but if there is no increase in output then investment and consumption on domestically produced commodities, V_d, must decline. An increase in imports exactly matched by an increase in exports with no change in output means of course a switch in domestic use away from domestically produced commodities to imported ones. This switch is effected by changes in prices of exports and the increase in imports in a situation of excess demand for imported goods. In aggregative terms, there is no upward pressure on demand, but whether there is upward pressure on prices depends on the availability of capacity in the export sector and on the shiftability of resources into that sector from the sector that had been producing import substitutes. If

the shift in output can match the shift in demand, then no price pressure results.

Whether the switch from V_d to V_m occurs easily also depends very much on the method of financing the increased exports. If it is necessary to create new credit to bring about the increased exports then some price rise is almost sure to take place. If however credit can also be switched from financing production for home use to financing production for exports, then the switch in real resources may be done relatively easily. Thus, the switch called for in the production process must also be accompanied by a switch in the financing of production. A bottleneck in either place will contribute to the likelihood of inflation resulting from a simultaneous and equal increase in exports and imports.

We may conclude that it is extremely unlikely that the required shift in the composition of output can occur readily enough to prevent some increase in the price level from occurring. The likelihood is especially great in the absence of idle capacity in the export sector.

If, however, the increase in exports occurs entirely out of an increase in aggregative output there need be no reduction in expenditure on domestically produced output. The increase in exports accompanied by an equal increase in imports then represents a net increase in income. Thus, a rise in national income takes place even though exports and imports change in such a manner as to offset each other precisely. This is due of course to the fact that it was the increased output that was exported. In terms of Equation 1' all variables increase by an equal amount (V_m increases while V_d remains unchanged).

Does this increase create upward pressure on the price level? If there is idle capacity in the export sector, then output of exports may be increased without affecting the level of prices. The income generated by the increased output is by assumption spent on imports.

When an incentive to increase output in order to increase export is created with no switch in expenditure from V_d to V_m and there is no (or very little) idle capacity the problem is more complex[2]. Now an

2. If there is little substitution between capacity in the export sector and the nonexport sector, there may be idle capacity somewhere in the economy, but it would not be usable for producing exports.

export incentive will produce excess demand in the economy and the price level is sure to rise. Such an incentive to export may also introduce an accelerator effect as producers may seek to increase capacity to take advantage of the new demand. This argument states simply that to increase demand in an already fully utilized economy will produce inflation. In this situation, the only way to increase exports without inflation is to effect the exact switch in expenditure and production described earlier. As observed there, it is unlikely that such a switch will occur in the manner required to prevent upward pressure on the price level despite the fact that relative prices of exportables and imports (and the availability of imports) will move in a way to encourage this shift. We may assume then under assumptions considered to this point, that if the bonus scheme were introduced at a time when there was little or no excess capacity in the export sector, the increase in exports produced by the scheme, though matched exactly by an increase in imports, must generate inflationary pressure.

If exports are not matched by imports, *i.e.*, if import restrictions are not relaxed as exports increase, then demand of course will increase. Now the increase in exports represents an increase in the multiplicand of Equation 6 and consequently V_d will rise. The effect on prices now depends entirely on the availability of excess capacity in the economy as no increase in imports are allowed to mop up the new demand.

There are two other reasons why an increased aggregative demand might result from the scheme. The scheme allows an increase in imports (*i.e.*, more imports become available than in the absence of the scheme). This newly available quantity of imports may induce a reduction in saving and may also induce an increase in investment. On the consumption side, there is some evidence that the income elasticity of demand of the high-income groups for locally produced commodities is probably very low. This is due to the fact that usually the quality and range of luxury type goods domestically produced is extremely limited. Thus, as his income rises well above subsistence, the recipient will tend to save simply because nothing is available that is wanted. This reason for saving seems especially strong if there is a hope or reason to believe that more and different consumer goods will be available in the reasonably near future compared to now. Thus, when import restrictions are relaxed not only may there be a burst of dissaving, but also a permanently reduced saving rate.

A similar argument applies on the investment side. Certain types of capital formation are impossible without imports and other types are greatly facilitated by the availability of imports. Therefore, as the rate of imports rises we may expect enterprises to undertake an increased rate of investment.

The quantitative magnitude of the factors described in the preceding two paragraphs is difficult, if not impossible, to ascertain. It is clear however that the direction of the changes in saving and investment rates is almost sure to be such that some increase in total demand is generated.

All of the preceding discussion has been concerned with the demand effect of the functioning of the scheme. There may be a supply effect as well arising from the increased imports. Some evidence exists to show that it is possible to increase capacity in certain Pakistan industries by increasing the flow of imported spare parts and raw materials. Thus, an increased flow of imports may mean a significant increase in the capacity of the economy. And of course, an increase in capacity always damps inflationary pressures. It seems likely that this capacity-increasing effect may be much greater in the early stages of the scheme and then tend to dwindle as specific bottlenecks are broken.

On the basis of this abstract discussion, it is reasonable to conclude that the bonus scheme does produce a net increase in aggregative demand. The likelihood that export will rise, that a complete switch in expenditure and production to facilitate the increase in exports and imports is unlikely, that saving will decline, and that investment will increase——all these contribute to an increase in demand. It also seems likely that upward pressure on the price level is produced as capacity was almost completely utilized in 1959 at the outset of the scheme, and the increases in capacity due to increased imports of raw material and spare parts is not thought sufficient to match the increase in demand. We conclude then that the bonus scheme generates excess demand and thereby imposes some specific requirements on monetary and fiscal policy to go along with the operation of the scheme.

We turn now to another characteristic of the scheme that has implications for monetary and fiscal policy. Once the scheme is operative, changes in the demand for vouchers will depend in large part on

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changes in the internal price level. A rise in the domestic price level or an increase in monetary demand will result in an upward shift in the demand curve for vouchers. Such an upward shift will, given the voucher supply curve, produce a rise in the premium. An increase in the premium will encourage exports or at least will result in producers beginning to export more and thereby forcing domestic prices of exportables up. Both developments will increase the demand for vouchers, pushing the premium up again and encouraging further exports, and the whole process is repeated. The result is that in the absence of counterforces of one kind or another an unstable situation is created by the functioning of the scheme. If on the inauguration of the scheme, inflationary pressure was generated then the instability element inherent in the nature of the scheme's operation will cause increasing upward pressure on the price level[3]. It is difficult here also to measure the strength of this destabilizing force. It is even difficult to say with certainty that the unstabilizing inflationary feature is strong enough to produce actual price rises. It does however seem quite clear as to the direction that the functioning of the bonus will push the price level.

It is important to recognize that the above arguments and conclusions do not mean that the "bonus scheme is inflationary and therefore bad". They mean simply that the effective functioning of the scheme requires that the monetary and fiscal policy be designed with the knowledge that the bonus scheme produces upward pressure on total demand and if left alone this upward pressure will feed on itself.

2) Effect of Bonus Scheme on Prices of Exports and Imports

We consider now the effect of the scheme on the domestic price of exportables and of imported goods.

Consider first the domestic price of a commodity exported under the bonus scheme. That the internal price of such a commodity must rise with the inauguration of the scheme is virtually certain. For it not to rise requires either that the domestic supply curve be horizontal (or shifts to the right sufficiently with the import of spare parts and raw materials) or that the foreign demand be perfectly inelastic so that

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3. Here we are not postulating a concommitant equal rise in imports *via* more liberal import licensing.

the quantity of the product exported does not increase and domestic supply is therefore not curtailed.

But this price rise in exportables is an essential part of the working of the scheme. We assume that the Pakistani rupee is overvalued and it is the consequence of this overvaluation that creates the necessity for the domestic price rise of exportables subsequent to the inauguration of the scheme[4]. This overvaluation (prior to the bonus scheme) resulted in the price of exportables being "too low" to Pakistanis. The price rise that occurred after the scheme got underway was a method of correcting an inconsistency among the level of money income, the internal price level and the price of exportables. The following paragraphs seek to make clear the nature of this inconsistency and of its elimination by the bonus scheme.

A chronic deficit in the current account of a country's balance of payments reflects an inappropriate relationship between the country's money income and its general price level and between domestic-goods prices and prices of internationally traded goods. Consider first the relationship between money income and the price level. The price level is too low for the prevailing money income with the result that expenditure on exportables (and on imports) is excessive, *i.e.*, in excess of that which can be maintained indefinitely. The problem thus created can be attacked in several ways. Money income may be reduced to the extent required to produce a sufficient decline in expenditure to remove the deficit. But unless changes in relative prices occur, merely reducing real income cannot eliminate the deficit without creating unemployment. At the point when aggregate excess demand is exactly removed there will remain excess demand for imports at the same time that there exists unused capacity for the production of domestic goods. Thus, relative prices must change in such a fashion that the composition of demand matches the composition of supply. Thus, a price system that responds readily to market conditions is a necessary assumption if reliance is placed on reduced real income alone as a method of removing the deficit.

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4. Evidence that the rupee is overvalued is that rationing of foreign exchange by licences is necessary plus the virtual certainty that the rupee would fall in value if controls were removed. It should of course be evident that the fact of overvaluation is not necessarily a sufficient reason to devalue.

A second method of attacking the problem is by import restrictions or exchange control. The effect of this is to reduce imports and thereby to raise the domestic price of imports and import substitutes and so the internal price level in general. The restrictions on imports must be strong enough to produce a price rise that will bring about the proper relationship (the relationship that will eliminate the excess demand) between money income and the price level. Price controls may be employed to prevent prices from rising, but where money income and the price level are not in an appropriate relationship price controls are not likely to be effective as a permanent method of holding the price level down.

Thirdly, there is devaluation of the currency. Devaluation corrects the deficit by raising the domestic price level and changing relative prices at the same time. If as a result of devaluation there is no change in the foreign price of exportables or of imports, the domestic price of these internationally traded goods will rise by about as much as the rise in the price of the foreign currency, *i.e.*, by about as much as the devaluation. The domestic price of an exportable must rise by an amount about equal to the rise in the price of the foreign currency or producers of the exportable will sell *all* their output abroad. (This they will do anyway if the devaluation is large and the domestic demand curve very elastic). It is evident that the adjustment process will be completely thwarted if the level of money income is allowed to rise by as much as the price level. It is this *latter* rise in money income that it is imperative to prevent if devaluation is to work, not *any* rise in the domestic price level.

The rise in the domestic price level with a given money income will eliminate the excess demand that is contributing to the deficit problem. It is, therefore, a necessary condition for removing the deficit. It is however not a sufficient condition, because there must also be an alteration in the relative prices of domestic and internationally traded goods. Otherwise reducing demand to the extent required to remove the deficit will cause unemployment. Devaluation will produce this change in these relative prices.

The rise in the price of exportables and of imports reduces real income and thereby reduces total real expenditures. Foreigners are thus enabled to outbid domestic users for exportables and importables

with the result that foreign-exchange earnings and/or savings rise. But the rise in the price of internationally traded goods relative to that of domestic goods has another important consequence. It makes production in these sectors more profitable than was the case before devaluation. It should, therefore, result in a shift of resources into the export and import substitution sectors and away from production of non-internationally traded goods. It is this shift of resources in favour of exports and import substitutes which represents the resources-reallocation effects of devaluation, a result that produces an allocation of resources more consistent with prevailing demand and cost conditions than that which obtained prior to devaluation[5].

The inauguration of the bonus scheme with a positive premium on the voucher produced a result equivalent to devaluation in a particular part of the economy. By virtue of receiving the premium, exporters received a higher rupee-price for their exported products as they would under devaluation; and by virtue of paying a premium to obtain a voucher, importers paid a higher price (in rupees) for imported products as they would under devaluation. But the scheme began at a time when foreign balance was largely maintained by exchange controls and import restrictions. These restrictions together with fiscal and monetary measures had resulted in a sort of workable equilibrium with an appropriate relationship between money income and the price level in Pakistan being approached (especially after 1959). No significant fall in real income (*i.e.*, no further rise in the general price level) was required subsequent to the initiation of the scheme. The exchange controls and other import controls acted primarily on the import side, and the overvalued rupee continued to make exportables "too plentiful" in Pakistan given the prevailing cost and demand conditions. Thus, after the scheme began to operate, the domestic price of an exportable included in the scheme will rise as the quantity supplied to the home market must decline. If the domestic price did not rise then producers of exportables would send all their output abroad (or an amount limited only by foreign demand). This rise in the price of exportables relative to that of other commodities should tend to attract additional resources into this area of activity and away from other sectors and eventually

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5. If foreign prices change as a consequence of increased exports and decreased imports, there may also be a terms-of-trade effect. *See*, Section VI for further remarks on this point.

result in an increased output of exportables. This reallocation of resources would be more consistent with the real cost and demand conditions than was the allocation prevailing prior to the rise in the price of exportables. And, this reallocation would not have occurred if the price rise of exportables were thwarted.

Consider now the price behaviour of imports brought into Pakistan against bonus vouchers. The importer must pay a premium for his foreign exchange thereby driving up the rupee-cost of the imported item, but this is only the beginning of the story.

First assume that the entire increase in exports is matched by an increase in imports so that the quantity of imports available in the market rises above what it was prior to the scheme. Assume also that the problem of excess demand described earlier (Subsection 1 of this section) is effectively removed by appropriate monetary and fiscal policies. Clearly under these assumptions the prices of imports cannot rise and indeed must decline if the market is to be cleared. For, if the prices of imports were to rise in consequence of their increased costs and if money income was held at a level where there was no excess aggregative demand and finally if the quantity of imports were to increase then there would be inadequate purchasing power to buy all the imports available and inventories would accumulate. Why will the quantity of imports increase if their cost has risen and their price cannot be raised? At the official rate of exchange, demand for imports is excessive and prices are such that above-normal profits are made by those fortunate enough to obtain import licences. Satisfactory profits can thus still be made even if a premium is paid over the official exchange rate. An increased quantity of imports flows in as exchange controls are relaxed for voucher holders, and this increased supply must have a dampening effect on import prices independently of what has happened to costs.

If sellers of imported products set their prices by adding a percentage markup over average costs, then prices will, at least initially, be raised. But for reasons just elaborated, unless money income increases subsequent to the inauguration of the scheme, this price rise will result in an accumulation of inventories of domestically produced goods or imports. If then sellers raise their prices above prebonus-scheme levels and those prices were market clearing they would, under present assumptions, find themselves with excess stocks.

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On the other hand, there is evidence that the prices of some products imported against vouchers have risen. Indeed some newspaper reports indicate that items imported against bonus vouchers are priced higher than identical items imported against commercial licences. The latter phenomenon is so difficult to explain that it seems likely that the reports are incorrect. For two different prices for the same product to prevail in the same market—sometime in the same store, it is reported —can be explained only in terms of market imperfections of an unbelievably extreme sort. If such a situation does prevail in a given short-run interval, it can be corrected only by a process of education of both buyer and seller.

Some prices of imports, however, have apparently risen and have remained higher for longer than the "short run". Under the above assumptions this must result in an accumulation of stocks. But a modification of assumptions yields different results. Attention was called earlier to the possibility of a decreased saving rate as a consequence of the increased availability of imports. If this decrease in saving has in fact taken place, it is likely that the increased outlay would be concentrated on imports. Further, there may be a shift in the composition of consumption and investment in favour of imports and away from domestically produced substitutes. Thus merely because the availability of imports has increased, the demand curve for imported products may have shifted to the right. If this shift has in fact occurred, then a price rise of an import would be explained in these terms. If a shift in demand takes place to the extent that the price of an import rises despite an increased quantity available, this price rise must be matched by price decline (or accumulated inventory) elsewhere in the economy.

The above arguments have been conducted on the assumption that imports increase in amount equal to the increase in exports. If exchange control is not relaxed and imports do not increase or increase by smaller quantity then what happens to import price depends largely on what happens to aggregative demand. The key point here—as above—is that the mere creation of the premium, *i.e.*, the mere increase in the cost of imports, is not a sufficient condition for prices of imports to rise. If sellers of imported products do raise their prices because their costs have risen, this act must result in an accumulation of stocks (of imports or of other commodities), unless money incomes increase.

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In case money income is raised—to prevent the stock accumulation or for any other reason—and the price increase is thereby justified, the source of the inflation is not the bonus scheme, but rather the monetary authority or the pricing policy of the import sellers.

We do not have adequate and reliable data to make a systematic examination of the actual effect of the scheme on internal prices. However, the few series which are available (for cotton textiles, jute goods and imported chemicals) seem to indicate a price behaviour consistent with the analysis of this section.

SECTION VI

THE PREMIUM

Subsections 1 and 2 of this section are concerned with an explanation of the existence of the premium on bonus vouchers and of its changes over the three-year period 1959-1961. In Subsections 3 and 4, we look briefly at the question of an "optimum" level for the premium and of the incidence of the premium.

1) The Rationale of the Premium

The Nature and Source of the Premium: In the few years immediately prior to the inauguration of the bonus scheme, demand for foreign exchange clearly exceeded the supply at the official exchange rate. Thus a rationing device, other than cost, had to function. This rationing device was government licensing of imports. The licensing authority had the task both of limiting the quantity of imports and of determining its composition. The bonus scheme made available foreign exchange outside the regular commercial licensing procedure. The bonus voucher then became a rationing coupon—like a regular commercial licence—which was required to obtain foreign exchange. The bonus voucher, unlike the commercial licence, was made transferable and marketable and therefore was rationed only by its price. When some part of foreign exchange was thus made available in the market its cost had to rise to the extent required to eliminate the excess demand[1]. Given this excess demand for foreign exchange, its price was necessarily bid up once it was placed in the free market. This excess demand for foreign exchange exists because imports are so highly profitable under conditions of quantitative restrictions on imports. The

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1. The evidence that there was excess demand for foreign exchange at the official exchange rate is the existence of licensing. Licensing affects both quantity of imports and its composition and it is possible to have a licensing system at a time when excess aggregative demand does not exist. In this case, there would be excess demand for some licences and excess supply of others. It seems quite clear that there was no category of licences for which supply was excessive to any extent let alone to the extent necessary to match the excess demand in other categories.

high domestic profits associated with imports were, prior to the scheme, reaped by individuals fortunate enough to obtain licences. After the scheme, this profitability (or part of it at least) on imports against vouchers was captured by the exporter who earned the voucher. Indeed part of the logic of the scheme was to transfer the profits of importing to the exporter. The problem now is to explain the level of the premium.

Suppose first that all exports and all imports were included in the scheme and that all (not just 20 or 40 per cent) foreign exchange earned was redeemable by vouchers. This would mean that a free market for foreign exchange existed. The State Bank would buy and sell foreign exchange at the official rate. The seller of foreign exchange to the Bank would receive vouchers of equal amounts and the purchaser of foreign exchange from the Bank must have the voucher as well as the rupees. The cost of the voucher then is also a cost of foreign exchange. The cost of the voucher plus the cost of the foreign exchange at the official rate is the total rupee-cost of foreign exchange. More importantly, this total cost minus that due to paying the official exchange rate only, *i.e.*, the price of the voucher, is a measure of the extent to which the official rate overvalues the rupee relative to the value given it by the market. In this kind of situation we might say that the level of the premium reflects the free-market value of the rupee.

Now the actual bonus scheme differs from that just described in two important ways. In the first place, five major export items do not earn vouchers, and other export items receive vouchers equal only to 20 or 40 per cent of the foreign exchange that they earn. In the second place, foreign exchange can be obtained through commercial licensing as well as with a bonus voucher. Some items can be imported only under a commercial licence and some only under a bonus voucher, but a large number of items can be imported under either system. In addition of course the range of imports is itself limited. Evidently then the level of the bonus premium does not unambiguously reflect the free-market value of the rupee. It does reflect the supply and demand for vouchers, and the task is to define the supply and demand curves for vouchers.

Determinants of the Level of the Premium: The demand for vouchers is a demand for foreign exchange[2]. It is a demand to import one of the 120 or so items on the bonus list. We may put the premium on the vertical axis and quantity of vouchers demanded on the horizontal axis on a conventional supply-and-demand diagram. Then for reasons already described, a decline in the premium is equivalent to a rise in the value of the rupee and, therefore, a fall in the rupee-cost of certain imports. Also, an increase in the quantity of vouchers demanded is equivalent to an increase in the quantity of imports demanded. For the same reason that we generally assume that imports of a country decline as the value of its currency falls relative to other currencies, we may assume that the demand curve for vouchers has a negative slope with respect to the premium. This is saying simply that the lower the price of a (composite) commodity relative to another (composite) commodity, the larger the quantity of the former that is demanded.

For reasons to be noted, we are primarily interested in the position and changes in the position of the demand curve. It seems rather clear that the following factors account for the position of the demand curve:

i) *The level of income:* At any level of the premium, the higher Pakistan's income, the more vouchers will be demanded.

ii) *The amount of foreign exchange allocated by regular commercial licence for the importation of items included in the bonus list:* Evidently, the greater is this amount, the less will be the demand for vouchers as the cost of foreign exchange through regular licensing procedure is equal to the official exchange rate only.

iii) *The tariff rate on the items included in the bonus list:* An increased tariff results in an increased rupee-cost of imports and would, therefore, depress the level of the demand curve.

iv) *The extent and effectiveness of price control on the "imported" items:* Price control that forces prices below the market-clearing level will mean that the profitability of imports is

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2. Speculative holding of vouchers is probably not very important due to time limitation on the use of the voucher.

thereby reduced below what it would be in the absence of the controls. Price control could be severe enough to negate the effect of the scheme.

v) *A change in the number of items on the bonus list or on the list of items that may be imported under both commercial licences and bonus vouchers:* A reduction in the number of items on the bonus list will lower the demand for vouchers, and the addition of an item on the bonus list to the commercial licence list will also lower the demand for vouchers. In both cases, demand declines because the voucher now has control over fewer items of import.

vi) *Uncertainty about the future import policies of the country:* There are many sources of such uncertainty that will have an impact on the level of demand at any one time. Generalizations are difficult but some minor month-to-month movements are probably due to this factor.

The supply curve of vouchers is simpler. The curve may be assumed to slope upward to the right because the higher premium will attract commodities into exports away from the domestic market and out of an increased output. Also we may expect that the higher the premium, the less willing the earner of the vouchers is to use it for his own imports. The higher the premium the larger the proportion of the vouchers earned that are placed on the market[3]. The elasticity of supply of vouchers then depends on the elasticity of supply of exportables, on the elasticities of domestic and foreign demand for exportables and on what may be called the elasticity of demand for vouchers by the voucher earner. The greater the sum of these elasticities the greater will be the elasticity of supply of vouchers.

The position of the supply curve will be determined by the usual factors affecting conditions of output, chiefly technological change and capital accumulation. It will also shift if changes are made in the list of bonus items and/or if the proportion of foreign exchange earned by bonus items that is released for vouchers is changed. Thus, if some commodities were moved from the 20-per-cent category to the 40-per-cent category, the supply curve of vouchers would be expected to move to the right.

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3. It may be that, if the premium falls below a certain level (above zero), *no* vouchers would enter the market; but the data available do not suggest this.

The equilibrium level of the premium is determined at the intersection of these two curves[4]. Movements in the premium would be explained in terms of shifts in one of the curves. (In a short-run non-equilibrium situation, the premium will move toward the equilibrium point given the curves, but this movement we will not consider). The problem now is to explain variations in the level of the premium in these terms.

2) Variations in the Premium

The monthly values of the premium for the period July 1959 through December 1961 are shown in Chart 1 and Table VI.1. Monthly values are computed as the average of the daily values of the premium over the month. There are no records of the premium for the first six months of the scheme, January through June 1959. General information suggests that it was quite high in this period, and may have reached 200 in the early months of the scheme before it began to decline to the 158 level reached in July 1959. The chart, in general, suggests a long-run tendency of the premium to fall, interspersed, with periods of a few months duration when it seemed to be relatively constant.

Our discussion of the factors affecting the position and movements of the supply and demand curves suggest that the former is more likely to be reasonably constant than the latter. Technology has not changed significantly, nor is there much evidence of a significant shift in the supply curve due to capital accumulation. There have been two important changes in the regulations of the scheme which must have affected the supply curve, but they are clearly evident and we will note them later. In general, we will explain changes in the premium in terms of the demand curve moving up and down a relatively stationary supply curve.

Even on the demand side we can eliminate some of the factors mentioned earlier. The tariff schedule has not been changed significantly in the years of our study, and with a few notable exceptions price-control measures seem to have been about equally effective over the period. We may, therefore, use as the chief explanatory variables

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4. The reader is reminded that this level does *not* indicate what the exchange rate of the rupee would be in a free market.

TABLE VI.1

PREMIUM ON BONUS VOUCHERS, READY (KARACHI): MONTHLY AVERAGES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1959							158	157	165	161	167	169
1960	163	172	171	161	147	141	131	117	129	124	122	126
1961	140	139	125	119	118	109	99	93	114	108	118	145

Sources : Ministry of Commerce; and the Karachi Stock Exchange.

Note: The premium is the price for voucher to purchase Rs. 100-worth of foreign exchange.

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PREMIUM ON THE VOUCHER

CHART I

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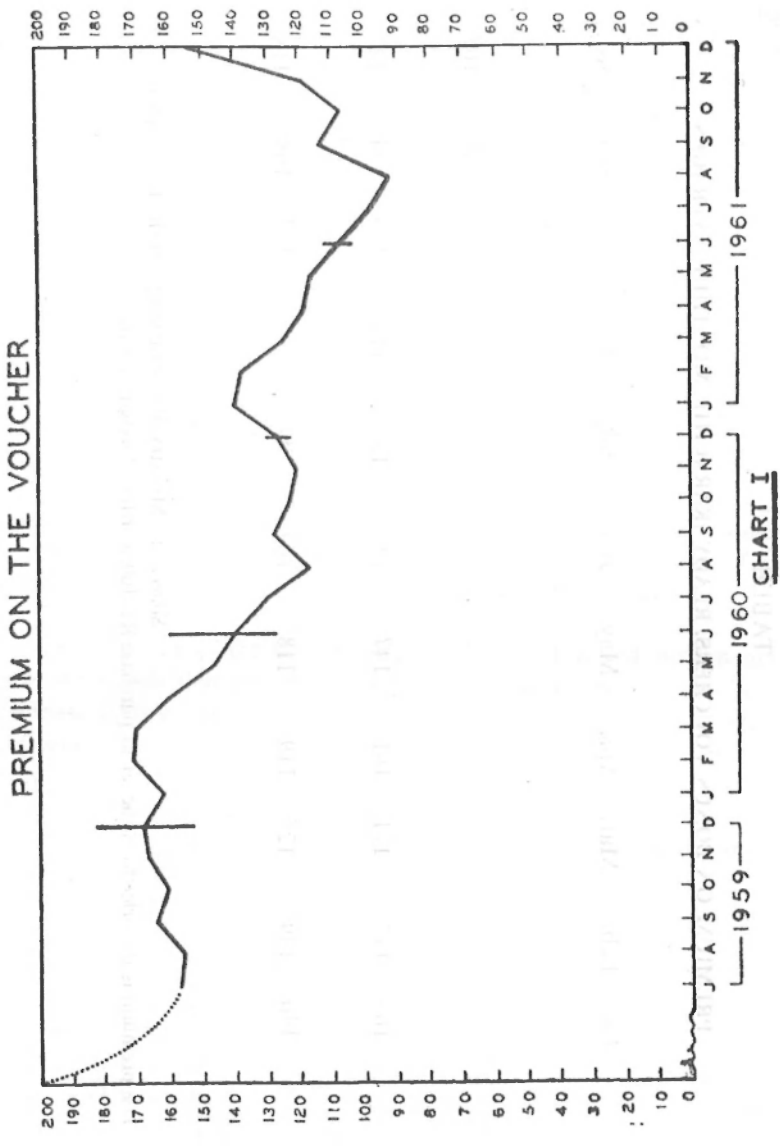
accounting for the variations in the premium, changes in the bonus-import list, change in regular-import restrictions, changes in the level of national income, and (as a last resort) matters affecting the degree of uncertainty. We shall consider each shipping period separately.

January-June 1959: This was a period of severe import restrictions. The list of imports allowed under regular commercial licences was reduced to 174 items from 207 items in the previous shipping period. Moreover, there was a strong domestic demand for many of these excluded items, *e.g.*, textile fabrics and clothing, glass and glassware, copra, nylon yarn, *etc*. Over forty items including those just listed were placed exclusively on the bonus-import list, and the entire demand for these items turned to the voucher market. About 165 items were common to both the regular-import list and the bonus-import list. But the allocation of foreign exchange for regular commercial import of these 165 items made little dent in what was obviously a strong domestic market and demand was, therefore, heavy for the vouchers. Also, in these opening months of the operation of the scheme, the supply of vouchers had not reached its full flow. The expected result would be a very high premium and although we have no data for this period, general information puts it, as we said above, possibly as high as 200 during much of this period.

July-December 1959: The regular commercial import list was enlarged to 201 items, and virtually no significant item was kept exclusively as a bonus import. Furthermore, a somewhat larger amount of foreign exchange was allocated for the commercial list. In this period, also the supply curve of vouchers reached the point that we referred to above as being reasonably stationary. Thus, the premium hovered around a much lower level in this shipping period than in the previous one.

January-June 1960: There was virtually no change in the commercial import list and in the value ceilings in this shipping period compared to the preceding one. But the addition of 4 new items (especially important was the adding of motor cars) to the bonus-import list in January surely moved the demand curve to the right. Also in January the bonus on cotton yarn was reduced from 20 per cent to 10 per cent; and this necessarily resulted in some curtailment of supply. As a result, the premium in the first half of this period showed a ten-

dency to rise. However in March 1960, a special allocation of Rs. 50 million of foreign exchange was made for the importation of consumer goods through regular commercial channels. This allocation resulted in a marked leftward shift of the demand curve for vouchers, and the premium began to decline and reached a low of 141 for June, the last month of the shipping period.

July-December 1960: Further liberalization of commercial imports for this shipping period pushed the premium below 120 by August. The regular-import list was reduced to 188 items, but 29 items were placed on automatic licensing. At the same time 6 items, including some obviously high-profit ones, were removed from the bonus list in late June 1960. By August the premium seemd to have reached a new equilibrium and levelled off around 120 for the remainder of the period.

January-June 1961: The marked rise in the premium in January relative to the preceding December is probably a supply phenomenon. Cotton yarn was removed from the list of exports earning vouchers and as yarn exports were no small item of export, the supply curve was, therefore, pulled back leftward. However, the import-liberalization policy continued. The regular-import list contained 186 items of which 69 were under automatic licensing. This resulted in severe downward pressure on the premium and despite some curtailment in supply it began to decline after February. It continued to decline throughout the rest of the period, falling to 109 by June.

July-December 1961: The import-liberalization policy continued in this period. There were 184 items on the regular-import list, including 49 on "Open General Licence" and 14 on automatic licence. This increased liberalization apparently countered a minor negative supply effect due to a new regulation requiring the jute industry to use one-half of its voucher earnings for the import of jute-manufacturing machinery. This regulation would reduce the number of vouchers coming on the market by an unknown amount since we do not know what proportion of their vouchers the jute industry was already placing on the market. But since the jute industry did protest this decision, we may be entitled to assume that some reduction was forced on them. The premium, however, declined through August and it required the inclusion of artsilk yarn, a highly lucrative import, on the bonus list to

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boost the premium. The sharp upturn in the premium in the last half of this shipping period is surely accounted for by the addition of this item to the bonus-import list.

The preceding discussion of the course of the premium included no reference to income. In general, we believe that the other factors mentioned submerged any income effect that may have been operating. The unsatisfactory nature of available income data do not permit an examination of this argument. Similarly, we have not explicitly mentioned speculation. As noted above, some fluctuations are surely due to this factor, but it seems likely that it was chiefly responsible for minor month-to-month changes in the premium.

From this survey of the factors affecting the premium, we conclude that its major determinants are the composition of the list of items allowable through commercial licences and the quantity of foreign exchange allocated for this purpose. Also important is the list of items that may be imported against bonus vouchers. Lesser importance may be attached to the other factors mentioned in our survey. The explanation of the variation in the level of the premium seems fairly satisfactory. It also seems evident that the premium can be moved significantly by policy decisions relating to composition of the lists of eligible imports against vouchers and against commercial licences. This last point suggests another important question about the premium: How high "ought" the premium be? We consider this question now.

3) The Optimum Level of the Premium

Although the bonus scheme was used to build up foreign-exchange reserves in the first year—especially the first six months—of its operation, its major purpose was to increase exports in order to increase imports. We will consider the question of how high the premium *ought* to be on the assumption that exports and imports increase about equally in terms of foreign exchange.

Assume first that there is only one commodity imported and only one exported. Assume further that the bonus scheme is not in operation and there is no price control.

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If there are import restrictions (if there is excess demand for the imported product at the official exchange rate) then we may conclude that the " domestic value for welfare purposes of imports worth one dollar in the foreign market will be greater than the domestic value for welfare purposes of exports worth one dollar in the foreign market"[5]. If now the domestic prices can be taken as indicators of the domestic welfare value attached to a commodity, this proposition would mean that $\dfrac{Q_d}{Q_f} > \dfrac{P_d}{P_f}$ or $\dfrac{Q_d}{P_d} > \dfrac{Q_f}{P_f}$, where Q_d and

Q_f are the domestic and the foreign price respectively of the imported product and P_d and P_f are the domestic and the foreign price respectively of the exported product. Import restrictions raise the domestic price of the imported product above its foreign price. The domestic price of the exportable may also be above its foreign price if the elasticity of foreign demand is greater than that of domestic demand, i.e., if $E_f > E_d$ (Section I). But we may safely say that, on balance, for Pakistan $\dfrac{Q_d}{P_d} > \dfrac{Q_f}{P_f}$.

Now let us assume that P_f and Q_f remain unchanged while exports and imports increase equally in terms of foreign exchange, i.e., $\triangle MQ_f = \triangle XP_f$, where $\triangle M$ and $\triangle X$ are small quantities of imports and exports respectively. Multiply this by the inequality $\dfrac{Q_d}{Q_f} > \dfrac{P_d}{P_f}$

and we see that $\triangle MQ_d > \triangle XP_d$. But $\triangle XP_d$ is the 'welfare cost' to society of this small increase in exports and $\triangle MQ_d$ is the ' welfare gain ' from the small increase in imports. Evidently then the country can gain by increasing exports to obtain more imports so long as $\triangle MQ_d > \triangle XP_d$, i.e., $\dfrac{Q_d}{P_d} > \dfrac{Q_f}{P_f}$ [6].

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5. S. S. Alexander, "Devaluation Versus Import Restrictions As An Instrument for Improving Foreign Trade Balance", *IMF Staff Papers*, April 1951, Vol. 1, p. 379.

6. It is evident that we have in this argument made a number of rather heroic assumptions. We shall proceed with the argument, and then undertake to say a bit about the conditions required to make it valid.

But as exports and imports increase Q_d will tend to fall and P_d rise. In other words, increasing trade will result in $\dfrac{Q_d}{P_d}$ approaching a constant $\dfrac{Q_f}{P_f}$. When these two ratios are equal, $\triangle MQ_d = \triangle XP_d$. As a rough and ready guide, we may say that the premium "ought" to be at the level which will produce a quantity of exports and imports that will equate the two price ratios. We can see that the decline in Q_d will be greater for a given increase in imports the less is the elasticity of home demand for the imported commodity. Similarly, a given increase in exports will raise P_d the more the less is the elasticity of export supply[7]. The desired equality between the ratios will, therefore, require a smaller increase in exports the smaller are these domestic demand elasticities. If the export supply elasticity is zero, there can be no increase in exports or imports, and, therefore, no welfare gain is possible.

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7. The elasticity of export supply is the weighted sum of the elasticities of domestic demand for and domestic supply of the exportable.

Let D = domestic demand for the exportable
S = domestic (total) supply of the exportable
X = export supply, i.e., domestic supply of the exportable for _export_
P — domestic price of the exportable

then $X = S - D = f(P) - F(P)$

$$\dfrac{dX}{dP} = \dfrac{dS}{dP} - \dfrac{dD}{dP}$$

Further let E_x = elasticity of X
E_d = elasticity of D
E_s = elasticity of S
and then

$$E_x = \dfrac{dX}{dP} \cdot \dfrac{P}{X} = \dfrac{(dS - dD)}{DP} \cdot \dfrac{P}{S-D}$$

$$= \dfrac{S\left(\dfrac{P}{S}\right) \cdot \dfrac{dS}{dP} - D\left(\dfrac{P}{D}\right) \cdot \dfrac{dD}{dP}}{S - D}$$

$$= \dfrac{SE_s - DE_d}{S - D}$$

See, F.B. Horner, "Elasticity of Demand for the Exports of A Single Country", _Review of Economics and Statistics_, November 1952.

It should be noted here that the priceratio-equalization criterion is not valid if the terms of trade do change as a consequence of change in Pakistan's exports. Although we may safely assume that the supply curve of imports to Pakistan is horizontal, the foreign demand curve for exports may be downward sloping and P_f may fall as exports increase. In this case the optimum premium is reached before

$\dfrac{Q_d}{r_d}$ has fallen to the level of $\dfrac{Q_f}{r_f}$. But since no significant decline

in export price, consequent to an increase in bonus export, is very likely, the criterion suggested earlier may reasonably be maintained as a rough approximation. If, however, the elasticity of foreign demand is less than unity, any increase in exports must reduce import capacity, and would result in a net loss of " welfare gained from trade" (as defined earlier).

What products should be included in the scheme, either as exports earning vouchers or as imports allowed against vouchers? Some we may rule out immediately. On the exports side any product for which the foreign demand curve is inelastic (*i.e.*, $E_f < 1$) in the relevant range can be excluded. Similarly, an export item for which the domestic supply elasticity and the elasticity of domestic demand are zero is ruled out. On the import side, no product should be included if the domestic demand curve has an elasticity equal to zero over the relevant range or if the foreign supply curve has zero elasticity. But these conditions will probably rule out very few imports[8]. The criteria most likely to eliminate products are those of low elasticity of foreign demand for exports and the inability of the domestic economy to increase the quantity exported without unacceptable price rises.

If we eliminate the products falling into any of the above categories what more can be said? Clearly, any commodity for which foreign demand has an elasticity in excess of unity and an export supply elasticity greater than zero should earn vouchers. But how much should

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8. Even they must be qualified if we take a longer view and consider movements of the relevant curves rather than movements along a given curve. It is evident how movements of the curve will affect our results, and we need not elaborate. More importantly of course is the fact that as new evidence becomes available that suggests the curves have shifted, then a change in the composition of the import and export list may be effected.

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be exported? The maximum amount of foreign exchange that can be earned would result from exporting all products to the point where the foreign demand became inelastic or export supply elasticity becomes zero. But of course there is a domestic price effect and as P_d rises the welfare advantages of exports decline, and hence will impose a limit on exports independently of foreign demand.

On the import side, the problem is more difficult. Some commodities are completely excluded from import on the ground that they are "luxuries" that a developing economy can ill afford. Suppose we assume that a list of "useful commodities" for import can be made up by the authorities responsible for establishing Pakistan's trade regulations. This decision is made on the basis of an examination of the development plans and maintenance needs. Assume further that commodities on the list would be importable only against bonus vouchers, that there are no regular commercial licences issued and all exports receive 100 per cent vouchers. Then we would want a premium

such that $\dfrac{Q_d}{P_d} = \dfrac{Q_f}{P_f}$ held for any two products which are exported

and imported. If $\dfrac{Q_d}{P_d} > \dfrac{Q_f}{P_f}$, an increase in imports and exports

resulting from an increased premium would raise the welfare gained from trade. Under the assumption of a fixed import list the way open to raise the premium is limited to changing the tariff schedule. A reduction in the tariff rate on the items included in the bonus list will raise the premium. This will in turn increase exports and permit an increase in imports. This may be continued until the equality of the ratios is achieved.

Here we have assumed that the government decides what commodities may be imported. The tariff schedule and the market determines the composition of imports within this list. The system actually operating does not rely very heavily on tariffs to control the composition of imports within the allowable list. As we have already noted this is done by allowing the market *via* the premium to determine only a very small proportion of the total imports. Licensing determines the rest and the composition of imports is therefore determined largely by edict. But there is no reason—except maybe lack of knowledge— why the tariff schedule could not be adjusted to get the same result as

that determined by edict. Similarly, the licensing authority can in effect act as a price system, and determine the composition of imports in the same fashion as would the market with a given tariff schedule.

The reasons for relying on licences as opposed to tariffs other than lack of information about the impact of the tariff may be some undesirable features of a frequently changing tariff schedule and perhaps a feeling that tariff schedules cannot be made high enough without other possible undesirable repercussions. It, however, seems clear enough that the results to date of the import composition against bonus vouchers support very strongly the hypothesis that relying on the market, given the list of importable commodities and the tariff schedules, results in at least as effective a use of foreign exchange as does heavy reliance on a licensing system. A further discussion of this point will be given later.

One final point. If the premium declines in spite of reducing the tariffs on the initial select list and if exports could be increased without violating any of the conditions set forth above, then new products can be added to the import list. Indeed a declining premium with spare export capacity and an elastic foreign demand is a sign that new products ought to be included in the import list. As we have seen, adding new products to the import list will raise the premium because of its effect on the position of the demand curve[9].

This modification in the mechanics of the bonus scheme seems to flow from our analysis of the "optimum level" issue. Such a modification however creates problems and questions of its own. We have suggested that all foreign exchange earned by bonus exports be rationed in the voucher market. This would mean that all exports earning vouchers received the same percentage (100 per cent) of vouchers. Under present arrangements there is a differentiation, some items receive 20 per cent and some 40 per cent. There is obvious advantage in this differentiation as some exports need a greater subsidy than do others. For most products, this differentiation may be accomplished equally well through a taxation policy or in some instances *via* the tariff policy already described. For those items not included in the scheme (*i.e.*, those for which no vouchers are earned) the assumption

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9. This procedure is made simpler by virtue of the fact that we may assume that import of foodgrains is free.

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is that they are already exported in the quantities where the elasticity of foreign demand is no greater than unity, and no further incentive for export is called for.

With the present system most commodities may be imported against either bonus vouchers or commercial licences, while we have suggested only one list of imports. Again here the importer who receives the commercial licences is subsidized relative to the one who imports against vouchers. Again we acknowledge that it may be useful to discriminate in this way, but to a significant degree this can be accomplished adequately through tariffs. Since some exports will not earn vouchers, what happens to the foreign exchange that these items earn? It is now used for imports against commercial licences. In the minor modification to the scheme suggested here this foreign exchange too would be placed in the voucher market by the government. The government would thus receive the premium payment arising out of the sale of vouchers for foreign exchange earned by these exports. With one hundred per cent (less whatever official government uses are required) of the foreign exchange placed in the voucher market the premium would tend to be lower than now. The subsidy to the exporter will be larger however under this modified version for now he would receive the premium on the whole amount of his export earnings. There seems to be little reason to allow some items to be imported only against commercial licences and others only against vouchers. The import list is determined on the basis of a set of priorities, and thus no item eligible for a commercial licence should be omitted from the list. Similarly, with all the foreign exchange earning vouchers, it would appear to be unnecessary to include in the import list the luxury type goods to keep the premium up. This too we believe would constitute an improvement.

Our proposal may also require more frequent changes in the tariff schedule than is customary. This is an inconvenience of some importance, but should become less so as the scheme operates and we learn more and more how the economy responds.

It may seem that this suggested change is overly radical as it involves a drastic reduction in the role of licensing. The conclusion, however, seems to flow from our analysis. At the same time we recognize that there are many important noneconomic reasons for not

reducing the role of licensing, and we would not argue that the considerations discussed here should be overriding. It is, however, important to see where an economic argument leads and what the consequences are of violating it.

It may be well to repeat an earlier point. To determine what goods should be imported in what relative amounts in a reasonably rational way by licensing requires vast quantities of data and a very detailed understanding of how the economy works. Our suggested modification rests essentially on the argument that we can decide reasonably well what imports have a high priority, but once that is decided the market can do a much better job determining the relative amounts of each item[10].

Perhaps the major economic question mark in our suggestion has to do with the assumption that relative domestic prices were a guide to the welfare value of the traded goods. The position suggested implies reliance on the market to determine the composition of imports, given the list of importables and the tariff schedule. If relative prices do measure true "social" scarcities, then this is the end of the argument. However, in almost all markets there are any number of reasons to expect that prices do not measure exactly what we would like them to measure. We have suggested that, by limiting the number of items that could be imported and by adjusting the tariff schedules, the failures of the market to result in the socially desirable composition of imports could be corrected. It is to be emphasized that the comparison is not between an ideal composition of imports defined in some abstract fashion and the market-determined composition, but the latter compared to that which can be determined by the licensing authority. Thus, the final argument as to the usefulness of having a licensing system along with the voucher system must rest on the actual composition of imports against vouchers compared to that against commercial licences and then an attempt to examine these with respect to their impact on the economy. This we do in Section VII.

To use the suggested criterion as a practical guide to the premium question, a lot of data and computing would be required.

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10. There are many other modifications to the scheme that one might introduce, but a full discussion is out of place here. The modification suggested here—as noted in the text—seems to flow rather automatically from our discussion of the "optimum premium", and hence we have included it.

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Rather than dealing with individual prices, an acceptable alternative would be to compute a price index of imports and exports included in the bonus scheme in domestic prices comparable to the one now available in foreign prices. Another important difficulty with this method is the selection of the base year. If in the base year the price ratios themselves were found to have the desired degree of inequality then we could use the indices with confidence. No such base period exists in a recent enough period to be usable, and it is doubtful whether any period of recent date would produce an acceptable base period. The most satisfactory approach would be to work with the price ratios themselves until a base is established, and then use the indices as the premium guide. Although much data are required to do this, it is not impossible to obtain since the number of export and import items for Pakistan is relatively small. A sampling process would save time even more.

A cruder guide would be the behaviour of the domestic wholesale price index of bonus exports. If this index exceeds the domestic wholesale price index excluding bonus items by (say) 25 per cent, the premium is "too high" and exports are "too large". Such a criterion is, however, at best a rule of thumb only.

4) The Incidence of the Premium

Another part of the premium issue has to do with its incidence. We have already seen that a basic principle of the scheme is to transfer the profits of importing from the importer to the exporter, and thereby encourage exports. The profits arose initially due to the fortunate importer receiving a commercial licence to buy foreign exchange at the official exchange rate and the strong domestic demand for imported commodities. In the prebonus period it was clearly the import consumer who paid the high profits of the importer. Does the final user of the imported product also pay the premium? In general, the answer is no; the importer himself must pay the premium.

The argument is the one discussed in the preceding section. Prior to the bonus scheme, the importer obtained his foreign exchange at the official exchange rate, but now he must pay the cost of the voucher and the cost of the foreign exchange at the official rate. But the price of imports, for reasons elaborated in the previous sections, not only

cannot be raised but indeed must tend to fall. Thus, if the importer seeks to pass on the cost of the premium by raising his price above his prebonus price, he will find that he cannot clear his market.

As we have seen if money income rises then the price of the imported product may be raised without resulting in stock accumulation. In this case, the premium may be passed on to the consumer of the imported product. But this is another matter and the consumer paying the premium is due to the increase in money income, not to the operation of the bonus scheme.

SECTION VII

THE ALLOCATION EFFECTS OF THE SCHEME

We have argued in the section on the effect of the scheme on prices that relative prices would tend to move in a way that encouraged a withdrawal of resources from use in the production of noninternationally traded goods to use in the production of exports. In particular, we have shown that the domestic prices of bonus-earning exportables rise relative to those of other commodities. Hence, the bonus-export sector should tend to attract more resources into it, especially if producers believe that the scheme will continue for a relatively long time. The important empirical question then is the extent to which a reallocation of resources has in fact taken place in response to the operation of the scheme. But this question simply cannot be answered satisfactorily given the available data. It is necessary to content ourselves with a much more modest objective, namely an examination of the allocation of foreign exchange made available through the bonus vouchers. From the results of this examination, we hope to be able to deduce a few conclusions about the more fundamental problem stated above.

1) Import Composition Under Voucher and Licence

Over the three-year period 1959-61, the State Bank of Pakistan issued to exporters bonus vouchers for Rs. 385 million in foreign exchange which was used for imports during this period or later. We have also roughly estimated earlier (Section IV) that the net contribution of the scheme to foreign-exchange earnings over this period was around Rs. 420 million. Thus, virtually the entire foreign-exchange contribution of the scheme was spent on imports against vouchers. Within the constraints set by the list of importables, the tariff schedule and price controls (if any), the composition of imports against foreign exchange released through the vouchers is determined by the market. A relevant question is: How does this composition of imports compare with that obtained through the licensing system? More specifically, is the composition of voucher imports more or less compatible

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with Pakistan's development objective than is the composition of regularly licensed imports? The most appropriate criterion for deciding on the consistency between the composition of imports and the development objective would seem to be the proportion of total imports whose use results in increasing output. Essentially, such goods are capital goods and raw materials, although some types of consumer goods might be included. The licensing system is supposed to establish the "correct" priorities. Indeed that is the logic for its existence. If the priorities are as well met by voucher imports as by licensed imports then we may consider the vouchers satisfactorily used.

The proportion of vouchers used by the voucher-earning industry is another guide to the impact of voucher imports. Presumably all such imports are used for increasing the capacity of an export industry, and they, therefore, constitute the most direct evidence of the kind of resource reallocation that the long-run success of the scheme requires. But we know that the willingness of the exporter to use his foreign-exchange earnings himself depends upon how he weighs the long-run return from increased capacity and output relative to an immediate return from the sale of the voucher. Thus, one of the factors affecting the allocation of foreign exchange earned by bonus exports is the capacity or willingness of the export producer to await the long-term gains that would arise from increased exports. It is, however, worthnoting specifically that investment of the new imports in a bonus-earning export industry is not a necessary condition for effecting the shift in the allocation of resources previously referred to. Any allocation which results either in a direct increase in capacity or output or in reduced costs of production in the foreign-trade sector, will contribute toward improvement in the balance of payments.

Consider now how the import composition was affected by the operation of the bonus scheme. Table VII.1 gives total private imports financed by export earnings. The grouping in this table, made necessary by the data, is not entirely satisfactory for our purposes. Group 3, for example, is excluded from the bonus-import list.

Because of severe import restrictions in 1959, there was a fall compared to 1958 in the relative shares as well as the absolute values of three major groups of imports: chemicals, machinery and transport equipment, and manufactured goods. This decline occurred in spite

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of import against vouchers. In 1960 and 1961, both magnitudes (relative share and absolute value) rose, but we cannot definitely establish

TABLE VII.1

PRIVATE IMPORTS* FROM OWN RESOURCES

(in crores of rupees)

Group	1957	1958	1959	1960	1961
1. Food, beverages and tobacco	1.82	2.15	2.46	4.34	3.35
2. Crude, inedible materials except fuels	4.38	2.88	3.64	5.26	7.68
3. Mineral fuels, lubricants and related materials	22.00	23.47	22.69	22.45	16.07
4. Chemicals, including drugs	9.11	9.42 (10.7)	8.23 (10.6)	14.27 (12.1)	18.33 (12.5)
5. Machinery and transport equipment	25.50	26.66 (30.4)	19.54 (25.1)	37.16 (31.5)	50.52 (34.5)
6. Manufactured goods	23.43	21.31 (24.5)	17.50 (22.5)	30.88 (26.2)	46.73 (31.9)
7. Miscellaneous items	1.80	1.82	3.67	3.72	3.69
Total	88.03	87.66 (100)	77.72 (100)	118.08 (100)	146.37 (100)

Source :   State Bank of Pakistan.

*On a mixed *c* and *f* and *f.o.b.* basis, excluding aid-financed imports.

Note : Figures in brackets indicate columnized percentages.

that this rise was due to imports against vouchers. Indeed, the available information strongly suggests that the rise in chemical imports was due to the liberalization of the issuance of regular-import licences from July 1960. For the other two groups—machinery and transport equipment, and manufactured goods—the scant data available also suggest that increased imports were chiefly due to liberal licensing. But, as we shall see immediately, bonus vouchers made a significant contribution to increased imports of machinery and transport equipment. Adequate information was not available to permit an identical grouping of voucher imports, and hence a breakdown of Table VII.1 into bonus-licence imports and regular-licence imports is not possible. However, a roughly comparable summary of some available data is presented in Table VII.2.

TABLE VII.2

VALUE LICENSED FOR IMPORT AGAINST BONUS VOUCHERS

(in lakhs of rupees)

	1959	1960	1961
1. Machinery	215.12 (28.2)	629.14 (43.9)	481.70 (31.0)
2. Transport equipment	—	252.95 (17.6)	366.60 (23.6)
3. Chemicals, excluding drugs	121.37 (15.9)	56.45 (3.9)	11.87 (0.8)
4. Total value licensed against vouchers	762.89 (100)	1,433.89 (100)	1,552.33 (100)

Source : Office of the Chief Controller of Imports and Exports, Rawalpindi.

Notes: a) Figures in brackets indicate columnized percentages.
b) Unlike Table VII. 1, 'machinery' excludes electric and telephone equipment, domestic refrigerators and sewing machines, typewriters, etc.
c) Unlike Table VII. 2, 'transport equipment' excludes bicycles and motor cycles.

The groups of items in Table VII.2 are more narrowly defined than similar groups in Table VII.1. Yet the share of machinery in import against vouchers (Table VII.2) is much larger in 1959 and 1960, and only slightly lower in 1961 than the combined share of machinery and transport equipment in total private imports (against vouchers and regular licences) during the same year. If electric and telephone equipment is included in machinery, the share of machinery in voucher import becomes larger than the combined share of machinery and transport equipment in total private imports even during 1961. Moreover, it is obvious that, if voucher imports were subtracted from total private imports of Table VII.1, the share of machinery and transport equipment in regular-licence imports would be still smaller. This strongly suggests that voucher imports were more heavily concentrated on capacity-increasing imports than were regularly licensed imports. The combined share of machinery and transport equipment is clearly much larger in voucher imports than in regular-licence imports for all these years, in spite of the fact that there was no import of transport equipment against vouchers during 1959.

Chemicals imports against vouchers included virtually no drugs due probably to the fact that they were under strong price control. No drug import is shown in Table VII.2. The share of chemicals in voucher imports was higher than that in regular imports during 1959, but declined absolutely and relatively from 1960 as regular imports were liberalized. The manufactured-group category in Table VII.1 includes both consumer goods and industrial inputs, and many of the former would generally be classified as not having a direct impact on the capacity of the economy. Comparable data on this category are not available for voucher imports, but the scant data available suggest that a high percentage of this category of voucher imports consisted of a number of less essential consumer items that had very little capacity effects. Thus during 1959, textile fabrics, secondhand clothing and earthenware accounted for about 16 per cent of total voucher imports, but this proportion declined in later years, being 6 per cent in 1960 and less than 4 per cent in 1961. It maybe, although the data are inadequate to be convincing, that the proportion of nonessential consumer items was higher in voucher imports than in regular-licence imports[1].

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1. It is of interest to note that almost the entire amount of nonessential consumer imports against vouchers went to Karachi area only.

TABLE VII.3

PRIVATE IMPORTS (EXCLUDING AID-FINANCED IMPORTS)

(in million rupees)

Imports	Regular cash (nonvoucher) licensing		Voucher imports	
	1960/61	1961/62	1960/61	1961/62
Iron and steel	68.3 (6.6)	34.6 (3.0)	1.5 (1.0)	2.3 (1.4)
Tools and workshop equipment	95.0 (9.1)	220.0 (18.9)	0.4 (0.3)	0.1 (—)
Machinery	50.4 (4.8)	125.9 (10.8)	51.0 (34.9)	46.2 (28.0)
Motor cars	8.2 (0.8)	8.2 (0.7)	5.2 (3.6)	4.8 (2.9)
Trucks and spares	15.6 (1.5)	22.4 (1.9)	27.8 (19.0)	8.2 (4.9)
Auto conveyances	8.5 (0.8)	15.0 (1.3)	3.2 (2.2)	0.3 (0.2)
Total value of imports	1,040.2 (100)	1,161.2 (100)	146.1 (100)	165.1 (100)

Sources: Planning Commission, *Mid-Plan Review*, October 1962; and State Bank of Pakistan.

Note: a) Figures in brackets indicate columnized percentages.
b) Each period is from July to June.

The contention of the foregoing paragraphs seems to be reinforced by another bit of data shown in Table VII.3. All items in the table have identical meaning for voucher and regular imports. It is clearly seen that while machinery and transport equipment has higher relative share in voucher imports, the relative share of iron and steel, and workshop equipment is higher in regular imports. This latter fact seems to be explained by liberal regular licensing. It should also be noted that motor cars had a larger share in voucher imports than in regular imports.

The relative composition of voucher and regular imports can also be seen from the proportion of 'development imports' in each. The detailed information is shown in Appendix A. A summary is given in Table VII.4. The definition of 'development imports' is the same as that used by the Planning Commission. During 1960/61, the proportion of development imports against vouchers is much higher than that

TABLE VII.4
PRIVATE IMPORTS (EXCLUDING AID-FINANCED IMPORTS)

(in million rupees)

Imports	Regular cash (nonvoucher) licensing		Voucher imports	
	1960/61	1961/62	1960/61	1961/62
Development imports	121.0	191.3	48.2	26.9
	(11.6)	(16.5)	(33.0)	(16.4)
Total imports	1,040.2	1,161.2	146.1	165.1
	(100)	(100)	(100)	(100)

Source: Same as for Table VII.3.

Note: a) Figures in brackets indicate columnized percentages.
b) Each period is from July to June.

against regular licences, and during 1961/62 the relative shares are virtually the same for both.

From the data so far presented, it seems fairly certain that the share of capital goods (however defined) in voucher imports is at least as large as and even larger than that in regular imports. Due to lack of necessary data, it is not possible to estimate the relative shares of raw materials and consumer goods in voucher and regular imports.

However, some detailed information is available for voucher imports. This is shown in Appendix B, from which it is possible to make the classification given in Table VII.5. Perhaps, the most interesting thing to note about the data in this table is the behaviour of raw-material imports, a big jump in July-December 1959 and afterwards a continuous decline until the last half of 1961 when again there was a big jump. This is explained chiefly in terms of a substantial amount of idle capacity in domestic industries due to lack of raw materials (and spare parts). Thus, with the advent of the bonus scheme, a heavy concentration of vouchers were directed toward obtaining these inputs that would permit a quick increase in output. With the big buildup in the last half of 1959 and the first half of 1960, demand dropped abruptly and revived after a year when artsilk yarn was removed from the regular-import list and added to the bonus-import list.

The changes in the other two categories, capital goods and consumer goods, seem to have some relationship with the changes in the premium. We might expect that a declining premium would tend to encourage the import of capital goods relative to consumer goods. This expectation emerges for reasons already noted, chiefly the greater willingness of the exporter to use the vouchers he earned himself and also the reduced premium means a reduced cost of investment. On the other hand, a high and rising premium encourages the exploitation of a quick gain. However, it should be emphasized that the data support this hypothesis only in a rough and ready way. Despite the vagueness with which the data lend support, it seems clear to us that the level of the premium has a significant effect on the composition of imports against vouchers. And this fact should enter into the calculations as to the items on the allowed import list and the tariff schedules discussed earlier.

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TABLE VII.5
VALUE LICENSED FOR IMPORT AGAINST BONUS VOUCHERS

(in lakh of rupees)

Imports	1959			1960			1961		
	Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total
Capital goods	50.89 (31.7)	164.23 (27.3)	215.12 (28.2)	373.96 (52.9)	455.26 (62.7)	829.22 (57.8)	438.57 (59.7)	344.06 (42.1)	782.63 (51.4)
Raw materials	35.49 (22.1)	163.69 (27.2)	199.18 (26.1)	121.56 (17.2)	57.90 (8.0)	179.46 (12.5)	55.59 (7.6)	128.63 (15.7)	184.22 (12.1)
Consumer goods	8.69 (5.4)	126.80 (21.1)	135.49 (17.8)	106.01 (15.0)	86.82 (12.0)	192.83 (13.4)	130.90 (17.8)	198.59 (24.3)	329.49 (21.6)
Miscellaneous articles unspecified	65.61 (40.8)	147.49 (24.5)	213.10 (27.9)	105.89 (14.9)	126.49 (17.3)	232.38 (16.3)	109.35 (14.9)	146.64 (17.9)	255.99 (14.9)
Total value	160.68 (100)	602.21 (100)	762.89 (100)	707.42 (100)	726.47 (100)	1,433.89 (100)	734.41 (100)	817.92 (100)	1,522.33 (100)

Source: Office of the Chief Controller of Imports and Exports, Rawalpindi.

Note:
a) Figures in brackets indicate columnized percentages.
b) Capital goods consist of tools and workshop equipment, machinery, commercial vehicles, auto conveyances, and ships and vessels.
c) Raw materials consist of iron and steel, chemicals, dyes, copra, paper and pasteboard, newspapers old, artsilk yarn, plastic compounds and nylon yarn.
d) Consumer goods consist of secondhand clothing, clocks and watches, earthenware, sugar, rubber manufactures, fabrics (N.O.S.), textile manufactures (N.O.S.), and motor cars.

2) Shift of Resources to Export Sector

The data do not reveal any striking discrepancy between voucher-import proportions and licensed-import proportions, although in some cases there does seem grounds for believing that certain types of consumer goods were brought into Pakistan in larger proportions against vouchers than against regular licences. However, there is some offset to this as raw materials and spare parts apparently were imported in greater quantities against vouchers than against regular licences, and such imports have an immediate upward impact on output. In the light of the available data it seems that the safest conclusion to emerge is simply that voucher- and regular-licensed imports occur in about the same proportions on import items included in both categories. This conclusion supports our argument in the section on price and price-level effects of the bonus scheme and hence the position taken there. However, there are additional questions to ask.

The fact that the import composition was not markedly affected by the scheme (at least in the first three years of its operation) does not tell us as much about its allocative effects as we would like to know. Presumably, a finer breakdown of the data would show whether or not the capital-goods component of voucher imports were in industries that were currently export industries or industries that expected to become so[2]. Our interest in the composition of voucher imports springs not only from the argument of the previous subsection, but also (as noted) from the possible clue that it might provide as to the strength of the resource-reallocation effect of the scheme. We may assume that if voucher capital-goods imports flowed into areas different from those of regular imports or all imports in the few years previous to 1959 so too would domestic resources, i.e., the change in the allocation of

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2. Industrywise breakdown of machinery imported against vouchers was available only for the period January 1959 through June 1960. The distribution was:

(*in million rupees*)

Jute textiles	Cotton	Chemical industry	Others	Total
17.9 (33.5%)	16.5 (31%)	5.2 (10%)	12.3 (25.5%)	51.9 (10.0%)

But, similar data were not available for regular-licence imports.

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capital-goods imports would also mean a change in the allocation of domestic resources. But this kind of change in the composition of imports we cannot document, and we are, therefore, unable to present a strong case for any conclusion. However, on the basis of what we do know the following argument seems plausible.

The bonus scheme, as we have noted, is a form of partial devaluation of the Pakistan rupee. Part of the logic of the scheme was the assumption that as a consequence of its operation, outright devaluation would be unnecessary. The economy would in effect "grow into the existing exchange rate." But such a growing-into requires the marked switch in resources that we have been discussing. Although substantial increases in export earnings were made by jute and cotton products, we pointed out earlier that the long-run outlook for these products is not very encouraging. Hence, it seems necessary for resources to move into potentially new export industries or at least into the export sectors other than jute and cotton. We can find little or no evidence that such a shift of resources is occuring. This discouraging result is, it is emphasized, a negative one and the period covered is only three years. Nevertheless, we believe that some evidence should have emerged in this period that we would have found, had a shift taken place or even begun.

If this conclusion is correct, it represents an extremely important implication for the scheme. It means in effect that the economy will not "grow into the existing exchange rate", but it means something else as well. It means that part of Pakistan's problems on the foreign-trade front are internal in nature. More specifically, it means that the permanent solution of the foreign-trade problem depends on, among other things, the creation of a flexible, responsive economic system. Unless resources move in respect to the needs of the system as revealed by the behaviour of relative prices, then it is virtually impossible to find a "permanent" solution to the trade problem. The failure, if it is a failure, of the scheme to have produced a major shift in the allocation of resources we regard as springing from the inflexibility and unresponsiveness of the Pakistan economy.

There are other factors that one might consider. The effect of the scheme on costs, on scale, on innovations, *etc.* There could be effects of great importance in all of these sectors, but we have found no way to isolate them and must necessarily ignore their possible existence.

SECTION VIII

CONCLUSION

Our conclusion can be brief. We have found that the scheme has resulted in a significant increase in Pakistan's foreign-exchange earnings over the three-year period, 1959 through 1961. This increase occurred chiefly in jute and cotton products and there was little evidence of major increases in export earnings in other products. We have also found that the level of the premium is subject to a rather clear explanation, and that the variables affecting that level were within our control. It, therefore, became appropriate to search for an "optimum" level of the premium, and this we also explored under some simple assumptions. We also found that, under the assumption of non-inflationary monetary policy, the incidence of the premium would be on the importer, and hence the profits of importing are transferred by the operation of the scheme from importer to exporter. Also we found that there were no adverse price-level effects of the scheme, although it might at times call for a particular monetary and fiscal policy. Finally, we have argued that changes in relative prices resulting from the scheme should work in the direction of reallocating resources in a manner that will make the allocation of resources more nearly consistent with existing demand conditions.

We found little or no evidence, however, that the price changes had produced a substantial change in the pattern of use of resources except in the use of raw jute and raw cotton. Since we believe that prices have moved in the way to make profitable a shift of resources to the export sector, the failure of such a shift to occur was attributed to the inflexibility and unresponsiveness of the Pakistani economy. This latter difficulty we cannot expect the bonus scheme to overcome.

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Appendix A

CASH LICENSING FOR DEVELOPMENT IMPORTS
(PRIVATE SECTOR)

(in million rupees)

Items	1960/61	1961/62
Iron and steel (10 per cent of total)	6.83	3.46
Tools and workshop equipment	9.50	22.00
Explosives	0.40	0.40
Building and engineering materials	14.21	11.33
Electric tubes, cables, wires and instruments	8.00	7.00
Accumulators and batteries	5.00	4.50
Anchors and cables	0.20	0.20
Hardware (50 per cent of total)	6.00	5.60
Scientific and surgical instruments	5.80	5.30
Typewriters (10 per cent of total)	0.45	0.40
Machinery and spare parts (10 per cent of total)	5.04	7.59
New units of machinery	—	50.00
Marine engines	2.60	2.60
Tractors	15.00	20.0
Photographic and optical instruments	1.70	2.00
Plants and seeds	3.20	2.40
Aeroplanes	1.20	1.20
Cycles (50 per cent of total)	7.75	7.50
Motor cars (50 per cent of total)	4.10	4.10
Motor cycles and scooters (50 per cent of total)	4.25	7.50
Trucks and spares (90 per cent of total)	14.04	20.17
Wood and timber (50 per cent of total)	4.50	5.00
Animals	1.20	1.00
Total	120.97	191.25
Total cash private imports	1,040.2	1,161.2

DEVELOPMENT IMPORTS AGAINST BONUS VOUCHERS
(PRIVATE SECTOR)

(in million rupees)

Items	1960/61	1961/62
Iron and steel (10 per cent of total)	0.15	0.23
Tools and workshop equipment	0.37	0.09
Building materials	0.17	0.28
Electrical instruments and goods	1.86	2.46
Accumulators and batteries	0.20	1.24
Iron and steel wires and ropes	0.02	0.06
Scientific appliances	0.49	0.14
Surgical instruments	0.03	—
Office machines	0.04	0.04
Machinery and spares (25 per cent of total)	12.74	11.54
Tractors	0.03	0.01
Photographic and optical instruments	0.03	0.01
Cycles (50 per cent of total)	0.04	—
Motor cycles and scooters (50 per cent of total)	1.62	0.15
Motor cars (50 per cent of total)	2.60	2.40
Trucks	27.80	8.17
Wood and timber	0.02	0.02
Animals	—	0.01
Total	48.21	26.85
Total value of imports against bonus vouchers	146.09	165.06

Source: Planning Commission, *Mid-Plan Review*, October 1962.

Appendix B

STATEMENT SHOWING THE VALUE OF PRINCIPAL ARTICLES LICENSED UNDER THE EXPORT BONUS SCHEME

(rupees in lakhs)

Description	I.T.C. classification	1959			1960			1961		
		Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total
1. Iron and steel	I	7.03	11.4	18.47	12.75	10.78	23.53	4.03	12.28	16.31
2. Tools and work-shop equipment	III	6.95	12.64	19.59	7.78	14.83	22.61	6.31	5.35	11.66
3. Secondhand clothing	A-1/6	2.38	24.40	26.78	22.16	19.87	42.03	15.65	8.58	24.23
4. Chemicals	C-1/1-7	11.29	76.89	88.18	28.85	7.44	36.29	1.91	0.97	2.88
5. Clocks and watches	C-2/1 & 2	2.65	12.26	14.91	20.24	24.06	44.30	39.65	28.46	68.11
6. Dyes	D/1-4	3.26	29.93	33.19	13.87	6.29	20.16	6.36	2.63	8.99
7. Earthenware	E/1/1	0.45	19.46	19.91	6.76	0.29	7.05	0.07	0.06	0.13
8. Machinery	M-2/1-3	43.94	151.59	195.53	296.51	310.02	606.53	202.01	268.03	470.40
9. Copra	O-2/1	0.97	8.71	9.68	5.47	11.04	16.51	17.09	15.35	32.44
10. Paper and paste-board	P-2/2 & 3	1.37	2.42	3.79	8.31	4.16	12.47	4.23	3.62	7.85
11. Newspapers old	P-2/4	3.38	5.94	9.32	1.72	4.77	6.49	9.03	4.18	13.21

(Continued)

Description	I.T.C. classification	1959			1960			1961		
		Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total
12. Sugar	P-6/22	—	—	—	—	—	—	—	86.75	86.75
13. Rubber manufactures	R/6	0.13	1.34	1.47	3.00	5.87	8.87	34.02	19.86	53.88
14. Artsilk yarn	T-2/2	—	—	—	—	—	—	—	79.69	79.69
15. Fabrics (N.O.S.)	T-2/11	0.84	58.61	59.45	18.23	6.88	25.11	10.57	8.29	18.86
16. Textile manufactures (N.O.S.)	T-2/19	2.24	10.73	12.97	9.58	3.02	12.60	5.69	6.17	11.86
17. Motor cars	V/4	—	—	—	26.04	26.83	52.87	25.25	40.42	65.67
18. Commercial vehicles	V/7	—	—	—	57.99	87.00	144.99	191.60	67.50	259.10
19. Auto conveyances	V/10	—	—	—	11.68	30.03	41.71	2.41	3.18	5.59
20. Ships and vessels	V/14	—	—	—	—	13.38	13.38	36.24	—	36.24
21. Plastic compounds	Misc. 1(9)/I&II	4.29	9.88	14.17	11.10	6.48	17.58	6.24	6.33	12.57
22. Nylon yarn	Misc.-2/20	3.90	18.48	22.38	39.49	6.94	46.43	6.70	3.58	10.28
23. Other articles		65.61	147.49	213.10	105.89	126.49	232.38	109.35	146.64	255.99
	Total	160.68	602.21	762.89	707.42	726.47	1,433.89	734.41	817.92	1,552.33

Source: Office of the Chief Controller of Imports and Exports, Rawalpindi.

Notes: a) '—' means nil or negligible,
b) 'N.O.S.' means 'not otherwise specified'.

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