Trade Policies and Structure of Protection in the Manufacturing Industries of Bangladesh

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The main purpose of this paper is to explore the nature, magnitude and consequences of economic incentives provided by the various trade industrialisation policies of the government to different manufacturing sectors of the Bangladesh economy. The paper is divided into three sections. Section 1 briefly recounts the background and nature of various trade and industrialisation policies pursued by the government of Bangladesh. Section 2 discusses a few analytical problems in the theory of effective protection. Section 3 deals with the actual problems in estimating effective rates of protection in Bangladesh, sources of data and analysis of the results obtained. Finally, there is an interpretation of the results with some concluding remarks.

Section 1 : Background and Nature of the Trade and Industrialisation Policies in Bangladesh

The present industrial structure of Bangladesh is greatly influenced by the past governmental policies of

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Pakistan. The broad feature of development strategy in Pakistan time was its bias in favour of import substitution rather than promotion of exports. There was heavy emphasis on the adoption of quantitative controls during the time of foreign exchange crisis. In order to put the current economic policies of the government of Bangladesh into a proper perspective, it is essential to know the quantitative effects of these policies in the past.[1]

It has been extensively discussed in the literature how domestic market prices vary substantially from the landed cost of imports under an import control regime. In perfectly competitive market condition the domestic price of an imported good would be equal to its landed cost. The landed cost is the sum of the c. i. f. import price, handling charges, import duty, sales tax (payable on the c. i. f. price including import duty) and a normal markup of the trader. The import restrictions in the form of licensing and exchange control can create an excess demand for the imported goods at the existing exchange rate, The excess demand may cause soaring internal prices of imported goods, as a result substantial profits may be reaped by traders even after covering all landed costs, including import duties and sales tax. This excess profit, i. e. the differential between landed cost and domestic price is defined as licence-created profit or markup.

The licence-created markup of domestic prices of imported commodities over their landed costs is an important factor in the allocation of scarce resources. In Bangladesh there were three surveys to determine

the magnitude and the effects of the scarcity markups of imported commodities. While two surveys were conducted by Pal[2] in 1964-65 and Alamgir[3] in 1966-67, the most recent was conducted by Bhuyan and Mahmud[4] in 1978-79. The difficulties in comparing these survey results on the scarcity markups are enormous. The commodity composition covered by the three surveys as well as the different policy measures affecting scarcity markups changed substantially over this period. Thus any meaningful comparison of markups over time must take these factors into consideration. Nevertheless, some rough idea of the movement of markups can be formed from Table 8. 1.

This table clearly indicates that in Bangladesh the scarcity markup at an aggregate level increased over time. Thus it rose from 41 per cent in 1964-65 to 45.5 per cent in 1966-67 and then to 60.1 per cent in 1979. It should be pointed out here that these aggregate figures are based on the commodity composition of the respective year which changed over time. The trend in the markup of three broad categories of commodity, i. e. consumption goods, intermediate goods and capital goods, is not similar in nature. Table 8. 1 shows that in the case of consumption goods the trode markup declined from 44. 2 per cent in 1964-65 to 27. 8 per cent in 1966-67 but this increased to 67.3 per cent in 1979. On the other hand the trade markup of intermediate goods rose from 41.5 per cent in 1964-65 to 60.5 per cent in 1966-67 and then to 61.4 per cent in 1979. The trade markup of capital goods increased from

39.7 per cent in 1964-65 to 50.5 per cent in 1966-67 and then fell to 36.8 per cent in 1979.

Table 1

Average Markup of Imported Commodities in Bangladesh : 1964-65 to 1979
(Figures in Percentages)

Commodity Cagegory	Dec, 1964-Feb. 1965	Nov. 1966-Feb. 1967	Feb-April 1979
A Consumption goods	44,2	27.8	67.3
B Intermediate goods	41.5	60.5	61.4
C Capital goods	39.7	50.5	36·8
D Total	41 0	45.5	60,1

Sources (1) Alamgir, M. (1968), 'The Domestic Prices of Imported Commodities in Pakistan : A Further Study ;, *The Pakistan Development Review.*

(2) Bhuyan, A. R. and Mahmud, W. (1979) *Domestic Prices of Imports in Bangladesh : An Analysis of Trading Margins Under Exchange Control*, Dhaka, July.

From this it may appear that the import control on consumption goods was more stringent in the recent period. On the other hand, in comparison with the past import control measures on capital goods seem to be more liberal at present. This is, of course, a reflection of the basic nature of the overall import substitution strategy. It is well known that in Bangladesh import substitution policy particularly in the early phase of it, encourages the production of consumer goods which

have a ready market. In practical terms this means that the government would apply import control measures on consumption goods more stringently than on the other categories. On the other hand the inputs for the production of these consumption goods, i. e. intermediate goods and capital goods would be imported at more concessional terms and conditions.

However, these aggregate figures conceal many important divergences in the trade markup of individual commodities. The problem of comparing trade markup of an individual commodity is that the number of commodities common to all the three surveys is not very large. Nevertheless, it is worthwhile to make comparison of the scarcity markup of this small number of commodities and the figures are presented in Tables 2. to 4. The trade markup of individual consumption goods and consumer durables in Bangladesh is shown in Table 2. It can be seen that the trade markup of individual commodities like milk, sago, pepper, and whisky, increased substantially during this period. This clearly reflects the existence of a considerable amount of excess demand for these products in the domestic market of Banglad esh.

The big trade markup of whisky by an exceptional amount of 271.31 per cent in 1979 reflects the presence of a very high demand for the commodity. It is, of course, well known that in Bangladesh because of social and religious reasons strict control measures are applied to the import of hard liquor. In the case of beer, the trade markup was as high as 917 per cent in 1966-67 but it declined to 35,57 per cent in

Table 2

Rates of Markup on Imported Consumption Goods and Consumer Durables in Bangladesh : 1964-65 to 1979 (Figures in Percentages)

Commodity	Markup in Pal's Study : Dec. 1964-Feb. 1965 Chittagong	Markup in Alamgir's Study : Nov. 1966-Feb. 1967, Chittagong	Markup in Bhuyan and Mahmud's Study : Feb.-April 1979		
			$\frac{P_w - P_c}{P_c}$ Dhaka	$\frac{P_r - P_c}{P_c}$ Dhaka	$\frac{P_r - P_c}{P_c}$ Chittagong
Milk	15	25	29.58	33.33	33.33
Sago	23	15	27.31	69.74	18.32
Coffee	26	13	—	4.17	4.17
Beer	55	917	35.57	35.57	27.32

Pepper	62	26	66.44	177.40	131.17
Whisky	57	228	271.31	271.31	224.89
Tobacco for pipes	16	23	21.36	31.47	31.47
Radios	58	227	—	5.56	0.0
Domestic refrigerators	5	14	—	17.30	17.30
Electric lamps	39	16	18.40	24.94	—

Notes : P_w = domestic wholesale price ; P_r = domestic retail price ; P_c = landes cost, i. e. f. price tariff + sales tax etc.

Sources : (1) Pal, M. (1964), 'The Determinants of the Domestic Prices of Imports,' *The Pakistan Development Review*,

(2) Alamgir, M. (1968), 'The determinants of the Domestic Prices of Imports in Pakistan—A Further Study', *The Pakistan Development Review*.

(3) Bhuyan, A. R. and Mahmud, W. (1979), 'Domestic Prices of Imports in Bangladesh : An Analysis of Trading Margins Under Exchange Control', Dhaka, July.

Table 3

Rates of Markup on Imported Intermediate Goods in Bangladesh : 1964-65 to 1979 (Figures in Percentages)

Commodity	Markup in Pal's Study : Dec. 1964-Feb.1965, Chittagong	Markup in Alamgir's Study : Nov. 1966-Feb. 1967, Chittagong	Markup in Bhuyan and Mahmud's Study : Feb. April 1979		
			$\frac{P_w-p_c}{P_c}$ Dhaka	$\frac{P_r-P_c}{P_c}$ Dhaka	$\frac{P_r-P_c}{P_c}$ Chittagong
Natural rubber	32	55	36.99	—	—
Gum arabic	26	40	31.04	—	—
Acetic acid	54	61	80.30	134.51	134.51
Caustic soda	11	46	30.72	—	—
Cotton yarn	36	11	3.42	7.18	—
Nylon twine	32	11	33.91	45.56	45.56
Coconut oil	156	90	18.27	21.86	21.86
Parafin wax	32	57	27.23	—	—

Notes : Same as for Table 8. 2

Sources : Same as for Table 8. 2.

Table 4

Rates of Markup on Imported Capital Goods in Bangladesh : 1964-65 to 1979

(Figures in Percentages)

Commodity	Markup in Pal's Study Dec. 1964-Feb. 1965 Chittagong	Markup in Alamgir's Study : Nov. 1966-Feb. 1967, Chittagong	Markup in Bhuyan and Mahmud's Study Feb.-April 1979		
			$\frac{P_w - P_c}{P_c}$ Dhaka	$\frac{P_r - P_c}{P_c}$ Dhaka	$\frac{P_r - P_c}{P_c}$ Chittagong
Cement	41	9	26.90	26.90	—
G. I. pipe	11	31	5.27	26.32	22.38
Lead sheets	78	74	17.78	37.41	33.49
Pig iron	5	8	86.36	—	104.80

Notes : Same as for Table 8. 2.

Sources : Same as for Table 8. 2.

1979. Most probably beer is imported in Bangladesh more liberally in the recent time. The easy availability of beer in the market in comparison with that of hard liquor gives that impression. The scarcity markup of radio was as high as 227 per cent in 1966-67. There is no information on the wholesale trade markup for radio in 1979. However, the retail trade makup was 5.56 per cent in that year and this indicates that the wholesale trade markup of this commodity declined substantially in the recent time. Domestic refrigerators' retail trade markup was 17.30 per cent in 1979 and possibly wholesale trade markup of this household good was not significantly different from that of 14 per cent in 1966.

There is a large demand for radios and refrigerators in the domestic market. Until recently Bangladeshi nationals could import these consumer durables into the country as free of duty under the passenger's baggage rule. A large amount of these two goods are also sold by the incoming passengers from abroad directly to businessmen in the market. This is perhaps one of the main reasons why the trade markup of these two commodities is not that high in the recent time. The retail trade markup of coffee was only 4.17 per cent. Thus the trend in the wholesale trademark of coffee was declining in the period under review and it may also be noted that in Bangladesh consumption of coffee is not large.

The scarcity markup of pepper declined from 62 per cent in 1964-65 to 16 per cent in 1966-67 and then increased to 66.44 per cent in 1979. This again

reflects the existence of a substantial excess demand for pepper in the domestic market of Bangladesh. The trade markup of tobacco for pipes increased from 16 per cent in 1964-65 to 23 per cent in 1966-67 and then declined to 21.36 per cent in 1979. It appears that the trade markup of this commodity remained stable between 1966-67 and 1979. In the case of electric lamps the scarcity markup declined from 39 per cent in 1964-65 to 16 per cent in 1966-67 and then increased to 18.40 per cent in 1979. In this case also it may be said that the trade markup remained stable between 1966-67 and 1979.

In Table 3, the trade markups of a few imported intermediate goods in Bangladesh are reported. It can be seen from this table that only in the case of acetic acid and nylon twine did the trade markup increase. In the case of other intermediate goods the scarcity markup declined. The largest amount of decline was in the case of cotton yarn which decreased from 36 per cent in 1964-65 to 11 per cent in 1966-67 and then to 3.42 per cent in 1979. This is of course understandable, the whole purpose was to give incentive to the development of the domestic cotton textile industry.

Figures on the trade markup of only four imported capital goods in Bangladesh are shown in Table 4. In the case of G. I. pipe and lead sheets the scarcity markup fell substantially but the trade markup of pig iron increased by a considerable amount in the period under review, i. e. it increased to 86. 36 per cent in 1979. This definitely reflects the existence of a substential amount of excess demand for pig iron in the

domestic market. In the case of cement the scarcity markup declined from 41 per cent in 1964-65 to 9 per cent in 1966-67 and then it increased to 27.9 per cent in 1979.

It was mentioned earlier that Bangladesh inherited a complex foreign trade regime from Pakistan. The priorities of development in a trade control regime are reflected in the overall trade and industrial policies pursued by the government. The data on markup of different categories of commodities clearly demonstrate that Bangladesh laid down some kind of emphasis on import substitution in consumer goods. While the import of consumer goods is allowed under stringent trade control regulations, that of intermediate and capital goods is allowed under relatively more liberal regulations in order to provide incentives to boost up domestic production of the former group of commodities in Bangladesh.[5]

Section 2 : The Theory of Effective Protection

Although the growth and structure of trade markups of broad categories of commodities can give a rough idea about the priorities of trade policies, the impact of various trade policies on the different industrial sectors of the economy cannot be ascertained. One of the central endeavours in the recent literature of development economics and international trade theory was to develop a framework for an analysis of the consequences of the complex set of trade policies on domestic resource allocation of a country. The development of the concept of effective rate of protection was one such attempt

towards achieving that goal. In contrast to nominal protection on output, the concept of effective protection refers to the protection of value added created in the process of an activity. This concept is extensively discussed in the literature by Johnson[6], Corden[7], Balassa[8], Basevi[9], Bhagwati and Srinivasan[10], and Grubel[11].

The basic idea of effective rate of protection is very simple. It is well known that in order to produce a final output other outputs are needed as intermediate inputs. The concept of effective rate of protection is explained first, simply with reference to tariff protection only. Thus, when a tariff is imposed on the import of a final good it raises the price of that good in the domestic market. This divergence between the domestic price and the world price of the commodity is considered as nominal protection provided to this good. This increase in the domestic price of the commodity is pertinent to the decision-making of the consumers of this commodity.

For the producers, in addition to the price of the commodity itself, there is another important consideration in their decision-making, i.e. resource allocation to the production of this commodity. The tariffs on imported inputs which are used for the production of the final good are also relevant factors in the decision-making of the producers. The underlying reason is that the tariffs on intermediate inputs will increase the cost of production of the final commodity. Therefore, an effective rate of protection is defined in terms of value-added due to the production of a final good and it takes into account the effects of the complete tariff system. To put it

more formally, the effective rate of protection can be defined in the following way :

$$E\,R\,P = T_i = \frac{W_i - \hat{W}_i}{\hat{W}_i} \qquad (8.1)$$

where

W_i = value added in sector i at domestic prices

$\hat{W}_i$ = value-added in sector i at world prices

T_i = effective rate of protection in sector i.

In a very simple case where there is only one intermediate input j in the production of good i and where value of output at domestic market price is denoted by x_i and value of output at world price is denoted by $\hat{x}_i$, t_j is the tariff rate on input j, and t_i is the tariff rate on output i, then it is essentially a question of arriving at an expression for value-added at world prices. Assuming a competitive market structure, the only distortion in the model is tariff. It is also assumed that the world market price is an efficient guide for resource allocation. In other words this means that the economy has to accept the given world market price and the only modification in the whole system is the introduction of tariffs. The most important problem in an analysis of effective rate of protection is to get figures at world prices. This resolved by the assumption that tariff is the only factor that makes divergence between the world price and the domestic price. In other words, the implication of the assumption is that in order to derive figures in world prices from those in domestic prices,

the domestic figures should be deflated by the relevant tariff rates. In terms of notation, value added at domestic price for sector i is given by :

$$W_i = X_i - X_{ji} \qquad (8.2)$$

where

X_j = value of output sector i at domestic market price.

X_{ji} = value of jth input in sector i at domestic market price.

The value-added at world price for sector i is given by :

$$W_i = \frac{X_i}{(1+t_i)} - \frac{X_{ji}}{(1+t_j)} \qquad (8.3)$$

where t is the appropriate tariff rate.

From this analysis it follows that the effective rate of protection is given by :

$$T_i = \frac{W_i - \hat{W}_i}{\hat{W}_i} = \frac{(W_i - X_{ji}) - \left[\frac{X_i}{(1+t_i)} - \frac{X_{ji}}{(1+t_j)}\right]}{\left[\frac{X_i}{(1+t_i)} - \frac{X_{jt}}{(1+t_j)}\right]} \qquad (8.4)$$

This highlights the importance of three variables in the measurement of effective rate of protection. i. e. (1) tariff rate on the final output, (2) tariff rate on the intermediate input and (3) the share of intermediate input cost in the production of the final commodity. In this simple model, given other things, the following conditions will hold good.

(a) Effective rate of protection will be higher, the higher is the nominal tariff rate on the final output and vice versa.

(b) Effective rate of protection will be higher, the lower is the nominal tariff rate on the interme-

diate input and vice-versa.

(c) Effective rate of protection will be higher, the lower is the share of intermediate inputs in the production of final output.

In real life each one of these variables, i. e. final commodity, intermediate input and tariff rate is more than one in number. Therefore in practice one starts with an actual input-output table of a country constructed in terms of domestic prices. Figures in world prices are derived by deflating the figures of actual input-output table by the relevant tariff rates. Problems arise due to the fact that a number of commodities are grouped together in an inputoutput sector. This is, of course, inevitable in any kind of statistical aggregation. There can be many different rates of tariffs for the different commodities aggregated in an input-output sector. Ideally the weighted average of all tariff rates of the different commodities grouped together in a sector should be used. But in real life in many cases a rule of thumb is applied, i. e. either the tariff rate of a dominant commodity in a particular sector or an average tariff rate of a few representative commodity tariff rates is used. This can certainly bias the results of empirical estimates of the effective rates of protection in the different sectors of an economy.

However, in the context of underdeveloped countries the most crucial problem is not the appropriate tariff rates. In many of these countries the prevailing system is a highly complex structure of import control through an elaborate licensing scheme. It was observed that the divergence between the domestic market price and

the world market price is much than the magnitude of the tariff rate. If this is so, then the effective rates of protection calculated simply on the basis of tariff rates will give underestimates of the real magnitude. Empirical studies by Pal[12] in the context of Pakistan amply demonstrated that at the margin the excess between the domestic price and the world price is determined not by tariffs but by the quantity restricted by the scheme.

It was seen before that a high degree of trade markup exists in cases of most imported goods in Bangladesh. If profit margins of all important commodities under quantitative restrictions are high, current import tariffs do not influence the relative prices of different commodities and as such they do not have any allocative role in the economy as far as the intersectoral allocation of resources is concerned.

From the above analysis it follows that the effective rates of protection calculated by using tariff rates alone will provide underestimates. To estimate the effective rate of protection in a situation of quantitative restriction, some information on tariff equivalents of trade markups is needed. Then by combining both tariffs and tariff equivalents of trade markups, effective rates of protection can be estimated. Thus there can be two sets of estimates of effective rates of protection, i. e. (i) one simply on the basis of tariffs and (ii) another on the basis of a combination of both tariff and tariff equivalents of scarcity markups.

In calculating effective rates of protection,

whenever there exists quota restrictions on imports, the practice is to regard the ratio of the premium on imports to the c. i. f. value as the implicit nominal tariff rate which is to be used in lieu of the (lower) explicit, nominal tariff rate. But there are a number of theoretical as well as practical difficulties in this approach[13] The questions of appropriate tariff equivalent of trade markup, proper treatment of non-tradable inputs and empirical results of negative value-added and hence negative rates of protection raised considerable amount of controversy.[14]

The most important question that arises in the discussion of effective rates of protection is : what implication for resource allocation can be derived from such an analysis ? The real world is essentially a multi-commodity economy. There are a large number of final outputs, intermediate inputs (tradable and non-tradable) and the corresponding tariff rates etc., and in addition, there are also complex questions of substitution possibilities among inputs of all types. Under these circumstances what does a scale of effective rates of protection mean ?

By now it is clear that figures on the effective rates of protection give an account more than the nominal tariffs as guides to the effects on the allocation of domestic resources and the relative outputs of different commodities. However, there are a few formidable difficulties in deriving implication for resource allocation from an analysis of the estimates of the effective rates of protection.

(a) In a model of two commodities it is possible to

draw a conclusion that the commodity with a higher rate of effective protection will attract more resources than a commodity with a lower rate of protection. But in a multi-commodity world this can be done only in the case of two commodities at the extreme of the scale. Nothing can, however, be said about the commodities in the middle of the chain.

(b) If allowance is made for factor substitution in a general equilibrium framework. it is no longer possible to draw the conclusion that a sector with higher rates of protection will attract more resources. Ramaswami and Srinivasan[15] demonstrated that under a general equilibrium framework using primary domestic factors which, combined with imported factors, produce the commodities which are traded for the imported factors, on meaningful effective rates of protection figures can be generated. All these problems led Bhagwati and Desai[16] to be very sceptical about the practical usefulness of the concept of effective rates of protection.

Section 3 : Methodological Problems in Estimating the Effective Rates of Protection in Bangladesh, Sources of data and Analysis of the results

3. 1 : *Methodological Problems*

The basic methodology adopted in the calculation of effective rates of protection is discussed here. If X_i = domestic value of output at market prices (i. e. including domestic indirect taxes), W_i = value-added at domestic prices, X_{ji} = value of input from the jth into the

ith industry, and TD_i = indirect taxes on output, then domestic value added at domestic prices is given by :

$$W_i = X_i - \Sigma_j X_{ji} - TD_i \qquad (8.5)$$

If t_i and t_j are nominal tariffs on industry i and on the inputs from industry j to industry i respectively, and if these tariffs reflect the difference between world and domestic prices, then value added at world prices can be computed by deflating domestic flows by the appropriate tariffs to calculatie flows at "world prices", If W_i is value-added at 'world prices', then.

$$\hat{W}_i = \frac{X_i}{(1+t_i)} - \Sigma_j X_{ji} \cdot \frac{1}{(1+t_j)} \qquad (8.9)$$

Since the effective rates of protection is defined as the amount by which actual value added at domestic market prices can exceed value-added at world prices, the expression for the effective rate of protection as noted before, can be written as follows :

$$T_i = \frac{W_i - \hat{W}_i}{W_i}$$

It was mentioned in the theoretical section that in some cases the value-added at world prices (i. e. W_i) can be negative. Therefore, Soligo and Stern[17] changed the formula slightly. Their expression is :

$$U_i = \frac{W_i - \hat{W}_i}{W_i}$$

and this is interpreted as the percentage of total value added "due" to protection.

It has been discussed before that in a country like Bangladesh where a complex import control regime

works, tariffs are not the only determinants of domestic prices of imported goods. Divergences between domestic and world prices are much greater than the tariffs. Therefore, flows of the input-output table should be deflated by the full price differential. If m_i is the markup of the domestic price of good i above the landed cost, i. e. duty-paid import price, the following expression should be used for domestic price of good i :

$$P_i = (1 + t_i)(1 + m_i) \qquad (8.7)$$

where P_i is the domestic wholesale price of good i expressed as a percentage of the world price. In this case value-added at "world prices" can be expressed as follows :

$$W_i = \frac{X_i}{(1+t_i)(1+m_i)} - \sum_j \frac{X_{ji}}{(1+t_j)(1+m_j)} \qquad (8.8)$$

and accordingly the effective rate of protection is calculated by using $\overline{W_i}$ instead of $\overset{\wedge}{W_i}$.

In the empirical calculations these measures are adopted and both the Balassa and the Corden methods were followed. According to the Balassa method non-traded inputs are treated as inputs with zero tariff. The actual empirical work in the Corden method of deflating non-tradable inputs involves a decomposition procedure of calculating the value-added components of the non-tradable inputs. In some studies[18] an arbitrary amount of the non-tradable inputs is assumed as its value-added and then added to the value-added portion of the tradable good sector. This can be treated as a crude Corden method. But a more sophisticated approach followed in this study is to use an actual input-output table to derive

the value-added content of the non-tradable good sector.[19]

3.2 : *Sources of Data*

The empirical basis of calculation for this paper is the latest input-output table for Bangladesh economy constructed by a group of experts at the Planning Commission[20] of the Government of Bangladesh. This table has forty-seven sectors of which nine are in agriculture, twenty-one in industry, and seventeen in non-tradable goods like construction, services and energy etc.

Most of the relevant data are drawn from this document. The 1976-77 input-output table is supported by some background studies of which reliance is made on the work done by Bhuyan and Mahmud[21] for figures on the scarcity markup. Besides these two documents, the final report of the Taxation Enquiry Commission,[22] Annual Budgets,[23] and other documents of the government[24] are also consulted.

In the calculation of effective rates of protection there is a special problem in relation to some of the goods. The import and distribution of wheat and rice in the consumer goods category and wood pulp, raw cotton (US), steam coal, animal fats and silk yarn in the intermediate goods category are done by the government. As a result prices of these goods are not governed by the normal market forces of demand and supply. Besides this, there are concessionary rates of duty under the Wage Earners' Scheme.[25] Apart from these, the following three special features of the import policy of the Government of Bangladesh should be noted.

(a) Imports by the established commercial importers get an exemption of some percentage of the existing rate of duty and the industrial importers also get similar treatment although until recently they were enjoying a higher per cent exemption.

(b) The importers are to pay a premium ranging between 25 per cent and 30 per cent for the use of resources under the WES (Wage Earners' Scheme) and XPL (Export Performance Licencing) for import of capital machinery.[26]

(c) The Pharmaceutical industry is allowed to import raw materials at concessional rate of duty.

3.3 : Analysis of the Results Obtained

It was mentioned before that the empirical calculations are based on the 1976-77 input-output table. Figures are presented for the so-called U measure of protection, i. e.

$$U_i = \frac{W_i - \overset{\wedge}{W_i}}{W_i}$$

which is interpreted as the percentage of total value-added "due to" protection. It was noted in the theoretical section that some industries might show negative value-added at world prices. Indeed a few such cases are found in the context of Bangladesh. First, those industries which show negative value-added at world prices according to the Balassa method are considered." If only tariffs are accounted, then two industries, i. e. cloth: mill made and leather exhibit negative value-added at world prices. On the other hand, if both tariffs and

quantitative restrictions are taken into consideration, then quite a large number of industries tend to show negative value-added at world prices. They are tobacco, other food, cotton yarn, cloths mill made, paper, leather, pharmaceutical, other chemical cement, metal products, machinery, transport equipment, and miscellaneous industries. Later on the possible reasons for negative value added at world prices in the case of such a large number of industries in Bangladesh are discussed.

Corden argued that the non-tradable inputs should be treated like the primary inputs. The first Pakistani study[27] demonstrated that the number of industries showing negative value-added at world prices decreased if the Corden method is applied in the calculation of effective rates of protection. Thus if only tariffs are considered, not a single industry shows negative value-added at world prices. However, if both tariffs and quantitative restrictions are taken into account, only three industries show negative value-added at world prices. They are other food, cotton yarn and cloth : mill made. Thus ten industries like tobacco, paper, leather, pharmaceutical, other chemicals, cement metal products, machinery, transport equipment and miscellaneous industries show positive-value added at world prices under the Corden method whereas they exhibit negative value-added at world prices under the Balassa method. From this it is obvious that the empirical estimates of effective rates of protection are quite sensitive to the method of dealing with non-traded inputs. Whatever might be the possible explanations for negative value-added at world prices, the general

Table—5

Level of effective protection from all sources compared with levels of tariff protection only : 1976-77 (According to the Balassa method)

(Percentages)

1-0 Sector	Nominal tariff protection	Per cent by which domestic price exceeds world price	Effective tariff protection	Effective protection from all sources
Consumption goods				
10. Sugar	0	0	-94	-43
11- Edible oil	0	125	-124	62
12. Salt	0	30	-0.31	29
13. Tobacco	97	380	-62	136
14. Other food	101	800	-17	147
16. Cloth : mill made	81	194	152	187
17. Cloth : handloom	0	0	-62	-129
22. Pharmaceutical	6	156	-21	114
30. Miscellaneous industries	45	205	58	132
Simple average	36.67	210	-19.03	70.56
Intermediate goods				

15. Cotton yarn	19	60	50	135
18. Jute textile	0	0	-27.6	-42
19. Paper	70	200	99	142
20. Leather	48	152	117	135
21. Fertiliser	0	33	-11	34
23. Other chemical	40	307	66	182
37. Patroleum	7	12	-50	-35
Simple average	26.29	109.14	34.83	78.71
Investment and Related Goods				
24. Cement	20	212	-42	287
25. Basic metal	17	31	8	19
26. Metal products	42	146	45	100
27. Machinery	46	206	51	120
28. Transport equipment	54	165	50	108
29. Wood	27	150	27	79
Simple average	34.33	151.67	23.167	118.83
Simple average of all industries	23	151	9.6	86
Median level	24	162	3.845	111

Source : Own calculatons.

consensus is that those industries which show negative value-added at world prices should not be considered in the ranking of industries on the basis of effective rates of protection. However with the U measure of manufacturing industries enjoys the highest level of protection of 210 per cent.

Both the levels of average effective tariff protection and average effective protection from all sources for intermediate goods, and investment and related goods are higher than those of the consumption goods industries. Thus the average effective tariff protection and average effective protection from all sources for intermediate goods are 35 per cent and 79 per cent respectively. Similarly the average effctive tariff protection and average effective protection from all sources for investment and related goods are 23 per cent and 119 per cent respectively. It can be observed that the average effective protection from all sources for the consumption goods is 71 per cent, for the intermediate goods is 79 per cent and for the investment and related goods is 119 per cent. This is an unusual result, because of the fact that in a typical underdeveloped country like Bangladesh it is expected that the highest rate of effective protection would be for the consumption goods, the next would be the case intermediate goods and the lowest would be for the capital goods industries. This finding has made it abundantly clear how misleading the nominal rates of protection might be. However, these aggregate results should be carefully interpreted in minute detail.

The results of Table 6 calculated according to

Corden's method of estimation should be considered now. As it is expected, the estimated figures of effective rates of both tariff protection and protection from all sources are lower in the Corden model. It was seen before that the median level of nominal tariff protection is 24 per cent and nominal protection from all sources is 162 per cent. The median level of effective tariff protection is only 2. 35 per cent whereas the median level of

Table—6

Levels of Effective Protection From All Sources Compared With Levels of Tariff Protection Only : 1976-77

(According to the Corden Method)

(Percentages)

I-O Sector	Nominal Tariff	Percent by which domestic price exceeds world price	Effective Tariff Protection	Effective Protection from all sources
Consumption goods				
10 Sugar	0	0	61	93
11 Edible oil	0	125	-78	37
12 Salt	0	30	-52	23
13 Tobacco	97	380	-28	59
14 Other food	101	800	-10	140
16 cloth : mill made	81	194	83	101
16 Cloth : handloom	0	0	-35	-71

22 Pharmaceutical	6	156	-12	58
30 Miscellaneous industries	45	205	31	72
Simple average	36.67	210	-12.21	36.22
Intermediate goods				
15 Cotton yarn	19	60	43	116
18 Jute textile	0	0	-21	-33
19 Paper and its products	70	200	62	88
20 Leather and its products	48	152	56	64
21 Fertiliser	0	33	7	16
23 Other chemical	40	307	30	85
37 Petroleum	7	12	-10	-9
Simple average	26 29	109.14	23.86	46.71
Investment and Related Goods				
24 Cement	20	212	11	66
25 Basic metal	17	31	5	12
26 Metal products	42	146	32	73
27 Machinery	46	206	33	78
28 Transport equipment	54	165	30	66
29 Wood	27	150	20	58
Simple average	34.33	151.67	21 83	58.83
Simple average of all industries	33	151	6.98	45.67
Median	24	162	2.35	61.425

Source : Own calculations.

effective protection from all sources is 61.525 per cent. Once again it is clearly demonstrated that in Bangladesh the quantitative restrictions are much more important than the tariff protection. The average level of effective tariff protection for all industries is 7 per cent whereas the average effective protection from all sources is 46 per cent. Like the Balassa model, it is also found under the Corden model that the average rate of effective protection from all sources is lower for consumption goods industries than that of the intermediate goods, and investment and related goods industries. Thus the figures for consumption goods, intermediate goods, and investment and related goods industries are 36 per cent, 47 per cent and 59 per cent respectively. The pattern is also roughly the same in the case of effective rates of tariff protection only. How can all these figures be explained? In Table 8.6 it is seen that the effective rates of tariff protection for all but one consumption goods industries are negative. In general it is true that protection provided to consumer goods industries is lower than that of intermediate and capital goods industries.

So far the main concern was with the unweighted average figures on effective rates of protection for different categories of manufacturing industries of Bangladesh. It would be interesting to look into the weighted average figures on these. The sectoral domestic value-added figures are used as the weights for each industry. The results of these calculations are presented in Tables 7 to 10. It can be seen from these tables that even under the weighting scheme

the broad pattern remains the same under both the Balassa and Corden methods.

Table—7

Average Rates of Effective Tariff Protection by Industry Group . 1976-77 (According to the Balassa Method) (Percentages)

Industries Producing	Unweighted Rate	Weighted Rate
Consumption goods	-19.03	-20.84
Intermediate goods	34.83	43.1
Investment and related goods	23.17	26.89
Total	9.6	11.34

Source : Own calculations

Table—8

Average Rates of Effective Protection from All Sources by Industry Group : 1976-77 (According to the Balassa Method) (Percentages)

Industries Producing	Unweighted Rate	Weighted Rate
Consumption goods	70.4	40.07
Intermediate goods	78.6	83.08
Investment and related goods	118.6	71.81
Total	86	57.10

Source : Own calculations.

Table—9

Average Rates of Effective Tariff Protection by Industry Groups : 1976-77 (According to the Corden Method) (Percentages)

Industries Producing	Unweighted Rate	Weighted Ratd
Consumption goods	-12.13	-12.73
Intermediate goods	21.9	23.19
Investment and related goods	18.21	18.16
Total	6.97	9.82

Source : Own calculations.

Table 10

Average Rates of Effective Protection from All Sources by Industry Groups : 1976-77 (According to the Corden Method) (Percentages)

Industries Producing	Unweighted Rate	Weighted Rate
Consumption goods	36.13	22.04
Intermediate goods	46.76	44.29
Investment and related goods	58.7	49.92
TOTAL	45.67	52.29

Source : Own calculations.

Under the import control regime of Bangladesh some firms holding industrial licences can import inputs by paying only tariff inclusive prices. In the absence

of detailed matrix of imported inputs the impact of this special privilege granted to the industrial users cannot be evaluated. An extreme assumption is made that all firms pay only tariff inclusive prices for all intermediate inputs. In other words this means that the firms do not pay any trade markups for their intermediate inputs. This is certainly an unrealistic assumption but this is made simply to test whether or not under this assumption the broad pattern of effective rates of protection differs from the previous findings. These results are presented in Tables 8.11 and 8.12 and they confirm that under both the Balassa and Cordon methods the pattern is roughly the same.

The analysis of the effective rates of protection makes it clear that most of the manufacturing industries are receiving large amounts of subsidies implicit in the tariff and quantitative restrictions of the trade control regime of Bangladesh. Critics questioned the efficiency of such a regime of protection provided to the manufacturing industries. Khan[28] applied a multisectoral model of accounting prices to calculate social rates of return for twenty nine sectors of Bangladesh economy during the sixties. In many cases not only the social rate of return is less than the market rate of return but also in some cases the social rate of return is negative. The analysis by this author sufficiently demonstrated that market rates of return cannot be accepted as guides for social profitability, the system of incentives is arbitrary and it does not have correspondence with the priorities of society.

Table 11

Average Rates of Effective Protection from All Sources by Industry Groups. 1976-77 (According to the Balassa Method)

Assumption : The firms do not pay trade markups for intermediate inputs)

(Percentages)

Industries Producing	Unweighted Rate	Weighted Rate
Consumption	83.94	65.09
Intermediate goods	83.99	91.70
Investment and related goods	99.12	80.02
TOTAL	88.10	75.25

Source : Own calculations.

Table 12

Average Rates of Effective Protection from All Sources by Industry Groups : 1976-77 (According to the Corden Method)

(Assumption : The firms do not pay trade markups for intermediate inputs)

(Percentages)

Industries Producing	Unweighted Rate	Weighted Rate
Consumption	56.03	44.92
Intermediate goods	59.06	60.11
Investment and related goods	66.74	59,30
Total	59.92	52,49

Source : Own calculatio. s.

A WorldBank report[29] provided estimates of domestic resource costs[30] in the selected maunfacturing industries of Bangladesh for the year 1977-78. The findings of that study are striking. It was found that out of twenty-one products thirteen have an economic DRC much above the official exchange rate of taka 15.5 per US dollar in 1977-78. Products like heavy plate, edible oil, JSP, particle board and caustic soda, even cost more in foreign exchange than if they were imported. These results in effect confirm the general findings obtained in the earlier study of the sixties.

In yet another recent study by Islam[31], it was found that out of sixty-two manufacturing sectors, eighteen exhibited negative DRC. Nineteen sectors showed positive long-run DRC but higher than the shadow price of foreign exchange indicating lack of comparative advantage. Only twenty-five sectors demonstrated long run comparative advantage. This study also generated figures on the effective rates of protection. It was found that out of sixty-nine industries, thirty-eight had negative rates of effective protection in Bangladesh. Once again this confirms the findings that a large number of industries in Bangladesh are inefficient. It was observed that a foreign trade regime characterised by fixed exchange rate, reliance on tariff and quota restrictions and ad hoc export incentive measures generally creates a distorted incentive structure which does not have any correspondence with the social priority. The present foreign trade regime of Bangladesh is such a typical one and the system has helped the development of a

pattern of industrial growth which does not conform to the comparative advantage of that country.

Section 4 : An Interpretation of the Results and Conclusions

The findings of the present study differ from those of two previous studies of the Pakistan economy during the sixties by Soligo and Stern[32] and Lewis and Guisinger.[33] In both of these studies it was observed that effective rates of protection afforded to consumer goods industries were higher than those to the intermediate, and investment and related goods industries. On the other hand, the present study found that in Bangladesh the effective rate of protection is higher in the case of intermediate, and investment and related goods industries than in the case of consumer goods industries. This is a very interesting situation in view of the fact that the nominal protection from tariff or from all sources is higher in the case of consumer goods industries than in the case of other categories. The officially announced priorities as reflected in the different government documents are to protect and foster the development of consumer goods industries more than the other categories. Yet when the whole system of tariffs and quota restrictions is considered, the outcome is completely different from the priorities declared by the government.

At this stage it would be interesting to compare the statistical results of the present study with those of other country studies. There are formidable difficulties in making such a comparison, because each country study differs from others in some respects. However, in order

to make a rough international comparison of the nature and magnitude of protection it would be useful to put together estimates of different countries in one place. In Table 8.13 such an internationnl comparison of effective rates of protection is made. It can be seen from this table that in 1976-77 Bangladesh provided protection to its different categories of industries much less than what was provided to the manufacturing industries by other countries. Mexico is the only country which provides protection to its industries even less than that of Bangladesh. It may also appear that compared with Pakistan time Bangladesh provides less protection to its domestic industries. Perhaps it pursues relatively more liberalisation policies in the recent time.

Power and Khan[35] criticised the economic policies pursued in the Pakistan period for providing too much protection to consumer goods industries. It was argued that this helped an expansion of consumer goods industries which ultimately led to what is known as consumption liberalisation. It was observed that this had adverse effects on economic development of the country. It is yet to be seen to what extent there is a differential growth in the different categories of manufacturing industries of Bangladesh. It is, however, suspected that in Bangladesh an increasing importance is attached to the development of intermediate and investment goods industries.

It is seen that in comparison with previous studies, the level of protection provided to the manufacturing industries of Bangladesh is not high. This is, of course, an indication of more liberal policies pursued at present

Table 13
Some International Comparisons of Effective Rates of Protection (Figures in Percentages)

Country	Year	Consumer Goods	Inter-mediate Goods	Capital Goods	All Manu-factures
Argentina	1958	164	167	133	162
Brazil	1966	230	68	31	118
Mexico	1960	22	34	55	27
India	1961	NA	NA	NA	313
Pakistan	1963/64	883	88	155	271
Philippines	1965	94	65	80	49
Taiwan	1965	NA	NA	NA	33
Costa Rica	1966	105	74	68	97
Bangladesh	1976/77	36	47	59	46

Notes : Estimates are based on the Corden Method, and NA= not available.

Source : (1) Little, I., Scitovsky, T. and Scott M. (1970), *Industry and Trade in Some Developing Countries*, Oxford University Press, London, p. 174, Table 5. 2.

(2) Bulmer-Thomas, V. (1976), 'The Structure of Protection in Costa Rica'. *Journal of Economic Studies* Volume 3. No, 1, May.

(3) Own calculations.

compared with the past. It may also be observed here that by providing relatively higher levels of protection to intermediate and investment goods industries, the economic policies are probably fostering the development of relatively more capital and skill-intensive industries. Generally speaking, capital and skill requirements of these industries are higher than those of the consumer goods industries.

Notes

1. For detailed discussion see Lewis Jr., S. R. (1970). *Pakistan Industrialisation and Trade Policies*, Oxford University Press, London.
2. Pal, M. L. (1965), 'Domestic Prices of Imports in Pakistan : Extension of Empirical Findings' The Pakistan Development Review, Vol. 5, No. 4, Winter. In fact before this survey Pal conducted a similar survey for West Pakistan and the latter one is merely an extension of the former for Bangladesh. For details see Pal, M. L. (1964), The Determinants of the Domestic Prices of Imports'. *Pakistan Development Review*, Vol. 4. No. 4, Winter.
3. Alamgir, M. (1958), 'The Domestic Prices of Imported Commodities in Pakistan—A Further Study,' *Pakistan Development Review*, Vol. 8, No. 1, Spring.
4. Bhuyan, A. R. and Mahmud, W. (1979), 'Domestic Prices of Import in Bangladesh : An Analysis of Trading Margins Under Exchange Control', Second Plan. Perspective Plan Study Report Series, prepared for General Evaluation Division, Planning Commission, Government of the People's Republic of Bangladesh, Dhaka, July. There was another survey done by the planning Commission in the early eightices. This was available so late that data of this report could not be used for this Paper.
5. For a detailed discussion of trade policies and the priorities of these policies in Pakistan period, Islam, N. (1981), *Foreign Trade and Economic Controls in Development : The Case of United Pakistan*, Yale University Press, New Haven and London.
6. Johnson, H. G. (1964), 'Tariffs and Economic Development : Some Theoretical Issues', *Journal of Development Studies*, Vol. I, No. I, October ; Johnson. H. G. (1965), 'The Theory of Tariff Structure, with Special Reference to World Trade and Development', in Johnson, H. G. and Kenen, P. B., *Trade and Development*, Librairie Droz, Geneva.

7. Corden, W. M. (1966), 'The Structure of a Tariff System and the Effective Protective Rate', *Journal of Political Economy*. Vol. 74, June ; Corden, W. M. (1971), *The Theory of Protection*, Clarendon Press. Oxford.
8. Balassa, B. (1965), 'Tariff Protection in Industrial Countries ; An Evaluation', *Journal of Political Economy*, 73, December ; Balassa, B. and Associates (eds.) (1971), *The Structure of Protection in Developing Countries*. The Johns Hopkins Press, Baltimore.
9. Basevi, G. (1966), 'The United States Tariff Structure : Estimates of Effective Rates of Protection of the United States Industries and Industrial Labour'. *Review of Economics and Statistics*, 48, May.
10. Bhagwati. J. and Srinivasan, T. N. (1973), 'The General Equilibrium Theory of Effective Protection and Resource Allocation', *Journal af International Economics*, Volume 3.
11. Grubel. H. G. (1974), 'Effective Protection : A Non-specialist Introduction to the Theory, Policy Implications, and Controversies' in Baldwin, R. E. and Richardson, J. D. (eds.), *Readings in International Trade and Finance*, Little Brown and Company Boston.
12. Pal, M. (1964), *op. cit.*
13. For detailed discussion, Corden, W. M. (1971), *The Theory of Protection*, Clarendon Press, Oxford ; Bhagwati, J. N. and Desai, p. (1970), *India : Planning for Industrialisation*, Oxford University Press, London.
14. For detailed discussion, Balassa, B, and Associates (eds.). *op. cit.* ; Corden, W. M., *op. cit.* ; Little, I., Scitovsky, T. and Scott, M. (1970), *Trade in Some Developing Countries* Oxford University Press, London ; Soligo, R. and Stern, J. J, (1965), 'Tariff Protection, Import Substitution and Investment Efficiency'. *Pakistan Development Review*, Vol. 5, No. 2, Summer ; Elsworth,. P. T. (1966), 'Import Substitution in Pakistan Some Comments', *Pakistan Development Review*, Vol. 6, Autumn ; Guisinger, S. E. (1969), 'Negative

Value Added and the Theory of Effective Protection', *Quarterly Journal of Economics*, Vol. 83. No. 1. August; Tan, A. H. H. (1970), 'Differential Tariffs, Negative value—Added and the Theory of Effective Protection', *American Economic Review*, 60, March, and Tan. A. H. H. (1970) 'More on the Interpretation of Negative Value-Added in Effective Tariff Rate Calculations', *Malayan Economic Review*, Vol. 15, No. 1, April.

14. Ramaswami, V. K. and Srinivasan, T, N. (1971), Tariff Structure and Resource Allocation in the Presence of Factor Substitution', in Bhagwati, J. N., et al. (eds.), *Trade, Balance of Payments and Growth : Papers in International Economics in Honour of Charles P. Kindleberger*, North Holland Publishing. Co., Amsterdam.
16. Bhagwati, J. N. and Desai, P.; *op. cit.* For a much more detailed formal analysis of the predictive power of the theory of effective rate of protection and its limitations see Bhagwati. J. N. and Srinivasan, T. N. (1973). 'The General, Equilibrium Theory of Effective Protection and Resource Allocation'. *Journal of International Economics*, Volume 3.
17. Soligo, R. and Stern, J. J.. *op. cit.*
18. Lewis Jr., S. R. and Guisinger, S. E. (1968),. 'Measuring Protection in a Developing Country : The Case of Pakistan', *Journal of Political Economy*, Vol. 76, November/December.
19. For a detailed discussion of this see Bulmer-Thomas, V. (1982). *Imput-Output Analysis in Developing Countries*, John Wiley & Sons Ltd. Chichester.
20. Perspective Planning and National Income Section, General Economics and Evaluation Division, Planning Commission, Government of the People's Republic of Bangladesh (1980) The Structure of the Bangladesh Economy : An Imput-Output Analysis, Background Papers of the Second Five Year Plan of Bangladesh, Vol. I, Dhaka, June.
21. Bhuyan, A. R. and Mahmud, W., *op. cit.*
22. Ministry of Finance, Internal Resources Division, Government

of the People's Republic of Bangladesh (1979), Final Report of the Taxation Enquiry Commission, Dhaka, April.

23. Ministry of Finance, Internal Resources Division, Government of the People's Republic of Bangladesh, Annual Budgets of various years.
24. Government of the People's Republic of Bangladesh, The Gazette of Bangladesh Extraordinary (Import Policy, various issues).
25. Wage Earners Scheme, introduced in mid seventies is a legal device through which Bangladeshi nationals working abroad can send their remittances to Bangladesh.
26. Export Performance Licensing (XPL) is one of the major incentive schemes to boost up export from Bangladesh. Imports of raw materials, packing materials, machineries, spare parts and equipment are included in the permissible list of this scheme. Exporters can use their XPL in advance to obtain import licences for raw materials and spare parts. A large number of commodities enjoy this facility and the rates of XPL entitlement varies from commodity to commodity.
27. See Soligo, R. and Stern, J. J., *op. cit.*
28. Khan, A. R. (1972), *The Economy of Bangladesh*, The Macmillan Press Ltd., London chapter 10. pp. 107-127.
29. The World Bank (1979), *Bangladesh-Current Trends and Development Issues*, Washington, DC, March.
30. For a detailed discussion of domestic resource costs see Bruno, M. (1972), 'Domestic Resource Costs and Effective Protection: Clarification and Synthesis', *Journal of Political Economy* Vol. 80, No. 1.
31. Islam, A. B. M. M. A. (1979), 'Comparative Advantage of Bangladesh within the Manufacturing Sector', *Bangladesh Development Studies*, Volume 7, No. 4, Autumn.
32. Soligo, R. and Stern, J. J., *op. cit.*
33. Lewis Jr., S. R. and Guisinger, S. E., *op. cit.*
34. Power, J. H. (1963), 'Industrialisation in Pakistan : A

Case of Frustrated Take Off ?' *Pakistan Development Review*, Volume 3, No. 2, Summer.

35. Khan, A. R. (1963), 'Import Substitution. Export Expansion and Consumption Liberalisation ; A Preliminary Report', *Pakistan Development Review*, Volume 3, No. 2, Summer.