

**THE STRUCTURE OF PROTECTION IN  
TURKISH MANUFACTURING INDUSTRIES**  
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Since 1950's the successive Turkish Governments have employed, depending on the prevailing economic circumstances, a varying mix of trade-restricting measures such as tariffs, import quotas, import bans, advance deposit requirements and foreign-exchange controls with a view to protecting domestic industries or conserving available foreign exchange. Starting with the First Five Year Plan and especially during the Second Plan, in addition to these measures, various investment subsidies have been provided to the industries with the purpose of channeling new investments into desired activities. The combined effect of all incentives may imply differential subsidy to the industries and hence contribute to the misallocation of resources.

In the literature two empirically testable concepts, effective protection rate (EPR) and domestic resource cost (DRC) have been proposed for an evaluation of restrictive trade systems. The theoretical-cum-empirical background for the former concept has been set by Johnson (1965, 1966), Corden (1966, 1971) and Balassa (1965, 1968, 1971) and for the latter concept by Bruno (1963, 1967, 1972) and Krueger (1966, 1972). It has been generally agreed that DRC can provide proper guidelines for an evaluation of investment projects while the EPR can be used to ascertain the resource pull and resource push effects of a protection-subsidy system and estimate the cost of protective measures. The conditions under which the two concepts will give an identical ranking of the industries according to their comparative advantage in international trade have also been discussed by Balassa and Schydlovsky (1968, 1972) and by Krueger (1972).

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The present study attempts to evaluate allocation efficiency of the policies followed by the Turkish Governments during 1960's. Section I gives the broad outlines of the theoretical framework that will be used in the analysis. Section II examines in some detail the system of tariffs, quantitative restrictions and the Promotion Schemes as have been applied to import substitutes and exports. In Section III we estimate and examine the interindustry structure of nominal and effective protection rates. Effective rates of subsidy are also estimated to find the cost of industrial incentives. We also estimate the bias against exports by the protection and subsidy system and show that the system itself is mainly responsible for the poor performance of exports during 1960's. Finally, we estimate the extent of over valuation of the Turkish currency and calculate the net nominal and effective rates. The main findings of the study and policy conclusions are summarized in Section IV. Two Appendices are added to the study. Appendix A presents the formulae employed and Appendix B explains the structure and estimation of the nominal tariff rates and other price measures of protection.

### 1. The Concept of Effective Protection

The theory of effective protection is mainly concerned with the effects of tariffs on the allocation of resources between industries, the measurement of the extent of protection and the extent of the incentives provided to industries by the protection system. It has been shown that nominal tariffs on the output of an industry do not express the extent of protection afforded to the primary factors employed in that industry. While the tariff on the output of an industry increases the protection of that industry, tariffs on material inputs are equivalent to a tax on output and therefore reduce the effective protection enjoyed by that industry. Thus, the protection provided to the primary factors employed in various industries and hence the allocative biases of the protection system can be discovered only if tariffs on both the inputs and outputs of an industry are considered together.

The EPR has been generally defined as the percentage increase in the value-added of an industry, due to protection system, relative to free trade (no protection) situation. Calculations are made under the assumptions that there are constant returns to scale, there is no substitution among intermediary inputs, and between primary factors and intermediary inputs and that foreign elasticities of demand for exports and supply of imports are both infinite.



The original contributors formulated the concept with the purpose of ascertaining the resource pull and resource push effects of a tariff structure. If economic activities are arranged according to the magnitude of their  $EPR$ 's, under certain assumptions, the scale of these rates will tell us the direction in which resources will be pulled among activities. This prediction of the theory and its assumptions have been criticized. Bhagwati and Srinivasan (1973) have claimed that in a general-equilibrium framework the  $EPR$ 's may not indicate the direction of resource flows due to the effects of protection on the wage/rental ratio. Our estimates presented in Section 3 below are calculated within a partial-equilibrium framework ignoring general equilibrium repercussions.

The question then is whether in a partial-equilibrium framework the changes in the factor-price ratio can be sufficiently pronounced relative to changes in the prices of commodities to introduce a bias into the calculation of effective rates. For our purposes we can distinguish two influences which minimize the factor/price effects of protection in Turkey. First, a varied combination of price and non-price measures of protection are applied to imports. The inter-commodity and inter-industry dispersion of nominal rates are quite high. Secondly, the existence of surplus unskilled labor in agriculture can be expected to prevent any considerable change in the wage rate. Thus, the protective measures cannot directly or indirectly influence the wage rate to a large extent or to the extent that they are likely to influence returns to capital. Thus, variations in wage/rental ratio is likely to be small compared to the variation in the commodity prices and the general equilibrium repercussions can be safely ignored.

If factor price changes are not pronounced and prohibitive tariffs are not widespread, the high effective rates will indicate either excess protection or that domestic production is not viable under free-trade situation. In the latter case the usefulness of effective rates in predicting resource movement is limited, they only show the extent to which the domestic value added must be protected before domestic production becomes viable. Thus, while too low protection may promote production, too high protection may eventually lead to import substitution.

Recently, some authors following Travis (1968), have raised the question of the existence of a definition of effective rate. In a joint article Ramaswami and Srinivasan. (1971), using a two-industry,

two-factor model and assuming that each industry employs both of the factors and imported input show that, when substitution effects are biased, the direction of resource movements also depend on the overall resource endowments. However, they wrongly conclude that if substitution effects are biased, there cannot exist any definition of effective protection rate based on the prices of imported inputs and on technical coefficients alone, that can be used to predict the resource movement resulting from a tariff. The existence of a definition of effective rate when substitution effect was biased was shown by Corden (1969), Jones (1973) and Khang (1973). In addition, as Jones has noted, the Ramaswami-Srinivasan case is based on an extreme case of factor-endowment ratio. These two latter authors also provide four examples in which imported inputs can be substituted for primary factors and conclude that "substitution effects will often be significant". On the contrary, the empirical studies show that there is little substitution between primary factors and material inputs. Balassa (1971), using the French data provided by Travis shows that the elasticity of substitution is less than 0.1. Thus, the assumption of constant coefficients are justified for empirical studies, though the theoretical implications of variable coefficients are interesting.

Finally we may inquire into consequences of the assumption of constant returns to scale. Corden has shown that calculations based on domestic coefficients will overstate the effective rates in increasing-cost industries and understate them in decreasing-cost industries. Thus, whether the actual estimates of the effective rates from domestic coefficients are over or underestimated can be determined by estimating a production function for the industries. Since this has not been done in this study we cannot tell whether the rates are over or underestimated.

The assumptions of infinite foreign elasticities of demand for exports and supply of imports are also justified for our case. Turkey has no monopoly power in the large majority of her exports and cannot influence exports prices. Evidently, she also has no monopoly power in the purchase of her imports. Thus we can safely assume that import prices are given.

We thus see that the assumptions are not likely to introduce considerable bias into calculations. However, an important drawback of the procedure followed in this study is that factor earnings have been evaluated at the market prices instead of the shadow prices.



The estimation of shadow prices requires solving a general equilibrium model. If this cannot be done we have to make an adjustment for the difference between the actual market prices and shadow prices of the primary factors. But such an adjustment is bound to be arbitrary. Thus we preferred to use market prices. This preference can be justified by noting that producers' and consumers' decisions are based on actual market prices rather than shadow prices.

In the next section we turn to the examination of the Turkish protection-subsidy system and present the findings in Section 3.

## **II. The Subsidy-Protection System**

The Turkish system of subsidising and protecting domestic industries involves subsidies granted through a system of industrial investment incentives and quantitative restrictions on imports. All these measures directly and indirectly influence the profitability of investments in different activities and the allocation of domestic resources. In this section we will briefly examine the mechanism and structure of these incentives.

### **Industrial Investment Incentives**

The main objects of the industrial investment incentives, as stated in the SFYP is to stimulate industrial development by channeling new investments into the desired activities and by promoting exports. The incentives are applied both at the project and industry level and any project satisfying certain criteria is eligible to the incentives. These criteria are: the level of technology, the efficiency of plant size, export and import substitution potential and contribution to total employment. These incentives deserve a close examination not only because of their influence on the allocation of domestic resources but also because they put considerable pressure on the Government's budget in the form of revenue foregone. Furthermore, in so far as they imply a transfer from Government budget to private investors they also influence the distribution of income. However, the analysis of this aspect of the incentives is left to future researchers. One of the main characteristics of these incentives is that they have provided considerable but differential benefits to various sectors. Elsewhere (Olgun, 1973) we have estimated the absolute and differential benefits implied by these incen-

tives. Therefore, in the following, we will limit ourselves to a brief description of each incentive.

**Tax Allowances for Investments:** This incentive was established in 1963 with the object of reducing the tax burden of the entrepreneurs investing in prescribed activities. In view of this incentive a certain portion of total investments undertaken by a firm is deductible from the corporate profit taxes.<sup>1</sup> Investment eligible to tax reductions have rapidly increased from TL 10.9 million in 1963 to TL 303.1 million in 1967 and to TL 2,340.5 million in 1970. The tax saving (absolute benefits) implied by this incentive were TL 2.1 million in 1963, TL 60.6 million in 1967 and TL 468.1 million in 1970. Our findings have also shown that there is a considerable difference in the benefits obtained by the firms in various industries. Thus, in 1968 the tax savings of the firms in the Chemicals industry were TL 145.0 million as contrasted to TL 4.9 million of the firms in the Textiles industry.

**Deferred Payment of Custom Charges:** According to the official documents, imported materials that will benefit from this incentive, should be "investment goods to be used in investments emphasized in the long-term objectives of the Plans"<sup>1</sup> If a project is approved all the custom charges on the imported investment good, except the stamp duties, can be paid in five equal installments. The maximum period of the payment of the charges is five years and the outstanding portion of the installments is subject to interest at a rate of 5 percent. Assuming that the market rate of interest is 10.5 percent, importation under this incentive, of a capital good on which total custom charges excluding the stamp duties, amounted to TL 100.0 implies that the present value of the future payment of the installments is TL 90.93, which means that deferred payments are equivalent to a 9.07 percent reduction in custom charges.

The amount of imports that were granted the privilege of deferred payments increased from TL 193.2 million in 1965 to TL 427.9 million in 1968 and to TL 420.7 million in 1970. Tariff savings of the entrepreneurs in the same years were TL 10.2 million, TL 18.9 million and TL 13.5 million respectively. However, when compared to the actual amount of tariffs paid, these benefits

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(1) Since 1967 the 'reduction rates' applied to eligible investments have been annually determined in the Annual Programs.

(1) Government of Turkey, SPO; **Promotion of investments and Exports: Principles of Implementation** (in Turkish) DPT: 773-TVD: 4, Ankara, 1969.



do not constitute a considerable incentive to the industries. The incentive implied at most 0.43 percent savings in total custom charges in 1969. Secondly, the time series distribution of the benefits among the industries are not perfectly even, and there is extreme bias against or in preference for certain industries. (See Olgun, 1073)

**Partial or Complete Exemption from Custom Charges:** This incentive was introduced with section B article 2 of Law No. 933. It was fully implemented only in 1968 and 1969. For some activities the exemption rates were 100 percent. These activities were fertilizer plants, iron-steel, ship building and truck manufacturing. The minimum rate was for agriculture; 60 percent. At the national economy level exemptions implied a considerable benefit to the industries. In 1968 the total exempted charges amounted to TL 942.9 million which was 60.7 percent of the volume of imports eligible to the incentive.

Before we consider the export promotion schemes some comments on the industrial incentives are in order. These incentives have provided substantial benefits to private and public entrepreneurs and a stimulus for production for domestic market. The suspension of the incentives in 1971 was followed by a sharp decrease in the volume of private investments which increased again in 1972 after the reinstatement of the incentives. This incidence demonstrates the importance of the incentives as an stimulant for the investments. However, there are some inconsistencies, to the extent of anomaly in the incentives system. When the differential benefit implied by each incentive to an industry is estimated it is observed that, while a particular industry may be granted a differential benefit by an incentive relative to other industries it may be discriminated against by the other incentives. Thus, the system as a whole is devoid of a sound economic rationale and as we will show in the next section it does not serve the purpose, i.e., channelling new investments into preferential activities, for which it was instituted.

Of course, benefits to investors implies a loss (revenue foregone) to the Government. To have an idea of the magnitude of the loss to the Government implied by the system we note that in 1968 benefits provided to investors were TL 1,852.3 million through investment-tax reductions, TL 19.5 million through deferred payment of custom charges, TL 942.9 million through tariff exemptions and TL 57.8 million through export rebates; total TL 2,871.8. The General

Budget revenues in 1968 amount to TL 19,878 million. Thus in 1968 the revenue loss of the Government was 14 percent of its budget. However, the social cost of the incentives cannot be measured by the revenue loss to the Government. The opportunity cost of the loss should be estimated and compared to the benefits obtained by the investors.

### Export Promotion Schemes

During the 21 years between 1950 and 1970 the composition of Turkish exports has not changed considerably. Traditional export products such as tobacco, cotton, hazelnuts, raisins and minerals have, through the period, dominated total exports. Prior to 1960 a multiple exchange rate system was used as a means of providing differential benefits to various export categories. Following the 1960 devaluation the multiple exchange rate system was abandoned and differential benefits to exports took the form of Export Rebates and Retained Foreign Exchange Earnings. Other incentives to exports ranged from the elimination of bureaucratic documentation to the establishment of low-cost credit funds.<sup>1</sup>

The Export Rebate system involves rebating all indirect taxes on the inputs and output of a product to the exporter of that product. Taxes to be rebated also include all domestic indirect taxes on the imported inputs. Clearly, serious difficulties are involved in estimating the amount of taxes to be rebated to each exported product. Our calculations, not presented here, have shown that the amount of rebates paid to exporters in 1967 and 1968 exceeded the amount of taxes in the f.o.b. value of the exports. Overestimation of the rebates have been observed in all industries.<sup>2</sup> Another question raised by the Rebate system is whether the rebates constituted a subsidy to exports. Considering that the taxes rebated to exports applied to all domestic production, whether import substitute or export, the rebates can be taken as a subsidy. Noting also that the rebate rates are determined as percentage of the f.o.b. value of an export product these rates represent the subsidy rate at the product level. Our calculations of the subsidy rates at the sec-

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(1) Government of Turkey, SPO, **Promotion of Investments and Exports: Principles of Implementation**, Ankara 1971:

(2) See, H. Olgun, op: cit:



toral level between 1965 and 1970 indicated considerable variation in subsidy rates given to various industries. For example in 1968 the subsidy rate implied by the Rebate system was 53.3 percent in paper industry, 42.5 percent in rubber and plastics, and 32.2 percent in textile industries. On the other hand, the subsidy rates for the alcoholic beverages and leather products were only 0.04 and 1.13 percent respectively. However, with respect to the expansion of exports the variation of the subsidy rates among export products does not matter so much as the existence of a difference in the subsidy given to exports in relation to import substitutes. Time-series data on sectoral rebates show that since its introduction the system has concentrated on the exports of processed food, textiles, leather products and non-ferrous metals. On the other hand, the products of the mining sectors, animal products and fertilizers have not been granted rebates during 1963-1970. We have no official statement on the preference of the planning authorities to exclude the traditional export products from the Rebate system. However, some speculative reasons can be given. Traditional export products are vulnerable to climatic conditions and their supply elasticity is quite low. Secondly, it may be argued that foreign-demand elasticity for these products is lower compared to non-traditional products and therefore they have a lower competitive power in foreign markets.

#### Other Incentives to Exports

Starting in 1968 the exporters were given the privilege of retaining part of their foreign-exchange earnings to import raw materials and capital equipment for their own use. In view of the severe restraints on the foreign-exchange availabilities this Scheme constituted an important incentive to exporters. Because of the difference between domestic and foreign prices the Scheme provided a direct benefit to exporters. An exporter could directly import the desired material with the retained foreign exchange earnings by only paying the landed costs; whereas, in the absence of the Scheme, he would have to pay the domestic sales price.<sup>1</sup>

Despite the difficulties involved in the administration of the Export Promotion Schemes and the opportunity they give rise to preferential treatment their favorable effects should be noted.

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(<sup>1</sup>) For the measurement of the direct benefits accruing to exporters from the Scheme see, H. Olgun, *op. cit.*

Quantitative restrictions on imports can raise the domestic prices of import substitutes to such an extent that production for domestic market can actually become more profitable than exporting. These Schemes by subsidizing exports can increase the profitability of production for exports and hence eliminate the bias against exports created by the protection system. The question then is whether the Export Promotion Schemes do in fact eliminate the bias against exports. Whether the Schemes are optimally implemented is a different question and will not be discussed here.<sup>1</sup> This question will be answered in the next section.

### Tariffs and non-tariff Levies and Import Quotas

The Turkish system of taxing imports and the system of import licencing have evolved in a response to balance-of-payments difficulties experienced since 1950's but have been used as an instrument of protecting domestic industries and promoting import substitution. Since 1953 imports have been regulated by semiannual import programs, which specify in detail the amount of each commodity that can be imported.<sup>2</sup> In the presence of quantitative restrictions tariffs serve merely as a revenue raising device, yet it is rewarding to examine their structure.<sup>3</sup>

Beside tariffs (custom duties) imports are subject to non-tariff levies such as production tax, municipality tax, wharf duties and stamp duties. These non-tariff levies considerably increase the landed cost of imported commodities and contribute to the protection of domestic industries. As an example let us consider two commodities; macaroni and window glass. Each of these commodities is subject to customs duty at a rate of 50 percent. In addition, window glass is subject to import production tax at a rate of 20 percent. If the c.i.f. import value is taken as TL 100.00 the wharf tax amounts to TL 8.37, the production tax to TL 36.17 and the customs duty to

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(1) For an excellent discussion of this question in relation to Pakistan's Export Bonus Scheme see Syed Nawab Haider Naqvi, "On Optimizing the 'Gains' From Pakistan's Export Bonus Scheme", *The Journal of Political Economy*, vol. 79, No. 1, Jan.-Feb., 1971.

(2) One significant aspect of the system is the complete elimination of the import of commodities whose domestic production has sufficiently expanded to meet domestic demand.

(3) Tariffs and non-tariffs levies may have an indirect effect. By reducing the profit of a monopolist they force him to restrict his output.



TL 50.0. Adding to these TL 15.0 for stamp duties and TL 7.50 as municipality tax, the landed cost of TL 100 worth of c.i.f. imports reaches TL 180.87 for macaroni as compared to TL 217.04 for window glass.

A significant characteristic of the custom duties (tariffs) is the variation they show among the commodity groups. To bring out this characteristic we have, from the 99 Chapters of the 1964 tariff schedule, calculated the unweighted averages of the tariff rates for broad commodity groups. Unweighted tariff rates were 100% for luxury consumption for goods, 55 percent for processed materials, and 46 percent for machinery and equipment. These averages, however, are not very informative. Beside being unweighted the classification of the commodities suffers from inevitable arbitrariness. A more systematic picture of the range and variation of tariffs (custom duties) is given in Table I. In this Table column 2 gives the

**TABLE I.**  
**Taxation of Imports and Domestic Production**  
**Manufacturing Sector, 1967-1968**

(1)	Customs Duty	
	Range	Weighted Average
	Percentage of c.i.f.	
(1)	(2)	(3)
<b>Processed food</b>		
Meat and Meat products	30.0-70.0	
Sugar, confectionery	35.0.-150.0	n.a.
Dairy products	30.0-100.0	84.0
Food preparations, n.e.c.	60.0-60.0	60.0
<b>Beverages and Tobacco</b>		
Tobacco products	50.0-200.0	n.a.
Non-Alcoholic beverages	25.0-50.0	n.a.
Alcoholic beverages		
<b>Construction Materials</b>		
Basic construction mat.	25.0-75.0	36.0
Clay products	25.0-75.0	
<b>Intermediate Products I</b>		
Oils and Fats	20.0-40.0	25.0
Pottery and sanitary work	50.0-100.0	n.a.
Lumber, Shaved wood, Plywood	40.0-50.0	46.0

Leather	80.0-100.0	90.0
Thread and yarn	60.0-100.0	79.0
Glass and Glass Products	25.0-100.0	
Chemical materials	15.0-40.0	30.0
Iron and Steel	10.0-30.0	27.0
Non-ferrous Metals	5.0-40.0	25.0
Petroleum Products		
LPG	15 percent	
Gasoline	15.15 TL/100 kg.	
Nafka oil	7.80 TL/100 kg.	
Kerosene	7.80 TL/100 kg.	
Metorin	8.75 TL. 100 kg.	
Solvent	15 percent	
<b>Intermediate Products II</b>		
Textile fabrics	80.0-150.0	1
Paper and paper products	50.080-0	16.0
Rubber tires and tubes	40.0-50.0	40.0
Other rubber products	25.0-60.0	35.0
Metal products	40.0-50.0	44.0
Pigments, paints, varnishes	20.0-50.0	49.0
Miscellaneous chemical prod.	15.0-50.0	33.0
Wood products	21.0-70.0	n.a.
<b>Consumer non-durables</b>		
Clothing	100.0-100.0	100.0
Painting and publishing	0.0-50.0	15
Shoes	100.0-100.0	100.0
Precision instruments	30.0-100.0	n.a.
Toys, sports goods, etc.	40.0-100.0	n.a.
Leather goods	75.0-150.0	n.a.
Perfumery and cosmetics	50.0-100.0	n.a.
	35.0-50.0	45.0
<b>Consumer durables</b>		
Motorcycles and bicycles	10.0-60.0	n.a.
Radios, T.V.	50.0-60.0	60.0
Watches and clocks	75.0-75.0	75.0
<b>Machinery</b>		
Agri, and non-electeical		
machinery	25.0-40.0	24.0
Electrical machinery	25.0-50.0	44.0
Engines and turbines	25.0-50.0	36.0
Computing and accounting machines	20.0-30.0	n.a.
<b>Transport Equipment</b>		
Trucks	75.0-75.0	75.0
Cars	75.0-75.0	75.0
	30.0-30.0	30.0

Sources: Customs Duty: Law No; 474, Imports Customs Tariff, 1964,  
 Official Gazette, No. : 11711 dated 25 th May. 1964  
 Astranslated by Türk Argus Ajansı, in İstanbul



minimum and the maximum rate of the tariffs for the commodity groups listed under column 1. Column 3 shows the weighted average of tariffs on the individual commodities within a group. Averages are obtained using the world value of commodities as weights. The figures in the Table show that tariffs on commodities classified under intermediate products I and II are in general lower than tariffs on consumer durables and transportation equipments but higher than the tariffs on machinery. Thus, there is an escalation of the tariff rates from unprocessed goods (intermediary goods) to processed goods (consumer goods). This escalation of the tariff structure will be brought out more clearly in the next section where we show that for the majority of the industries the effective rates of protection are higher than the nominal rates. However, the structure of nominal tariff rates neither show the extent of protection nor the extent of subsidy given to commodities and industries. For this we need to calculate the effective protection rates.

## II. Nominal and Effective Protection Rates

Due to the quantitative restrictions on imports tariffs and other price-measures of protection do not adequately express the relevant rate of protection. In such a case the percentage excess of domestic ex-factory price over c.i.f. price of the commodity, i.e., the implicit nominal rate is taken to represent the relevant rate applicable to the product. In addition, due to subsidy given to export products by the Export Rebate Scheme it is necessary, in our case, to distinguish between protection given to import substitutes and to exports. Also, not all import-competing products are subject to quantitative restrictions and for such products the rate implied by the price-measures of protection is the relevant nominal rate. Thus, in the following calculations the nominal rate expresses (i) the rate of subsidy given by Export Rebate rates for export products, (ii) the tariff equivalent of price measures of protection for import competing products not subject to quantitative restrictions and (iii) the implicit protection rate given by price comparisons for all other products. For export products that were not eligible to Export Rebates and for the products with prohibitive tariffs the nominal rate has been taken to equal zero. The nominal rates on individual products have been averaged using the world value of these products as weights to arrive at the nominal rate at the industry level. The nominal and effective rates are presented in Table II along with the effective rates of subsidy and bias against exports. For

**TABLE II. NOMINAL AND EFFECTIVE PROTECTION ON RATES FOR THE TURKISH INDUSTRIES, 1968**

Industry	Nominal Protection	Effective Protection		Rate of Subsidy Effective (Corden)	Against Exports Bias (Biassa)
		(Balassa)	(Corden)		
Agriculture	45	41	39	39	138
Forestry	63	102	60	60	206
Animal Husb. and Fishery	130	295	281	282	403
Coal Mining	90	90	78	78	204
Iron-Ore Mining	0	— 31	— 31	— 31	76
Other Mining	0	— 8	— 7	— 7	95
Sugar	304	— 433	— 4887	— 4887	— 666
Tobacco	n.a.	n.a.	n.a.	n.a.	n.a.
Alcoholic Beverages	n.a.	n.a.	n.a.	n.a.	n.a.
Food Processing	100	377	142	142	530
Textiles and Wood Product (Incl. Furniture)	120	222	141	142	295
Paper, Printing and Stationaries	131	741	208	209	737
Leather and Products (Incl. Shoes)	90	137	93	117	132
Rubber, Plastics and Products	0	— 33	— 25	— 25	83
Chemicals	40	18	12	12	262
Fertilizers	88	721	177	174	2280
Petroleum Refineries	34	45	28	28	155
Ceramics, Glass	259	715	161	161	6269
Cement	96	200	113	113	291
Iron-Steel	68	80	40	43	268
Non-Ferrous Metals	116	255	99	86	449
Metal Products	118	235	156	156	113
Agr. and Non-elect. Machinery	124	762	243	243	1165
Elect. Appl. and Machinery	312	— 255	— 347	— 347	— 193
Transportation Equip.	141	1637	323	331	2306
	87	202	130	134	392



the purpose of comparison the effective rates calculated from the tariff schedule are presented in Appedix A.

Effective rates given by Balassa method ranged from -433 percent for sugar industry to 1637 percent for electrical appliances and machinery. Whenever the effective rates were positive the Corden method yielded lower rates because it included the protection of value-added in non-traded goods used in the industry along with industry's value-added. Five industries had negative effective rates both by Balassa and Corden methods. A negative EPR can be the result of two completely different set of factors. Whenever the value-added at domestic prices of an industry is less than the value-added at international prices we will have a EPR between minus 100 and zero. Three industries in Table II, namely; iron-ore mining, other mining and leather products are examples of this phenomenon. Since for these industries, their value-added at domestic prices are less than value-added at international prices they are the most efficient (or least protected) industries. Secondly, a negative EPR is obtained for an industry whenever its value-added evaluated at international prices is negative. Examples for this phenomenon are the sugar and agricultural and non-electrical machinery industries. Negative value-added at international prices for an industry implies waste of resources and inefficiencies in processing (Guisinger, 1969). Thus, these two industries are the most inefficient and the most protected industries among all industries in the Table and in the ensuing discussion below they will simply be referred to as negative value-added industries.

One interesting aspect of nominal and effective rates in Table II is the escalation observed from the industries at lower stages toward the industries at higher stages of fabrication. For example, while the nominal rate of agriculture is 45 percent it is 100 percent on food processing. Similarly, the EPR (Balassa) for iron-steel is 255 percent while for metal products and agricultural and non-electrical machinery it is 762 percent and 1697 percent respectively. However, the 26 sector classification of the industries in Table II is highly aggregated and it may be more instructive to examine the escalation of nominal rates within the product composition of an industry. It is also to be noted that escalation is present whenever the nominal rate for an industry is less than the effective rate, and this is true for all industries in Table II except the negative value-added industries.

The negative value-added at international prices in the sugar and agricultural machinery industries points to possible inefficiencies in processing and therefore they need separate discussion. For the sugar industry, which is under government monopoly, the negative value-added is mostly due to the very high nominal rate on its output. The domestic ex-factory price of sugar has been compared to the export price of a potential supplier to which the estimated transportation cost has been added and to the import prices of two European countries. The nominal rate of 304 percent in Table II is the median of the three rates which in fact was very close to the other two rates. Thus, for this industry the negative value-added cannot be due to errors in the measurement of prices and, if its inputs are correctly observed it indicates an inefficiency in the processing and manufacturing of sugar. Among the products of the agricultural and non-electrical machinery industry price comparisons were made for steam-boilers, internal combustion engines, lathes, air pumps and food machinery for which the nominal implicit rates were 73 percent, 26 percent, 480 percent, 529 percent and 142 percent respectively. All these products were on the quota lists and thus the higher domestic prices partly reflect the scarcity margin due to quantitative restrictions. The quota profits on these products, as a percent of c.i.f. price, we have estimated to be 4 percent, -37 percent, 399 percent, 448 percent and 71 percent respectively. However, in 1968 these products accounted for only 12.6 percent of the total output of the industry. Because of the narrow coverage of the price comparisons the findings for this industry cannot be assumed to be very reliable.

For the three industries namely, leather products, iron-ore and other mining the findings in Table II show that value-added at domestic prices is less than that evaluated at international prices. However, not much importance can be attached to the result for the leather products since meaningful price comparisons could be made only for a single product. The nominal rate for this product was found to be negative and therefore a zero rate was assumed for the industry. On the other hand, it was possible to compare the domestic ex-factory prices of the products of the mining sectors with their f.o.b. export prices for several consecutive years. In all cases domestic prices were lower than the export prices and since they were not eligible to Export Rebates a zero nominal rate has been given to the mining sectors.

In the calculation of effective rates the thing of main interest is to see the relative degree of incentives given to the industries by



the protection system. The relative degree of incentives given to the industries by the protection-subsidy system is indicated by their ranking according to the effective rates calculated using the Balassa method. Effective rates by the Corden method, on the other hand, give the direct domestic resource cost. From the Table we see that not all industries are given the same degree of incentives. The protection system involves considerable discrimination between the industries. On the average, the effective protection provided to the manufacturing sector is 314 percent in contrast to 197 percent for the primary production.<sup>1</sup> It is also observed that nominal and effective rates are different both in terms of their magnitude and dispersion.

#### Effective Rate of Subsidy

Beside being protected, the Turkish industries are being promoted by various incentives which were briefly mentioned at the beginning of the section. The benefits obtained by the industries affect the profitability of investments and hence it is necessary to take them into account in order to estimate the overall subsidy received by an industry. This can be achieved by adding the differential benefits granted to an industry by each promotion scheme to the domestic value-added of that industry.<sup>2</sup> The effective rate of subsidy can be used either as a measure of relative incentives, in which case the Balassa method is used, or a measure of the direct cost of the incentives, which requires the use of Corden method.<sup>3</sup> Here the ERS has been used for the latter purpose. Calculations presented in Table II show that EPR and ERS differ from each other only in nine industries. The largest differences are observed for the paper and transportation equipment industries. The EPR of 93 percent increases to 117 percent of ERS for the paper industry and from 130 percent of EPR to 134 percent of ERS for the transportation equipments. For this latter industry the difference between the two rates was due to the net benefits accruing from the Promotion Schemes, which were TL 5,728,000 through investment-tax reductions, TL. 653,000 through deferred payment of custom char-

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- (1) The effective rates (Corden) are averaged using the value added at international prices of the industries as weights.
  - (2) For the relevant formula see Appendix A.
  - (3) For a theoretical discussion of the concept of Effective Rate of Subsidy see B. Balassa, "Development Strategies in Semi-Industrial Countries: Outline and Methodology", I.B.R.D., Washington, D. C., April 1971.

ges, TL. 3.002,000 through tariff exemptions, and TL. 13,598,000 through development funds.

The average nominal rate for all industries is 94 percent while the average effective rates by Balassa and Corden methods are 270 percent and 140 percent respectively.

Since the nominal rates in Table II and nominal tariff rates in Table AI in Appendix A are aggregates obtained by the same weighting system the difference between the two expresses the quota profits enjoyed by the importers as a percentage of foreign c.i.f. price. A comparison of the nominal rates in the two tables shows that considerable quota profits are enjoyed almost in all industries. The existence of quota profits due to import licencing will cause a difference in the effective rates obtained from tariffs and price comparisons. It is interesting to examine this difference for at least one industry, e.g., petroleum refineries.

The nominal tariff protection on the output of petroleum refineries is 96 percent and the relevant nominal protection given by price comparisons is 258 percent. This difference implies that considerable quota profits are enjoyed by the producers of petroleum products. All the products of this industry were subject to quantitative restrictions. Price comparisons indicated that the excess of the domestic price over the foreign price was 348 percent for motor oil and 326 percent for gasoline. For both products the share of imports in domestic consumption was less than 3 percent. The customs duty was 70.7 percent on motor oil and 74.8 percent on gasoline which implied that the quota profits on these products as a percent of the c.i.f. value of import were 278 percent and 220 percent respectively. When nominal tariff rates were used, calculations indicated that domestic value-added in this industry was greater than value-added at world prices with an effective tariff protection of -64 percent (Corden). However, the EPR for the petroleum industry is 161 percent (Corden). Thus, the producers of petroleum products can import TL. 100 worth of these products at a cost of TL. 96, sell it at domestic market at TL. 253 and enjoy a quota profit of TL. 163 and effective protection of 161 percent (Corden).

The main conclusion derived from the comparison of the EPR's and ERS's in Table II is that the industrial incentives and the differential benefits implied by these incentives did not considerably modify the structure of effective protection and effective subsidy in



1968. However, care must be taken in the interpretation of this finding. It does not imply that the absolute benefits granted to the industries by the incentives system were, by any means, inadequate. We have noted above that substantial benefits accrued to the investors through the incentives system. The finding rather shows that the interindustry distribution of the differential benefits implied by the incentives system is ineffective in the sense that the effective rate of subsidy of the industries are not modified when the industrial incentives are taken into account. This situation can come about when the differential benefits provided to an industry relative to the other industries, are cancelled or annulled by the differential disincentives imposed on the industry by the other incentives.

The importance of this finding can hardly be overestimated. Considerable amount of sacrifices are made from the Government Budget to subsidize the industries and to channel domestic resources into preferential activities through the incentives system. Yet, because the interindustry distribution of the benefits granted by the incentives system is not properly administered, due to lack of coordination between incentives and poor management, the main objective of the system is not realized.<sup>1</sup> We, therefore, must conclude that the industrial incentives system only serves as a means of transferring moneys from Government's Budget to investors without contributing to the channeling of investments into the activities whose promotion is envisaged by the Development Plans and without contributing to the optimal allocation of the scarce resources of the society.

#### Bias Against Exports

Differences in the extent of nominal protection given to import substitutes and subsidies given to exports by the Export Promotion Schemes will affect the profitability of production for domestic markets and exporting. The relative degree of incentives given to exports in comparison to domestic production can be evaluated by estimating the bias against exports, defined as the percentage excess of value-added obtained domestically over the value-added obtained in exporting.

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(1) The rank correlation coefficient between nominal rates and effective rates of subsidy is 0.894. The same coefficient between nominal rates and effective rates (Corden) is 0.846. Thus, the benefits accruing to the industries through the incentives does not also alter the ranking of industries.

In our calculations the rate of subsidy given to exports by the Export Rebate system was taken to represent the nominal rate applicable to exports. Since, however, a product may not necessarily be an export product in order to be eligible to Export Rebates (that is, it is not necessary that exports of a product should be above a certain percentage of domestic production) the bias against exports, as it has been calculated in this study, applies to potential exports also. But the rebate rates and hence the subsidy on individual products may change from one year to another depending on the view of the State Planning Organization and therefore our calculations apply only to 1968.

From Table II we see that the bias against exports is positive in all industries except sugar and agricultural machinery industries. The negative bias for these industries is due to negative world value-added. For the remaining industries value-added per unit of output in domestic production is greater than the value-added per unit of output in exporting. Assuming that the input-output coefficients, wages and depreciation of capital equipment do not differ in production for domestic and foreign markets in an industry, the finding implies a greater profitability of production for domestic sale rather than exporting. This finding underlines one of the most critical consequences of the Governmental policies designed to promote the expansion and diversification of exports and to promote industrial development. The findings in Table II with regard to exports imply that the policies designed to promote the expansion of exports are simply ineffective. Again, this does not merely indicate that subsidies given to exports are not sufficient for their expansion. It indicates something much graver than that. Export promotion schemes are primarily designed to promote exports, and the subsidies are meant to eliminate the subsidy differential existing between exports and domestic substitutes. But our findings in Table II show that, granted the export subsidies, a bias against exports still prevails. That is, there is a conflict between the export promotion schemes and the industrial incentives-protection system. The subsidy given to import substitution through the incentives-protection system does not only annul the relative incentives given to exports by the export promotion schemes, but actually create a bias against exports.

If the Government is interested in the promotion of exports than either the subsidy given to domestic substitutes should be decreased or the subsidy given to exports should be increased.



### Net Nominal and Effective Rates

The effective rates we have so far discussed were calculated at the current exchange rate. In 1968 the official exchange rate stood at \$1=TL. 9.02 which was supported with import taxes and quantitative restrictions. In addition, this rate did not equilibrate the balance of payments. The deficit on current account in 1968 amounted to TL. 2,468.8 million, the largest since 1964. Effective rates were also estimated under the assumptions of constant input-output coefficients, no substitution between material inputs and primary factors, infinite demand elasticity for imports and infinite foreign demand elasticity for exports. An adjustment for the latter two assumptions was made by adjusting the gross rates for the degree of overvaluation of the Turkish currency. The extent of overvaluation of the currency, estimated as 77.8 percent, was found by utilizing the available estimates on import demand elasticities and estimating the foreign demand elasticities for major export products. The net nominal and effective rates (Corden) are presented in Table III. Adjustment for overvaluation, as can be ascertained from the Table, considerably reduces the extent of effective rates and alters the ranking of the industries. With net effective rates seven industries assume negative effective rates less than 100 percent, while thirteen industries take on values between 0 and 100 percent. This reduction in the levels of effective rates compared to gross rates show the importance of quantitative restrictions in sustaining an overvalued exchange rate and enabling the industries to operate at higher levels of protection.

### IV. Summary and Conclusions

The main conclusions emerging from the above discussion can be summarized as follows:

1. The differences in the extent of effective protection given to various industries by the protection-subsidy system is quite large. However, as Bertrand has shown equal rates of effective protection must be given to all industries for the maximization of consumption possibilities. If, certain industries are to be given a priority, a common rate of discrimination should prevail between priority and nonpriority industries. From this point of view the Turkish system of protection is not optimal and needs revision.

**TABLE III.**  
**NET NOMINAL AND EFFECTIVE RATES, 1968**

<b>Industry</b>	<b>Net Nominal Rate</b>	<b>Net Effective Rate (Corden)</b>
Agriculture	— 18	— 21
Forestry	— 8	— 10
Animal Husbandry and Fishery	30	114
Iron-ore Mining	— 43	— 61
Other Mining	— 43	— 47
Sugar	128	— 2239
Tobacco	na	na
Alcoholic Beverages	na	na
Food Processing	13	36
Textiles	24	36
Wood Products	30	75
Paper, Printing	7	9
Leather and Products	— 43	— 57
Rubber and Plastics	— 20	— 36
Chemicals	6	56
Fertilizers	— 24	28
Petroleum Refineries	102	47
Ceramic, Glass	11	20
Cement	— 5	— 20
Iron Steel	22	12
Non-ferrous Metals	23	64
Metal Products	26	94
Agr. and Non-Elect. Mach.	132	— 241
Elect. Appl. and Mach.	36	136
Transport. Equipments	5	30

Source : Table II.

2. The benefits provided to the industries by the various Promotion Schemes in 1968 in the form of tax-exemptions, low-cost credits, deferred payment of custom charges and tariff exemptions have not modified the interindustry structure of effective protection and effective subsidy, and have not been influential in the interindustry allocation of resources. We have shown that the industrial incentives system merely serves as a means of transferring moneys



from the Budget to investors without contributing to the channelling of new investments into the activities which were given a priority in the Development Plans. The Government must take an active interest in the coordination of the various incentives schemes and ground the operation of the schemes on a sound economic rationale. Since these incentives are granted to individual investment projects it is possible that they may have provided and continue to provide differential benefits to the firms within an industry i.e., give rise to differential treatment and inducing bribery.

3. The policy of import substitution followed in the First and Second Five Year Development Plans, and implemented through restrictions on imports and the complete elimination of the import of certain commodities, have, in conjunction with other factors, increased the domestic prices to such an extent that production for domestic market became more profitable than for exporting. The subsidies given to exporters by the Export Rebate System as of 1968 were not sufficient to eliminate the bias against exports inherent in the protection system. We have conjectured that there is a conflict between the policies designed to promote domestic production and the policies designed to promote exports. Incentives given to domestic substitutes through the subsidy-protection system have not only rendered ineffective the subsidy given to exports by the export promotion schemes, but have created a bias against exports. There is ample evidence, e.g., the considerable increases in domestic prices during the last five years, to suggest that the bias against exports might have even increased. Elimination of the bias against exports inherent in the policies can be achieved either by increasing the subsidy given to exports keeping the protection level on import substitutes intact, or by decreasing the protection of import substitutes and keeping the subsidy on exports at the prevailing level, or by increasing the export subsidies and decreasing the protection on import substitutes simultaneously.

#### APPENDIX A.

##### Effective Protection Rate:

In this study EPR is defined as the percentage excess of domestic value added over international value-added due to protective measures. If,

$W_i$  = Domestic value added in industry  $i$ ,

$V_i$  = Value added evaluated at international prices in industry  $i$ ,

then EPR in industry  $i$ ,  $Z_i$ , is defined as

$$Z_i = \frac{W_i}{V_i} - 1 \quad \text{A1.}$$

The 1967 Turkish Input-Output table has been used as a basis for calculating the effective rates. Therefore, the value added at international prices has been found by deflating domestic values with the relevant nominal rates. In the following formulae and equations the flow variables are expressed per unit of output but in actual estimation they are taken to refer to total values.

Let:

$a_{ji}$  = Amount of material input  $j$  per unit of output  $i$ .

$a_{ni}$  = Amount of non-traded input  $j$  per unit of output  $i$ .

$p_i$  = Domestic market price of  $i$ .

$m_i$  = c.i.f. value of competitive plus non-competitive imported inputs per unit of  $i$ .

$m_{ti}$  = Import taxes on  $m_i$

$t_{di}$  = Domestic indirect taxes per unit of  $i$ .

Value added at factor cost at domestic prices according to Balassa method,  $W_i^B$  can be expressed as;

$$W_i^B = p_i - \sum_j a_{ji} p_j - \sum_n a_{ni} p_n - m_i - m_{ti} - t_{di} \quad \text{A2.}$$

In A2 non-traded inputs into  $i$  ( $\sum_n a_{ni} p_n$ ) have been excluded from domestic value added. In Corden's treatment the value-added component of these inputs are also included in  $W_i^B$ . This is effected by dividing the non-traded inputs used by  $i$  into two component gives the direct and indirect material inputs, while the other gives the direct and indirect values-added. In this study we divided the non-traded input coefficients,  $a_{ni}$ , into two components  $r_{jn}$  and  $r_{wn}$  such that;

$$a_{ni} = a_{ni} r_{jn} + a_{ni} r_{wn}$$

where,

$r_{jn}$  = direct and indirect material inputs



$r_n$  = direct and indirect value added realized in the production of non traded god n,

and by consturction  $r_{jn} + r_{nwn} = 1$

Domestic value-added, when non-traded inputs ade treated according to Corden's methods is then given by;

$$\begin{aligned} W_i^C &= W_i^B + \sum_w \sum_r a_{ni} P_i r_{wn} \\ &= P_i - \sum_j a_{ji} P_j - \sum_j \sum_n a_{ni} P_i r_{jn} - m_i - mt_i - td_i \end{aligned}$$

Since,

$$\sum_n a_{ni} P_i = \sum_j \sum_r a_{ni} P_i r_{jn} + \sum_w \sum_r a_{ni} P_i r_{wn}$$

Value added at international prices have been found by deflating the flows in and A3 by the relevant nominal rates. Let  $t_i$  represent the relevant nominal rate.

Then,

$$V_i^B = \frac{P_i}{(1+t_i)} - \sum_j \frac{a_{ji} P_j}{(1+t_j)} - \sum_{jn} \frac{a_{ji} P_i r_{jn}}{(1+t_j)} - \sum a_{ni} P_i r_{wn} - m_i$$

and when Corden method is used,

$$\begin{aligned} V_i^C &= \frac{P_i}{(1+t_i)} - \sum_j \frac{a_{ji} P_j}{(1+t_j)} - \sum_{jn} \frac{a_{ni} P_i r_{jn}}{(1+t_j)} - m_i \\ &= V_i^B + \sum_w \sum_n a_{ni} P_i r_{wn} \end{aligned}$$

Effective rates are calculated as;

$$Z_i^B = \frac{W_i^B}{V_i^B} - 1 \tag{A4}$$

$$Z_i^C = \frac{W_i^C}{V_i^C} - 1 \tag{A5}$$

Bias Against Exports :

Bias against exporting in inustry i,  $B_i$ , due to protection-subsidy system has been defined as the percentage excess of value-added realized in production for domestic market  $w_i^d$ , over value-added realized in exportin  $w_i^e$ .

Thus,

$$B_i = \frac{w_i^d}{w_i^e} - 1 \quad \text{A6.}$$

Effective Rate of Subsidy:

The effective rate of subsidy of industry  $i$ ,  $E_i$ , has been obtained by adding the differential incentive component of each Promotion Scheme to the domestic value added of the industry.

$$E_i = \frac{V_i^c + 0.2(t^n - t_i)A_i + (i^n - i)K_i + (t^n - t_i)M_i^* + (t^n - t_i)M_i^{**}}{V_i^c} - 1$$

where,

$0.2(t^n - i)A_i$  = Differential benefits accruing from investment -tax reduction scheme

$(i^n - i)K_i$  = Differential benefits obtained from the development funds

$(t^n - t_i)M_i^*$  = Differential benefits obtained from deferred payment of custom charges

$(t^n - t_i)M_i^{**}$  = Differential benefits obtained from tariff exemption.

Net Nominal and Effective Rates:

Net Nominal and Effective Rates were found by adjusting the Gross rates for the extent of overvaluation of the currency. Net Nominal  $T^*$  and Net Effective  $Z^*$  rates were calculated as

$$T_i^* = \left[ \frac{R}{R^1} (1 + T_i) - 1 \right]$$

$$Z_i^* = \left[ \frac{R}{R^1} (1 + Z_i) - 1 \right]$$

where,

$R$  = Actual exchange rate,

$R^1$  = Free trade exchange rate, i.e. the exchange rate that would sustain equilibrium in Balance of payments if all protective measures; quotas, tariffs and export subsidies are removed.



$R$   
— = Extent of overvaluation

$$R^1 = \frac{E_f X + E_m M + D}{E_f X + E_m M + D}$$

$$R^1 = \frac{E_f X}{(1+S)} + \frac{E_m M}{(1+T)}$$

where,

$E_f$  = Elasticity of supply of foreign exchange,

$E_m$  = Elasticity of demand for imports,

$D_x$  = Elasticity of foreign demand for eXports.

$X$  = Value of exports (f.o.b),

$M$  = Value of imports (c.f.i),

$S$  = Rate of subsidy on exports

$T$  = Rate of nominal protection on imports, and

$$E_f = \frac{E_x (D_x - 1)}{E_x + D_x}$$

In the calculations we assumed that  $D=0$ , i.e. there is no short-term capital movements or unforeseen reserve losses. Various elasticities in the above formula were estimated for several individual products and then aggregated.

TABLE APPENDIX A.1. — NOMINAL AND EFFECTIVE RATES  
CALCULATED FROM THE TARIFF SCHEDULE, 1968

Industry	Nominal	Effective	
	Tariff Rate	Balassa	Tariff Rate Corden
Agriculture	41	43	40
Forestry	100	206	100
Animal Husb. and Fishery	45	46	45
Coal Mining	92	96	83
Iron-Ore Mining	32	9	9
Other Mining	51	51	46
Sugar	202	—4270	411
Tobacco	141	57	22
Alcoholic Bev.	165	281	123
Food Prosecing	61	128	71
Textiles	106	200	130
Wood Products (Incl. Furniture)	80	83	53
Paper, Printing	115	448	215
Leather and Products	131	—812	—345
Rubber and Plastic	107	—329	17002
Chemicals	55	90	52
Fertilizers	34	49	29
Petroleum Refineries	96	— 71	— 64
Ceramics, Glass	25	7	6
Cement	52	44	25
Iron-Steel	41	21	14
Non-Ferrous Metals	71	101	78
Metal Products	99	1380	296
Agr. and Non-Elect. Mach.	59	135	96
Elct. Appl. and Mach.	96	329	165
Transport. Equip.	154	—604	—9613



**APPENDIX B.**

## Estimation of nominal tariff rates:

In 1954 Turkey adopted ad valorem tariff system almost for all commodities. The tariff rates established in 1954 were considerably revised in 1964. In 1964 tariff schedule, except for the petroleum products rates are on ad-valorem basis. There have been some minor modifications in the tariff rates between 1964-1969 but following the 1970 devaluations the rates have been altered for a large number of commodities.

All imports into Turkey are subject to various custom charges beside the tariff. Import taxes and duties are levied on imports under the following headings:

- a) Custom duties (tariff)
- b) Municipality tax
- c) Stamps duties
- d) Wharf tax
- e) Production tax on imports

Municipality tax: Was first introduced in 1954 at a rate of 5 percent but was subsequently raised to 15 percent. The base of the tax is the amount of custom duties. Thus, if  $M$  denotes the c.i.f. value of the import,  $T_c$ ,  $M$ ,  $T_m$ .

Production Tax on Imports: Some domestically produced and imported commodities are subject to an indirect tax called Production tax. The domestic and imported commodities that are subject to this tax are individually specified in four lists. However, only the import of commodities is subject to this tax that are specified in list Iv. For imports the base of the tax is the landed cost. If  $T_p$  denotes the rate of this tax, the amount of this tax  $P$  will be given by

$$P = T_p [ M(1 + T_c + T_m T_c + T_s) + W ] \quad \text{B1.}$$

Wharf Tax: The rate of this tax was 2 1/2 percent until 1965 but was raised to 5 percent in 1966. Its base is the c.i.f. value of the import plus the tariff, municipality tax and other miscellaneous expenses incurred (e.g., storage costs), Denoting the rate of this tax by  $T_w$ , its amount  $W$  where the c.i.f. value of the imports is  $M$  will be given by

$$W = T_w (M + T_c M + T_m T_c M + T_s M + E) \quad \text{B2.}$$

where E amount of miscellaneous expenses. It is very difficult to estimate the amount of miscellaneous expenses for each commodity. Assuming that they amount to 10 percent of the c.i.f. value of the import, we will have

$$W = T_w [M (1.10 + T_c + T_c T_m)] \quad \text{B2.}$$

Stamp Duties: A 5 percent duty was imposed on the c.i.f. value of import in 1963. Its rate was subsequently raised to 15 percent in 1967 and to 25 percent in 1969. Following the August 1970 devaluation it was reduced to 10 percent. If the rate is denoted by  $T_s$ , the value of the duty S will simply be

$$S = T_s M \quad \text{B3.}$$

Taking into consideration these taxes the nominal tariff rate  $T_i$  on commodity i, will be given by

$$T_i = (T_{ci} + T_m T_{ci} + T_s + (1.10 T_{ci} + T_m T_{ci}) T_w + (1 + T_{ci} + T_m T_{ci} + T_s + 1.10 T_w + T_w T_{ci} + T_w T_m T_{ci}) T_{pi}$$

and since during 1967-1967,  $T_m = 0.15$ ,  $T_s = 0.15$  and  $T_w = 0.05$ ,

$$T_i = (0.205 + 1.2075 T_{ci}) + (1.205 + 1.2075 T_{ci}) T_{pi} \quad \text{B4.}$$

It should be noted that an equivalent rate of tax both on the import and domestic production of a commodity will not affect the EPR of that commodity. Thus for the commodities on the first three lists of the Production Tax  $T_{pi} = 0$ , and B4 reduces to

$$T_i = 2.205 + 1.2075 T_{ci} \quad \text{B4.}$$

Other Price measures of Protection-Guarantee Deposits:

The Turkish trade regulations require importers to place a guarantee deposit with their applications for an import licence. A guarantee deposit at a rate of 4 percent was first required in 1953, but it has been considerably raised since then and have been used as an additional instrument of protection. The rates of deposits for imports on the liberalized lists were generally higher than the rates on the imports from quota lists. For the non-budget public sector, State Economic Enterprises and government agencies not included in the general and Annexed Budget, no deposits are required if their imports are financed by free exchange. However, deposits at 10 or 20 percent rate are required



for their imports ifnanced by AID fund. For the imports of private sector the deposit rates were considerably raised in 1965, probably because of the increasing pressure on the available foreign exchange.

The deposit requirements constitute an additional cost to the importers, since they tie up their funds for the duration of the deposit. The cost of the deposit is the interest foregone depending on its amount and duration. The TL. cost of a dollar c.i.f. value of imports is found as, TL cost =  $N/12.r.g.R$ .

$N$  = Duration of the deposit (number of months)

$r$  = Market rate of interest

$g$  = Deposit rate

$R$  = Official exchange rate

The percent tariff equivalent is simply given by  $N/12.r.g$ . In the calculations  $r = 0.105$  and  $R = 9.08$  have been used. Adjustment for the rate of inflation has been affected by using the formula  $N/12.g. (1 + r/1 + P_t - 1)$  where  $P_t$  is the rate of inflation for the year  $t$ .

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## ÖZET

Birinci Beş Yıllık Planın uygulamaya konulmasından günümüze kadar ülkemizin hükümetleri sanayileşmeyi gerçekleştirmek için çeşitli ekonomik politikalar izlemişlerdir. Birinci Plan döneminde ithalât ikamesine önem verilmiş ve yerli üretim gümrük vergileri, ithalât sınırlamaları ve ithalât yasakları ile korunmuştur. İkinci Plan döneminde de yerli üretim bu koruyucuyu tedbirlere ek olarak çeşitli teşvik tedbirleriyle geliştirilmeye çalışılmıştır. Koruyucu ve teşvik edici tedbirler dolaysız ve dolaylı olarak yatırım maliyetini ve neticede de yatırım kârlılığını etkilemektedir. Ancak çeşitli teşvik politikaları ile sağlanan net teşvik miktarları endüstriler arasında eşit olarak dağılmayabilir. Bu durum söz konusu ise kaynakların optimal dağılımı engellenmiş demektir. İkinci olarak, ithalât ikameleri ile ihracat mallarına sağlanan koruma ve teşvik yüksekliği arasındaki fark yerli piyasa için üretim ile ihracat için üretim arasında kârlılık farkı doğurabilir. Yerli piyasa için üretim ihracattan daha kârlı ise ihracatın gelişmesini engeleyen bir durum söz konusudur. Burada ortaya çıkan soru ihracata yönelik teşvik tedbirlerinin yerli üretime oranla ihracatı gerçekten teşvik edip etmediğidir.

Tüm koruma ve teşvik tedbirlerinden doğan bir koruma-teşvik oranının endüstriler arasındaki dağılımı ve dolayısıyla endüstrilere sağlanan göreceli koruma ve teşvik yüksekliği ve bu tedbirlerin ekonomiye yüklediği maliyet etken koruma oranı ihracata karşı yaratılan ayrıcalık seviyesini ölçmek için de kullanılmıştır.

İthalât kısıtlamaları nominal gümrük vergilerinin bireysel mallara ve endüstrilere sağlanan nominal koruma oranı olarak kullanılması olanağını ortadan kaldırır. Bu durumda aynı malın yerli ve yabancı fiyatı arasındaki bir karşılaştırma yapmak ve yerli fiyatın yabancı fiyata göre yüzde farkını nominal koruma oranı olarak almak gerekir. Fiyat karşılaştırmalarından elde edilen nominal ve etken koruma oranları ile sistemin içerdiği ihracata karşı ayırım Tablo 2 de gösterilmiştir. Gümrük vergi cetvelinden elde edilen nominal (gümrük vergisi ile) korunma oranları ile etken korunma oranları Tablo A.1. de verilmiştir. Çalışmada kullanılan formüller Ek 1. de, nominal korunma oranlarının hesaplanması ise Ek 2. de açıklanmıştır.

Çalışmanın ana sonuçları şöyle özetlenebilir:

1. Koruma-teşvik sistemi ile endüstrilere sağlanan etken koruma oranları arasındaki farklar oldukça büyüktür. Halbuki kaynakların optimal dağılımını sağlamak ve tüketim imkânlarını maksimum kılmak için endüstrilere aynı oranda etken koruma sağlanmalıdır. Bu açıdan Türk koruma-teşvik sistemi optimal değildir ve yeniden düzenlenmesi gerekmektedir.
2. 1968 yılında koruma tedbirleri dışında çeşitli teşvik tedbirleri ile sağlanan kazançlar endüstriler arası kaynak dağılımını hemen hemen hiç etkilememiştir. Bu teşvik tedbirleri proje bazında da uygulandığına göre aynı endüstri içerisinde firmalar arasında ve ayrıcalıklar yaratması mümkündür. Teşvik tedbirlerinin daha etken olarak kullanılabilmesi için daha geniş çapta kullanılmaları veya seçilmiş birkaç endüstri üzerinde toplanması gerekir. Teşvik tedbirlerinin sağlandığı yarar ile yol açtığı ayrıcalıklar ve bürokrasi yolu ile ekonomiye yükledikleri maliyet üzerinde yeniden düşünülmalıdır.
3. Birinci ve İkinci Plan dönemlerinde ithalât sınırlamaları, ithalât vergileri ve yasakları ile sürdürülen ithal ikamesi politikası, diğer kimi etkenlerle birlikte, kimi endüstri mallarının yerli ve yabancı fiyatları arasında önemli bir fark doğurmuştur. Bu fiyat farkı yerli piyasa için üretimi ihracat için üretimden daha kârlı kılmıştır. 1968 yılındaki miktarları ile ihracat vergi iadeleri ile ihracata sağlanan diğer teşvikler ve içerdikleri kazançlar ihracat ile yerli üretim arasındaki teşvik farkını ortadan kaldırmak için yeterli değildi. Koruma-teşvik politikalarının içerdiği endüstriler arası ve yerli üretim ile ihracat arasındaki ayrıcalık 1960 yılından beri ihracatın arzu edildiği kadar çeşitlenmemesinin ve gelişmesinin en önemli nedenlerinden biri olabilir.