# A Preliminary Input-Output Table for Large-Scale Industries in Pakistan

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#### INTRODUCTION

As an approach to economic problems, the input-output analysis is in the tradition of general equilibrium economics. However, it is a general equilibrium analysis with numerical strength. It is a general equilibrium theory because it analyzes all the industrial sectors of the economy simultaneously with special emphasis on the production relations among the industries. It is an approach with numerical strength because the basic formulation of the theory is amenable to statistical implementation in the econometric sense. Being such, this approach can be, and has been, applied to provide numerical answers to problems related to total economic mobilization of an economy, e.g., for war, for peace or for economic development. For this reason, it has a direct policy orientation; and, can be usefully applied to planning for economic development.

On account of the fact that it is a general equilibrium theory with numerical strength, the input-output analysis is not an inexpensive approach. This is due to the fact that stupendous effort is involved in the collection and the processing of statistical data, for all the major production sectors, as well as in tabulation and computation. This is difficult even when the data are available, and when the data are not available, an effort in this direction is thwarted at the very initial stage. The standard reason given for not applying an input-output approach in planning for economic development is that data are not available. In this respect, Pakistan is a typical case.

It is the purpose of this paper to present a preliminary input-output table for large-scale industries in Pakistan. As the base year for table, we have selected calendar year 1955, primarily because for this year the census of manufacturing industries is most detailed and most suitable for our purpose. As far as we know, this table is the first of its kind. However, in view of the data problem, the input-output table that will be presented is only a preliminary one. Not only does it exclude all production sectors

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except the large-scale manufacturing industries, but even for the large-scale industries, the data which we have used are of varying degree of suitability and reliability. For this reason, it can only be regarded as a first step toward an input-output table for Pakistan. We do not wish to emphasize the applicability of our table at this stage. In this paper, we would rather like to point out the difficulties which we have encountered in the process of our work with the hope that efforts will be made to remove these difficulties in the future. Such a step-by-step approach is, after all, the normal procedure for the construction of an input-output table.

In this paper, we shall first concentrate on the "domestic aspect" of the inter-industry relations. For this purpose, the major source of information is Census of Manufacturing Industries, 1955, prepared by the Central Statistical Office, Government of Pakistan. This publication will be referred to as CMI. We shall describe the industrial classification in Sections I and II. The processing of the CMI data will be described in Sections III and IV. The statistical difficulties which we have encountered in processing the data will be discussed in Section V.

The later sections of this paper deal with the foreign sector, *i.e.*, imports and exports. Section V presents the accounting framework for the treatment of the foreign sector. The processing of foreign trade statistics is discussed in Section VI. The accounting balance and the economic interpretations of the input-output table are explained in Section VII. The statistical difficulties relating to the processing of foreign trade statistics are discussed in Section VIII.

# SECTION I: CLASSIFICATION OF SECTORS

The input-output table (the inter-industry flow table) of this paper is presented in Table 1. As can be seen from the industrial classification on the left hand margin, there are:

- i) 14 agricultural sectors (indexed 101-114)
- ii) 3 mining sectors (indexed 1, 2, 3)
- iii) 15 industrial sectors (indexed 4-18)
- iv) 1 "unallocated sector" (sector 19)
- v) a "wage sector" (20), a "non-wage sector" (21), a "value added sector" (22), and a "total output sector" (23)
- vi) 1 foreign trade sector (24)

What is missing from this classification are the various "service" sectors, such as:

- 1) railways and communications
- 2) other transportation
- 3) banking and commerce
- 4) other professions
- 5) construction
- 6) government

Thus, a comprehensive input-output table for Pakistan should have 30 sectors. In table 1, we, however, have only presented a partial table involving the cost structures of (i.e., the inflows into) the industrial sectors. Thus, we have only filled up Column 4 to Column 25, corresponding to the industrial sectors.

The classification of the industrial sectors is based on a re-classification of the CMI breakdown, as will be discussed in the next section. The classification of the agricultural sectors is based on a consolidation of list of classification of all crops, livestock, fishery and forestry of Pakistan<sup>1</sup>. The consolidation was made in such a way that the sources of inputs of all the industrial sectors can be appropriately identified. The classification of mining into the three listed sectors is based on the same principle. Mining, however, is a rather unimportant sector for Pakistan<sup>2</sup>.

# SECTION II: CLASSIFICATION OF MAJOR INDUSTRIAL GROUPS

For the industrial sector of our input-output table, there are 16 major industry groups. These 16 industries cover all the medium and large-scale industrial establishments in the year 1955. The definition of a large- or medium-size industrial establishment, used by CMI, is "manufacturing establishment employing 20 or more workers and using power in the manufacturing processes". In CMI, the large-scale (from now on the expression will stand for "large- and medium-scale") industries are classified in the leading column of Table 2. This table, with only minor modifications, is derived from the table "A Summary of the Basic Industrial Statistics by Major Industrial Groups" on pages 3-4, CMI. In the construction of our input-output table (from now on, this means input-output table of the large-scale industries), the first step is a re-classification of the industrial groups of CMI (i.e., Table 2), according to our classification (i.e., Table 1). This re-classification is indicated in the o-th column of Table 2 in which each

<sup>1.</sup> This list was prepared by the Central Statistical Office of Pakistan for the computation of national income. It was made available to us through the courtesy of that

<sup>2.</sup> For the year 1955, the contribution of the mining sector to the GNP (at factor cost) is only 0.2 per cent. (See, Second Five Year Plan, p. 45).

CMI industry receives a number indicating the industrial sector of Table 1 to which the CMI industry belongs.

Each major CMI industrial group contains many industries; each industry produces many products. A detailed listing of all the products produced in an industrial sector is given on pages 43-103, CMI.

#### SECTION III: BASIC INDUSTRIAL STATISTICS

The basic CMI industrial statistics contained in Table 2 consist of:

# 1) Intermediary factors of production

- a) cost of fuel and electricity (Col. 1)
- b) cost of raw materials (i.e., raw materials other than fuel and electricity) (Col. 2)
- c) payments for work done (Col. 3)
- d) Total intermediary factor cost

# 2) Primary factor cost

a) Value added (Col. 5)

This includes all payments to primary factors of production (i.e., wage, rent, interest and profit) and, probably, also tax payments<sup>3</sup>.

- b) Cost of labour (Col. 6)
- c) Non-wage cost (Col. 7)

(This is all primary factor cost except cost of labour).

3) Total output (Col. 8)

(This is the sum of total intermediary factors (Col. 4) and value added (Col. 5)).

The "total intermediary factors cost" (Col. 4) and the "non-wage payments" p(Col. 7) are not given in CMI. We have directly computed Column 4 (as a sum of Columns 1, 2 and 3) and Column 7 (as the difference between Columns 5 and 6).

<sup>3.</sup> The CMI did not say explicitly that tax payments are included in the value added. Ho wever, the total value of output is the sum of the outputs of the firms valued at "exfact ory net selling values". The ex-factory net selling value is defined (page 117, CMI) as ". the amount charged or chargeable to customers less (i) discount and rebate, (ii) payment to transport firms." This seems to suggest that tax payments are included in the "e x-factory net selling value."

Table 2 is consolidated according to our industrial classification (i.e., grouped according to the indices indicated in the 1-th column). The result is presented in Table 3 which has the same columns (and same economic interpretations) as Table 2.

The figures contained in Table 3, which are directly used in our inputoutput table (Table 1) are:

- 1) the value added (Row 23, Table 1)
- 2) wage payment (Row 21, Table 1)
- 3) Non-wage payment (Row 22, Table 1)

Furthermore, the total output figures in Column 8 of Table 3 are conceptually the same as the last Row 24, Table 1. However, there are minor discrepancies here due to the fact that the total output figures of Table 1 are computed by us, in such a way, as to balance up the input-output table. This discrepancy will be explained later.

#### SECTION IV: INTER-INDUSTRY FLOWS

The major effort of this paper has been the computation of the interindustry flows in Table 1. This computation is based on the data of the cost structure of the industrial groups given in CMI on pages 43-103. We may illustrate this computation procedure by referring to the case of the first industrial group, i.e., the industrial group "food, drink and tobacco" (indexed no. 4, in Table 1).

For the industrial group "food, drink and tobacco", Table 4 is prepared. There are 11 columns: a column represents a particular industry belonging to the "food, drink and tobacco" group. (These 11 industries are exactly the same as the 11 industries (indexed as "4" in Table 2). The rows of Table 4 correspond exactly to the rows of Table 1 which indicate the sources of supply of the intermediary and primary factors of production.

For each industry of Table 4, the CMI prepared a separate table of "cost and outputs". For example, for the "edible oil" industry (Column 6 of Table 4), the CMI prepared the following table 4 (page 48, CMI).

<sup>4.</sup> The CMI table gives information in "physical units" as well as in "value units" for "all Pakistan", "East Pakistan", "West Pakistan" and "Karachi" separately. The table presented here is for "All Pakistan" in "value units". In view of the fact that the regional figures are given in CMI, this information may be used for the construction of regional input-output tables.

# EDIBLE FATS AND OILS

Products made (value in "000" rup	ees)	Raw materials consumed (value in "000" rupees)						
1) Cotton seed oil	21,504	1) Cotton seeds	•••	32,347	(101)			
		2) Rape and mustard seed	•••	14,665	(101)			
		3) Linseed		308	(101)			
		4) Til seed		236	(101)			
		5) Coconut kernel	•••	913	(101)			
		6) Cotton seed oil	١	12,548	(4)			
		7) Coconut oil	•••	5,514	(4)			
		8) Chemicals		2,233	(13)			
		9) Ground nut		297	(101)			
		10) Packing material	•••	2,568	(20)			
11) Others	2,951	11) Others		1,640	(20)			
12) Receipts for worldone	k 331	12) Payments for work given out	•••	52	(20)			
Total:	88,448			73,321				

This CMI table is, presumably, computed by consolidating the figures contained in the questionnaires filled in by all the industrial establishments belonging to the "edible fats and oils" industry<sup>5</sup>.

In the computation procedure, our first problem is to identify the source of supply of raw material according to our industrial classification of industrial groups in Table 1. The result of this identification is indicated by the "index number" written after each value figure. After this is done,

<sup>5.</sup> The questionnaire form is given on pages 108-118, CMI. It may be added that all the large-scale industries are required by law to complete the questionnaire. Hence, there is no "sampling problem" because the materials obtained are, supposedly, 100% sample.

the input figures are consolidated according to these indices to produce the following table:

# RAW MATERIAL CONSUMED BY EDIBLE FATS AND OIL INDUSTRIES

Source of supply				Values
101) Oil seeds		•••		48,766
4) Food, drink an	d tobacco	•••		18,062
13) Chemicals		•••	•••	2,233
19) Unallocated		•••	•••	4,260
				73,321

These figures are recorded in *Column* 6 (the edible fats and oil industry) of Table 4. In addition, the "fuel and electricity" consumed by this industry (2,761) is indicated in the row indexed "1" (i.e., the "coal, coke and electricity" industry). This figure (2,761) was taken from Table 2, Column 1, for the "edible fat and oil" industry. In this way, we have recorded all the intermediary factor costs in *Column* 6. For the other entries in Column 6:

- 1) The total intermediary factor costs (76,082) is computed as the sum of all the entries (in Column 6) recorded above.
- 2) The "wage", "non-wage" and "value added" figures are taken from Table 2 (Columns 6, 7 and 5).
- 3) The total output figure (88,648) is computed as the sum of "total intermediary factor cost" (76,082) and "value added" (12,566).

In a similar way, we have processed the CMI data for all the industries in Table 4 and filled in the first 11 columns. The sum of the entries in a row is given in the last column ("Grand Total"). This column is reproduced as column indexed "4" of our input-output table (Table 1). In this way, we have derived the cost structure of the "food, drink and tobacco" industry.

A similar process is carried out for each industrial group, (in other words, a table like Table 4 is prepared for each industry group of Table 3). In this way, we have filled in all the entries contained in columns, indexed 4-20, of our input-output table.

# SECTION V: STATISTICAL DIFFICULTIES

In the process of constructing the inter-industry flow table described in the last section, we have encountered certain conceptual and statistical problems which should be mentioned. Perhaps, the most significant contribution of this paper will be to point out these pitfalls so as to illuminate the path for a research worker intending to tread the field.

# 1) Discrepancy of total output

There is a discrepancy between the total domestic output figures in Table 3 (Column 8) and the total domestic output figures in Table 1 (Row 24). The magnitudes of these discrepancies are as follows:

Table 3 (Col. 8)		Table 1(Row 24)	Discrepancy	Percentage discrepancy
	(i)	(ii)	(i)—(ii)	( (i)—(ii) )/(i)
4)	446,929	448,721	1,792	.40%
5)	80,335	80,156	+ 179	.22%
6)	9,676	9,676	0	.00%
η̈́)	625,704	625,660	+ 44	.01 %
8)	113,041	113,041	0	.00%
9)	106,586	106,559	+ 27	.02%
10)	4,403	4,398	+ 5	.01%
11)	32,655	32,544	+ 111	.03%
12)	41,820	41,819	+ 1	.00%
13)	187,164	187,157	+ 7	.00%
13) 14)	67,129	67,129	_ 0	.00 %
14) 15)	59,801	59,831	_ 30	.00 %
16)	58,180	58,180	0	.00%
17)	56,421	54,633	<b>—1,788</b>	3.10%
18)	0	. 0	0	.00%
19)	679,214	677,516	+1,698	.20%

The occurrence of this discrepancy may be explained with the example of the "food, drink and tobacco" industrial group, which we discussed in the last section. Referring to the last column of Table 4 the total domestic output of "448,721" is obtained by adding the total output figures of the 11 industries. These 11 figures are CMI figures. On the other hand, the

total output figures of "446,929" in Table 3 is also directly obtained by consolidating CMI figures. Hence, the discrepancy occurs because the consolidated figure (of "446,929") obtained by the CMI authority is not strictly based on the disaggregated data published by the CMI (the data which we used in the last section). Our total output figures are based on the published disaggregated data. As seen from the last column of the above table, the statistical discrepancies which arise in this way are rather small. They can be neglected as insignificant.

# 2) Identification of input

The major difficulty in the construction of our input-output tables has been, as usual, the identification of the source of supply of inputs. This difficulty is primarily due to three reasons:

- a) lack of detail in the specification of inputs by CMI
- b) non-availability of information on the sources of inputs by CMI
- c) lack of technical knowledge to identify a specified input on our part.

The most important items under (a) have been packing materials and fuel and electricity. As we know, these two items "cut across" our industrial classification: packing materials can be "jute textile" (8), "cotton textile" (7), "wood" (10), "paper" (11), or "metal product" (16); fuel and electricity can be fuel oil coal and coke" (1), "crude petroleum and gas" (2) or "electricity" (18). In view of this lack of detail, we have:

- 1) included the *packing material* as an unallocated item (20) when we failed to identify the packing material by common sense.
- 2) included fuel and electricity in the "fuel oil coal and coke" sector (1).

The most important items under (b) are "others" and "payments for work done" for which we have absolutely no idea whatsoever. These items are included in the "unallocated sector" (19). Thus, the "unallocated sector" includes mainly (i) "others", (ii) payment for work done, and (iii) packing material. As a measurement of the size of the unallocated sector, we prepared the following table:

<sup>6.</sup> This sector was originally included as a separate sector in our table but had to be dropped as information regarding its cost structure was not available.

	Unallocated input	Total intermediary factors of production	(i)/(ii)
	(i)*	(ii)**	(iii)
4)	19,995	341,586	.058
4) 5)	11,226	52,343	.214
6)	1,135	6,515	.174
7)	18,707	349,664	.05
8)	2,045	61,105	.03
9)	6,070	63,277	.10
10)	558	2,609	.21
11)	748	17,069	.04
12)	4,502	20,030	.22
13)	65,992	101,677	.65
14)	3,903	38,303	.10
15)	1,455	43,029	.03
16)	4,272	37,867	.11
1 <i>7</i> )	9,835	30,925	.32
18)	65,997	590,014	.11

<sup>\*</sup>Table 1, Row 19.

From the last column of this table, it is seen that the unallocated inputs amount to 12 per cent of the total intermediary factors of production. However, there are individual industries for which these percentages are much higher. Those industries for which the unallocated inputs account for over 20 per cent are marked off in the last column. These industries are:

5) Footwear and	d leather	•••	•••	21 per cent
10) Wood	•••			21 per cent
12) Printing	•••	• • •		22 per cent
13) Petroleum an	d chemicals	•••		65 per cent
17) Machinery as		ods	444	32 per cent

Hence, in order to improve the quality of our input-output table, these sectors should receive more attention in the future. In fact, for certain industries, the CMI provides no breakdown at all. These industries, which are marked with (N/B) in the *o-th* column, Table 2, are:

Miscellaneous food preparations (4)
Manufacture of textile, n.e.c. (not elsewhere classified) (9)

<sup>\*\*</sup>Table 3, Col. 4.

Basic industrial chemicals, n.e.c. (13)
Medical and pharmaceutical preparations (13)
Miscellaneous chemical products, n.e.c. (13)
Manufactured product of petroleum and coal (13)
Non-metallic mineral product, n.e.c. (14)
Miscellaneous fabricated metal products (16)
Shipbuilding repairing (17)
Manufacture of transport equipment, n.e.c. (17)
Miscellaneous manufacturing industries (19)

For these industries, all the information published is contained in Table 2 in a consolidated "summary" form. For this reason, all the intermediary factor cost except fuel and electricity (Columns 2 and 3 of Table 3) are imputed to the unallocated sector. This partly accounts for the fact that the unallocated inputs show such a higher percentage for the "petroleum and chemical" Sector (65 per cent) and the "machinery and electric goods" Sector (32 per cent).

The lack of details in CMI data reveals itself in a more basic way in that there are much too many empty cells in the industrial cost structure. Not only are there too many empty cells as compared with an input-output table for industrially-advanced countries (e.g., U.S. and U.K.) but there are too many empty cells even in comparison with input-output tables constructed for India<sup>8</sup>. This means that the empty cells are due to the lack of detailed data rather than due to a "primitive" stage of inter-industry relations.

Finally, we must admit the lack of technical knowledge on our own part must have contributed to the inaccuracy of our input-output table. For the input data of CMI are given in broad categories. For an investigator, who has no practical experience in a particular industry, the identification of the "broad category" is based on "common sense" and guesswork. Under these circumstances, certain arbitrariness and false classification are unavoidable.

In view of the difficulties mentioned above, the practical suggestions which we can make to improve the quality of our input-output table in the future may be summarized as follows:

<sup>7.</sup> The only exception to this rule is that for the first two sectors (the miscellnaeous food preparations (4) and the manufacture of textile, n.e.c. (9)), we have allocated the inputs in the same ratios which prevail in the industrial group to which they belong (i.e., industrial groups (4) and (9) respectively.

<sup>8.</sup> Indian Statistical Institute, Planning Division, Working Paper (unpublished), Inter-industry Relations of the Indian Economy, (1953-54 at Market Prices).

- 1) In view of the statutory regulation on compulsory industry reports, the collection of inter-industry data should be primarily a function of CMI.
- 2) The cost data should be available in greater detail. Specifically,
  - i) for those industries which show no breakdown (N/B), breakdowns should be given;
  - ii) the "fuel and electricity" and "packing material" should be disaggregated to show, in greater detail, the industrial origin of the inputs;
  - iii) the above remarks also apply to "other" (i.e., unspecified items) and "payment for work done".
- 3) In addition to a more detailed listing of all industrial inputs, the CMI can greatly facilitate the construction of an input-output table (by itself or by an outside independent agency) if the inputs are identified not only in broad category but also by a code number of Pakistan's Standard Industrial Classification.
- 4) With respect to values added, the CMI should give more detailed classification than just "wage" and "non-wage". It should be more explicit on the other distributive shares (rent, interests, and profit) as well as indirect payments.
- 5) Outside the area of large-scale industries included in CMI, the CMI authority should also expand its activities to initiate or to coordinate data collection with respect to:
  - a) small-scale industries
  - b) agriculture sector
    - c) service sectors
    - d) mining sectors.

Some of these suggestions (1-5) can be implemented through re-designing the form of the questionnaires prepared by the CMI. The questionnaires sholud be designed by people with a theoretical orientation and the field-worker should be trained accordingly. The other suggestion can be implemented partly or wholly through an expansion of the scope of CMI.

#### SECTION VI: ACCOUNTING SYSTEM FOR IMPORTS AND EXPORTS

The accounting treatment for imports and exports in Table 1 may be

explained with the aid of the following abstract input-output table for a three-sector economy. The three production sectors are denoted by "l, II and III". The fourth column records the net outputs used for consumption and investment; the fourth row records values added (wage, rent, interest, profit and tax payments) of the three production sectors. The fifth column (row) records exports (imports) of the commodity produced by the three production sectors.

	I	II	III	Consumption investment	Export	Total output available
I	$x_{11} + i_{11}$	x <sub>12</sub> + i <sub>12</sub>	x <sub>12</sub> + i <sub>13</sub>	$N_1 + i_{1h}$	E <sub>1</sub>	$X_1 = D_1 + i_1$
II ·	x <sub>21</sub> + i <sub>21</sub>	X <sub>22</sub> + i <sub>25</sub>	x <sub>23</sub> + i <sub>23</sub>	$N_s + i_{sh}$	E <sub>2</sub>	$X_2 = D_2 + ig$
ш	x <sub>31</sub> + i <sub>31</sub>	x <sub>32</sub> + i <sub>33</sub>	x <sub>33</sub> + i <sub>33</sub>	$N_s + i_{sh}$	E,	$X_3 = D_3 + i_3$
Value added	V <sub>1</sub>	V <sub>s</sub>	V <sub>3</sub>		В	
Import	i <sub>1</sub>	i <sub>2</sub>	i <sub>3</sub>		_	i <sub>1</sub> +i <sub>2</sub> +i <sub>3</sub>
Total output	X,	X <sub>a</sub>	X <sub>a</sub>			

A column for a production sector (I, II or III) records the cost structuse of production sector. Take the second column (Column II) as an illustration, the entries in this column have the following economic interpretations:

- 1) X<sub>12</sub>, X<sub>22</sub> and X<sub>32</sub> are the (values of the) domestically-produced intermediary factors of production acquired by the II-industry.
- 2) I<sub>12</sub>, I<sub>22</sub> and I<sub>32</sub> are the *imported* intermediary factors of production acquired by the II-industry.

Thus, in a typical cell, containing the above entries, there are two components of an intermediary input: a domestically-produced component and an imported one.

3) V<sub>2</sub> is the value added of the II-industry which includes wage, rent, interest, profits as well as taxes paid out by the II-industry.

It follows from the above definitions that the value of total output of the II-industry is the sum of all these entries. Let us denote the value of the *total outputs* of the three industries by  $D_1$ ,  $D_2$  and  $D_3$ ; then, we have:

$$D_{1} = (x_{11} + x_{21} + x_{31}) + (i_{11} + i_{21} + i_{31}) + V_{1}$$

$$D_{2} = (x_{12} + x_{22} + x_{32}) + (i_{12} + i_{22} + i_{32}) + V_{2}$$

$$D_{3} = (x_{13} + x_{23} + x_{33}) + (i_{13} + i_{23} + i_{33}) + V_{3}$$

An imported commodity can be either purchased by a production sector as an intermediary factor of production or purchased by the final users as consumption or investment goods. The former (i.e., the intermediary factors of production) is denoted by  $i_{ij}$ , as we have just explained. The latter (i.e., the import goods which are used as consumption or investment goods and which do not enter into the domestic production sector) are denoted by  $i_{1h}$ ,  $i_{2h}$  and  $i_{3h}$ . Thus, the total import of a commodity, to be denoted by  $i_{1}$ ,  $i_{2}$  and  $i_{3}$ , is the sum of these two types of imports of such a commodity, i.e.,

$$i_1 = i_{11} + i_{12} + i_{13} + i_{1h}$$
 $i_2 = i_{21} + i_{22} + i_{23} + i_{2h}$ 
 $i_3 = i_{31} + i_{32} + i_{33} + i_{3h}$ 

In a typical cell in Column 4, there are two entries. One entry is the *imported* goods used as consumption or investment—i.e., the entries  $i_{1h}$ ,  $i_{2h}$ ,  $i_{3h}$  which we have just explained.

The other entry is the *domestically*-produced net output available for consumption or investment, *i.e.*, the entries denoted by  $N_1$ ,  $N_2$  and  $N_3$ . However, the domestically-produced net output can also be *exported* (we ignore the fact that imports can be re-exported). These are indicated as  $E_1$ ,  $E_2$  and  $E_3$  in the last column.

Since the total output—i.e.,  $D_1$ ,  $D_2$ ,  $D_3$ —of an industry can be used either as intermediary factors of production  $(x_{ij})$  or final demand  $(N_i)$ , and  $E_i$ , the allocations of these total outputs can be represented by the following equations:

$$D_1 = x_{11} + x_{12} + x_{13} + N_1 + E_1$$

$$D_2 = x_{21} + x_{22} + x_{23} + N_2 + E_2$$

$$D_3 = x_{21} + x_{22} + x_{23} + N_3 + E_3$$

The total supply of a commodity, to be denoted by  $X_1$ ,  $X_2$  and  $X_3$ , are recorded at the right-hand margin of this table. Their position indicates that they are the sum of all entries in the corresponding row. It follows directly from the last two sets of equations just introduced, that

$$X_1 = D_1 + i_1$$
  
 $X_2 = D_2 + i_2$ 

$$X_1 = D_1 + i_2$$

In other words, the total supply of a commodity is the sum of total outputs  $(D_i)$  and total imports  $(i_g)$ . Notice that the total imports,  $i_1$ ,  $i_2$ ,  $i_3$  are recorded in the last row. They are recorded there for two reasons. On the one hand, every one of the (three) production sectors is now in balance from the accounting standpoint. (This means that the sum of all entries in a row equals the sum of all entries in the corresponding column. This accounting equality follows directly from the three sets of equations which we have introduced so far). On the other hand, the total imports of a commodity is "charged" to the domestic production sector that produces the same commodity. The import surplus is denoted by B, and is recorded in the last column (and in the next to the last row). The definition of B implies:

This means that the last column and row are in balance in the accounting sense. Since four out of the five sectors of the table are in balance, the remaining sector must also be in balance (a simple mathematical fact which can be easily established). Thus, we have:

$$V_1 + V_0 + V_0 + B = N_1 + N_2 + N_3 + i_{1h} + i_{2h} + i_{3h}$$

The economic interpretation of this accounting equality is that national income  $(V_1 + V_2 + V_3)$  plus "foreign aid" (B) equals total domestic consumption and investments. The above input-output table provides the conceptual framework for the accounting treatment of imports and exports in Table 1. However, since there is no place in the abstract input-output table, which we have just developed to record the total output.  $D_1$ ,  $D_2$  and  $D_3$ , the abstract input-output table may be slightly modified in the following way:

# THE PAKISTAN DEVELOPMENT REVIEW

			Parish Parish	Net out	out	
	1	11	Ш	Consumption investment	Export	total supply
Inter- mediary	x, 11	X,	x' <sub>18</sub>	N' (*)	E <sub>1</sub> (*)	X <sub>1</sub> (*)
factors	x, 21	x, 22	x* 23	N' <sub>2</sub> (*)	E <sub>2</sub> (*)	X <sub>2</sub> (*)
	x* 31	x' 83	x' 38	N, (*)	E <sub>3</sub> (6)	X <sub>3</sub> (*)
values added	W <sub>1</sub>	W 2	W <sub>3</sub>			
	w <sub>1</sub>	w,	w <sub>3</sub>		·	1
	V,	V <sub>2</sub>	v <sub>s</sub>		B (*)	
total output	D <sub>1</sub>	D <sub>s</sub>	D <sub>a</sub>	·		
total import	i (*)	i (*)	i,(*)			
	X,(*)	X (*)	X (*)			

The only differences between this table and the table which we have introduced earlier are:

1) the intermediary factor of production is now denoted by a single entry  $x'_{ij} = x_{ij} + i_{ij}$ 

This is due to the fact that the CMI data do not give us any information of the breakdown of intermediary inputs into the "imported" and "domestically-produced" category.

2) The values added V<sub>1</sub>, V<sub>2</sub> and V<sub>3</sub> have been broken down into

wage payments  $(\overline{w_i})$ , and non-wage payments  $(\overline{w_i})$ , according to CMI data.

3) A row corresponding to total outputs  $(D_1, D_2, D_3)$  has been inserted. These are the sums of all entries in a column above this inserted row.

(So this revised table can be converted into the original table by deleting the three rows corresponding to  $(D_1, D_2, D_3)$ ,  $(w_1, w_2, w_3)$  and  $(\overline{w}_1, \overline{w}_2, \overline{w}_3)$ .

The CMI data which we have discussed in the previous sections enable us to compute all the entries except those marked with (\*). To supply these missing entries, we shall:

- (1) estimate (i<sub>1</sub>, i<sub>2</sub>, i<sub>3</sub>) independently,
- (2) compute  $(X_1, X_2, X_3)$  as sums of  $(D_1, D_2, D_3)$  and  $(i_1, i_2, i_3)$ ,
- (3) estimate  $(E_1, E_2, E_3)$  independently.
- (4) compute (N'<sub>1</sub>, N'<sub>2</sub>, N'<sub>3</sub>), (these notations stand for total consumption and investment demands for both domestically-produced and imported goods in such a way so that all the entries in a row will add up to the marginal total (X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>).
- (5) compute B as the difference between total imports and total exports.

## SECTION VII: ESTIMATION OF IMPORTS AND EXPORTS

Following the procedure outlined in the last section, we want to estimate the imports  $(i_1, i_2, i_3, \ldots)$  and exports  $(E_1, E_2, E_3, \ldots)$  for the year 1955, according to the industrial classification of our input-output table (Table 1). The data source, which we have used for this purpose, is *Foreign Trade Statistics of Pakistan*, 1955, prepared by the Central Statistical Office of the Government of Pakistan. We shall refer to this source as FTS.

The net result of our calculation is given in Table 5. In this table, the industrial classification of Table 1 is repeated in the leading column. Column 1 describes exports and Column 2 describes imports. The total imports (1,085,341), total exports (1,504,725), and their difference, *i.e.*, the

balance of trade (419,384) are given at the bottom. These figures are in thousands of rupees. It may be noted that for the year 1955, Pakistan has an export surplus.

The export column of Table 5 is reproduced in Column 21 (the export column) of Table 1. The import column of Table 5 cannot be reproduced in Table 1 because the latter table does not contain columns corresponding to the agricultural sectors (sectors 101-113) and the mining sector (Sectors 1-3). The total imports of these omitted sectors amount to 80,614 indicated by the sub-total in Column 3. This sub-total is treated on the same basis as the unallocated imports (i.e., 153,519) from the accounting standpoint. Thus, the total unallocated import is 234,133 as indicated in Column 3 of Table 5. These import figures are reproduced in Row 24 of Table 1.

Table 5 was constructed by consolidating Table 6 (for imports) and Table 7 (for exports). Table 6 is a reproduction of two FTS tables; a table on sea-borne imports (FTS, pages 9-10) and a table on land-borne imports (FTS, pages 188-189). In addition, we have included the government imports of 147,555 in Table 6. The FTS shows the government imports on page 2 without giving any commodity breakdown. The total imports (Column 5) is the sum of "sea-borne imports" and "land-borne imports" which we have computed.

In consolidating Table 6, we have identified the imported items according to our industrial classification. This identification is given in Column 2 of Table 6, where the code number of our industrial classification is indicated. There are certain imported items (those marked with a question mark in Column 2) which could not be identified with any single industrial sector of our classification. For these imported items, we refer to FTS, pages 11-152 for more detailed commodity breakdowns of these items. We then proceed to identify the items in these detailed commodity breakdowns according to our industrial classification. (We shall not present the results of this detailed identification as there are too many items involved). Certain items which we cannot identify are included in the unallocated sector, such as the "government imports" and "postal articles". Certain items which belong to the agricultural and mining sectors are also included as unallocated imports because these sectors are excluded from our input-output table. Table 5 is obtained from Table 6 by consolidation after this identification procedure is carried out.

For the export trade, Column 1 of Table 5 was obtained by consolidating Table 7 in a similar way. The latter is a reproduction of two FTS tables, *i.e.*, the two tables on sea-borne exports (FTS, pages 9-10) and the table on land-borne exports (FTS, pages 188-189).

### SECTION VIII: BALANCING ITEMS

The accounting balance of the input-output table (Table 1) and the economic interpretations for certain ambiguous entries in this table may now be briefly described. After the import and export entries have been filled in (as described in the last section), we have followed the procedure outlined at the end of Section VII. This means that we have:

- 1) computed the total supply (Row 25 of Table 1), for each of the industrial sectors (i.e., sectors 4-18) as the sum of total output (Row 23) and imports (Row 24).
- 2) the total supply computed in the last step is carried to the last column (Column 22) for each industrial sector.
- 3) computed the consumption and investment (Column 20) for each industrial sector as a "residue". This means that "consumption and investment" is computed in such a way that, for each industrial sector:

Total supply = outputs used as intermediary factors of production + exports + consumption and investment.

This computation procedure implies that every one of the industrial sectors (i.e., sectors 4-18) is in balance in the accounting sense (i.e., the sum of all entries in a row equals the sum of all entries in the like-numbered column (see, Section VII)

Notice that the so called "consumption and investment" (Column 20) includes not only consumption and investment demands for net output but also intermediary factors of production used by all production sectors other than the industrial sectors listed in Table 1. In other words, "consumption and investment" includes also intermediary factors of production used by the agricultural sectors as well as the various service sectors (see, Section 1) for which the cost structures are not included in Table 1. The accounting balance of the unallocated sector (i.e., Column 19 and Row 19) has been achieved in the following way:

- 1) the column of this sector (i.e., Column 19) contains the single entry (234,133) for unallocated imports. (This entry is, of course, also the sum of all entries in this column).
- 2) this number (234,133) is carried to the last column (i.e., Column 22) for the unallocated sector (i.e., Row 19).

3) the entry (3,312) in Column 20 and Row 19, i.e., the "consumption and investment" of the unallocated sector, is computed in such a way as to balance up the unallocated sector (i.e., the sum of all entries in the 19th row add up to 234,133).

The economic justification of this procedure is based on the knowledge that, had all the unallocated items been, in fact, allocated, the consumption and investment figures in Column 20 would have been

- i) increased by the amount of "unallocated imports" (234,133),
- ii) decreased by the amount of "unallocated exports" (14,380),
- iii) decreased by the amount corresponding to the sum of all unallocated intermediary factors of production (recorded in Row 19, Columns 1-18).

In other words, the entry "3,312" (i.e., the consumption and investment of the unallocated sector) is the net increase of consumption and investment which would have been obtained if all the unallocated entries could have been allocated.

The foreign trade sector (Row 24 and Column 21) is in balance because the export surplus (419,384) is recorded in the value added row (Row 22) of this column (Column 21). (See Section VII). The only sector which is not in balance is the value added sector (Row 22) and consumption and investment (Column 20). This is due to the fact that Table 1 does not contain the cost structures of the agricultural, mining and the various service sectors and hence their value added as well as the consumption and investment demands for them are not known.

#### SECTION IX: STATISTICAL DIFFICULTIES IN THE FOREIGN SECTOR

We have pointed out the statistical difficulties which we have encountered in the construction of "domestic part" of our input-output table in Section VI. It is our purpose now to point out the difficulties which we have encountered in the treatment of imports and exports.

The first difficulty is, as usual, the identification of an import (or export) item listed in FTS according to our industrial classification. This difficulty is greater in the case of imports than in the case of exports because of the fact that Pakistan is a primary-producing country.

The industrial classification used in FTS (i.e., the classification into "food, drink and tobacco", "raw material", and "manufactured

articles") is a classification which is not suitable for the construction of an input-output table. A better classification from this point of view should include:

- 1) whether or not, an imported item is a "competitive" or "non-competitive" import (i.e., whether or not an imported item is being locally produced and hence can be substituted by demestic production).
- 2) whether or not, an item is an intermediary factor of production entering into the domestic production structure (i.e., whether or not an imported item merely goes into production) or an import on capital account (i.e., an investment goods).

From the viewpoint of input-output analysis, the most important information (which cannot be obtained even when all the above suggestions are implemented) is an identification of the user of an imported item, i.e., which domestic production sector purchases how much of a particular type of import. This information cannot be obtained by agencies whose function is limited to the area of foreign trade. This information can only be furnished by the individual industrial establishments, and revealed by census of manufactures. In other words, the CMI authority, in designing its questionnaire forms, should obtain information not only on the commodity dimension of the cost structure but also on the "import vs. domestically-produced" dimension of the cost structure.

TABLE 1. A PRELIMINARY PUT-OUTPUT TABLE FOR LARGE-SCALE INDUSTRIES IN PAKISTAN FOR 1955

(in thousand rupees)

																					Net	output	
Indices	Se	ctors			4	5	6	7	<b>1</b>	9	10	11	12	13	14	15	16	17	18	19	Consump tion & Invest- ment (20)	Exports (21)	Total Supply (22)
101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113.	Fibres Sugar Cane Tobacco Tea Forestry Hides & Skins Wool and Hair Foodgrains & Pulses Fruits & Vegetables Spices Livestock Products Fisheries				49,939 50,228 31,118 37,477 — 111,605 340 — 472	994 18,791 — — — — — — 4,872	2,129	278,253	53, 58	13,737	1,789	6,430		1,395 4,083 ————————————————————————————————————			41	579 	509,947			3,243 1,108,360 ————————————————————————————————————	
1. 2. 3.	Crude Petroleum	•••			7,977 721	1,172	322	28,767	4,327	3,184	53 	<b>4,603</b>	1,353	6,744 327 —	17,927 	3,909	2,172 5 9,160	2,273 50	9,134 77 74			<u></u>	
4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17.	Rubber Products Cotton Textiles Jute Textiles Other Textiles Wood Paper Printing Petroleum and Chemic Non-Metallic Mineral Basic Metals Metal Products Machinery & Electric of Miscellaneous Unallocateds	    als Products			24,831 — 3,523 — 962 3,562 — 628 — 19,995	8,179 516 32 6,355 27 11,226	230 446 1,966 287	10,035 1,748 12,110 18,707	1,574	1,816 17,011 15,557 533 4,873 469 6,070	72 ————————————————————————————————————	103 5,067 	354 	11,245 — 219 9 — 742 10,566 — 14 334 — 65,992	7,503 	## ## ## ## ## ## ## ## ## ## ## ## ##	310 3,479 18,273 155 4,272	222 	79 ————————————————————————————————————		418,446 72,953 22,495 630,218 34,567 128,353 5,145 33,594 42,452 339,797 84,129 123,405 47,942 368,916 701,121 3,312	15,620 1,145 18 8,151 67,545 670 243 5 5 3,634 856 89 2,986 5,098 6,628 14,380	147,77 5,38 48,82 42,45 397,09 86,63 171,40 77,06 377,68 707,93: 234,13
20. 21. 22.	Non-Wage Income	•••	•••	•••	26,983 78,360 105,343	9,808 18,184 27,992	1,954	107,715 168,325 276,040	19,798 32,138 51,936	18,953 24,356 43,309	1,506 288 1,794	6,058 9,529 15,587	12,403 8,987 21,390	18,617 66,870 85,487	12,627 16,199 28,826	6,678 10,096 16,774	10,363 9,950 20,313	15,512 9,984 25,496	32,364 56,886 89,200		<u> </u>	 )419,384	300,592 512,106 393,264
	* ·			•••	448,721 21,421	80,156 3,937	9,676 13,059	625,660 41,153	113,041 106	106,559 40,215	4,398 990	32,544 16,278	41,819 638	187,157 209,941	67,129 19,504	59,831 111,614	58,180 18, <b>\$</b> 86	54,633 323,047	677,516 30,419	234,133		_	2,567,020 1,085,34
25.	Total Supply	····	•••	•••	470,142	84,093	22,735	666,813	113,147	146,774	5,388	48,822	42,457	397,098	86,633	171,445	77 <b>,0</b> 66	377,680	707,935	234,133	3,056,845	1,085,341	

# TABLE 2 BASIC INDUSTRIAL STATISTICS (By Major Industry Groups) All Pakistan

	-			Inter	mediary fact	ors of prod	uction	Primary	factors o	f production	
Major Industry Gro	ups		Sector No.	Cost of fuel and Electri- city (1)	Cost of raw materials (2)	Payment to others for work given out (3)	Tota 1 Intermediary inputs (4) (1) + (2) + (3)	Value added (5)	Cost of labour	Non-Wage Payments (7) (5)—(6)	Total Output (8) (4) +(5)
Food Menufacturing In Beverag Industries	ndustri <b>es</b>	Except		7,293	294,752	277	302,322	68,370	22,999	45,371	370,692
Canning and preservir vegetables	ng of fruit	s and	4	30	2,028		2,058	613	330	283	2,671
Grain milling except ri	ice milling		4	1,987	80,726	5	82,718	12,596	3,738	8,858	95,314
Rice milling	•••	•••	4	584	35,770	90	36,444	5,072	2,808	2,264	41,516
Manufacture of bakery confectioneries	products	and	· 4	320	6,455	21	6,796	3,294	1,335	1,959	10,090
Sugar factories and ref	ineries	• •••	4	1,113	54,112		55,225	25,137	7,152	17,985	80,362
Edible oil and fats	•••		4	2,761	73,269	52	76,082	12,566	4,858	7,708	88,648
Tea manufacturing		•	4	35	39,141	109	39,285	4,188	704	3,484	43,473
Salt			4	263	72	-	335	3,687	1,713	1,974	4,022
Miscellaneous food pre	paration	•••	4(N/B	200	3,179		3,379	1,217	361	856	4,596
Beverage Industries	•••	•••	4	210	1,663	_	1,873	2,964	417	2,547	4,837
Tobacco Manufactures	•••	•••	4	274	36,838	79	37,391	34,009	3,567	30,442	71,400

Manufacture	of Textiles	•••	•••		36,261	432,818	1,373	470,452	369,926	145,713	224,213	840,378
Cotton		•••	•••	7	28,767	320,684	213	349,664	276,040	107,715	168,325	625,704
Wool	•••	•••	•••	8	4,327	56,778		61,105	51,936	19,798	32,138	113,041
Jute		•••	•••	9	842	13,306	2	14,150	7,713	3,087	4,626	21,8 <b>63</b>
Silk and Ar	t Silk	•••	•••	9	1,003	15,920	296	17,219	21,038	9,578	11,460	38,257
Dyeing, ble textiles	aching and	finishing o	f	9	1,074	14,858	652	16,584	7,306	2,563	4,743	23,890
Knitting		•••	•••	9	150	5,573	118	5,841	3,247	1,720	1,527	9,088
Manufactur	e of textiles	. n.e.c.	•••	9(N/B)	98	5,699	92	5,889	2,646	1,252	1,394	8,535
Manufacture ing appare goods		ar other v ade-up te	vear- extile 		709	26,890	40	27,639	20,897	7,250	13,647	48,536
Manufactur	e and repair	r of foot-w	car	5	692	23,316	37	24,045	19,538	6,497	13,041	43,583
Manufactur except for		aring app 	arels 	9	17	3,574	3	3,594	1,359	573	606	4,953
Manufacture of Products ex			led 	10	26	812	2	890	334	425	91	1,174
Manufacture tures	•• ••••	ire and f	ix- 	10	27	1,742		1,769	1,460	1,081	379	3,229
Manufacture ducts		nd Paper P	ro- 	11	4,603	12,464	1	17,068	15,587	6,058	9,529	32,655
Printing, publ	_	allied Ind	us- 	12	1,353	18,092	985	20,430	21,390	12,403	8,987	41,820
Manufacture of ducts excep wearing app	t footwear				480	27,817	1	28,298	8,454	3,311	5,143	36,752

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	1
Tanning and leather finishing	5	477	27,475	1	27,953	8,299	3,231	5,068	36,252	
Manufacture of leather products except footwear and other wearing apparels	5	3	342	_	345	155	80	75	500	
Manufacture of rubber products except rubber footweat	, et	322	6,182	11	6,515	3,161	1,207	1,954	9,676	
Tyre and tubes	6	153	4,738	_	4,891	2,207	761	1,446	7,098	
Miscellaneous rubber products	<b>6</b>	169	1,444	11	1,624	954	446	508	2,578	
Manufacture of chemicals and chemical products		4,142	56,703	33	60,878	54,041	14,691	39,350	114,919	
Manufacture of fertilizers	13	54	4,327		4,381	1,316	561	755	5,697	
Basic industrial chemicals (n. e. c.) except fertilizers	12/NT/ID)	1,776	4,609		6,385	8,427	2,190	6,237	14,812	•
Paints, varnishes and lacquers	13	120	4,827	2	4,949	3,587	1,106	2,481	8,536	
Medical and pharmaceutical pre- parations	12/NT/D\	276	7,330	_	7,606	6,553	2,114	4,439	14,159	
Perfumes, cosmetics, soaps and other toilet preparation	12	1,310	19,312	1	20,623	12,384	2,900	9,484	33,007	
Matches	. 13	349	10,109	8	10,466	. 19,827	5,227	14,600	30,293	
Miscellaneous chemical products, n.e.	. 13(N/B)	257	6,189	22	6,468	1,947	593	1,354	8,415	
Manufacture of products of petroleum and coal	12/NT/ID)	2,602	38,197		40,799	31,446	3,926	27,520	72,245	
								\		

Manufacture of non-metallic mineral products except products of petro-leum and coal	17,9	27 20,314	62	38,303	28,826	12,627	16,199	67,129
Manufacturing of structural clay products	14 2	74 128	_	402	520	261	259	922
Manufacture of glass products, pottery, china and earthenwares	14 2,1	3,889	<u> </u>	6,077	6,064	3,304	2,760	12,141
Manufacture of cement	14 15,3	27 12,981	22	28,330	18,497	7,160	11,337	46,827
Concrete, gypsum and plaster products	14 1	11 2,815	24	2,950	3,022	1,484	1,538	5,972
Non-metallic mineral products, n.e.c	14(N/B)	27 501	16	544	723	418	305	1,267
Basic metal industries	15 3,9	9 38,987	131	43,027	16,774	6,678	10,096	59,801
Manufacture of metal products except machinery and transport equipment	2,1	72 35,475	220	37,867	20,313	10,363	9,950	58,180
Structural metal products	16	74 1,256	2	1,332	624	363	261	1,956
Arms and accessories	16	20 142	-	162	169	98	71	331
Heating, plumbing and lighting equipment equipment	16 1	99 2,262	15	2,476	1,616	875	741	4,092
Cutlery	16	42 244		286	426	134	292	712
Hand and edge tools	16	30 326	64	420	348	162	186	768
Hardware	16 1	02 1,877	_	1,979	1,805	626	1,179	3,784
Utensils	16 7	16 8,253	70	9,039	4,148	1,893	2,255	13,187
Metal barrels, drums, pails, tin cans, and other tin ware	16 4	38 16,333	17	16,785	4,915	3,136	1,779	21,700
Miscellaneous fabricated metal products	16(N/B)	51 4,785	52	5,388	6,262	3,076	3,186	11,650
Machinery except electrical machinery	1,4	10,781	114	12,349	9,902	5,994	3,908	22,251

	<del></del>	<del></del>					<del></del>	· · · · · · · · · · · · · · · · · · ·	<del></del>	
		(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Agricultural machinery	•••	17	386	3,049		3,435	1,780	1,159	621	5,215
Engines and turbines		17	279	2,056	54	2,389	1,584	747	837	3,973
Textile machinery and accessories	•••	17	106	852	İ.	959	859	495	364	1,818
Pumps and compressors	•••	17	31	502	5	538	690	325	365	1,228
Machinery except electrical, n.e.c.		17	652	4,322	54	5,028	4,989	4,368	1,721	10,017
Electrical machinery, apparatus (appl	lian-									
ces and supplies)	•••		281	9,453	6	9,740	6,632	2,674	3,958	16,372
Electrical fans	•••	17	159	2,626	<del></del>	2,785	2,090	1,148	942	4,875
Communication equipments and ac sories	ces-	17	13	1,328	4	1,345	815	362	453	2,160
Miscellaneous electrical products		17	109	5,499	2	5,610	3,727	1,164	2,563	9,337
Manufacture of transport Equipment	t		885	7,818	132	8,835	8,962	6,844	2,118	17,797
Ship-building and repairing	•••	17(N/B)	<u> </u>	- (	<u></u>	_	·	_		·
Manufacture and repairing of me nically propelled vehicles	cha-	17	49 <b>7</b>	5,511	123	6,131	3,872	3,309	563	10,003
Cycle and cycle rickshaw	•	17	41	628	9	678	1,308	313	995	1,986
Manufacture of transport equipment.e.c	nent	17(N/B)	_	_	_		_	—	-	
Miscellaneous manufacturing in tries	dus-		9,134	578,392	2,488	590,014	89,200	32,364	56,836	679,214

Professional scientific measuring and controlling instruments	l . 19	40	805	40	885	882	454	428	1,767
Manufacture of photographic and optical goods	10	9 -	245	e st. Se <del>e gaar</del> e	254	302	154	. 148	556
Manufacture of plastic products	19	88	2,960	25	3,073	2,011	947	1,064	5,084
Manufacture of sports and athletic goods	<b>19</b> .	34	512	31	577	560	314	246	1,137
Cotton ginning and pressing	19	6,574	321,861	2,096	330,531	30,375	11,935	18,440	360,906
Jute pressing	19	1,307	246,495	275	248,077	43,713	13,956	29,757	291,790
Manufacture of rice	19	677	287	4	968	2,498	716	1,782	3,466
Miscellaneous manufacturing industries	19(N/B)	405	5,227	17	5,649	8,859	3.888	4.971	14.508

TABLE 3\*
BASIC INDUSTRIAL STATISTICS

(By Major Industry Groups)

(All Pakistan)

(in thousand rupees)

		In	TERMEDIARY	Factors of	PRODUCTION	PRIMARY	FACTORS OF	PRODUCTION	
Major Industry Group	Sector No.	Cost of fuel and	Cost of raw materials	Payments to others for work	Total intermediary inputs (4)	Value added	Cost of labour	Non-wage payment	Total output
	(0)	electricity (1)	(2)	given out (3)	(1) + (2) + (3)	(5)	(7)	(5)—(6)	(8) (4) + (5
Food, Drink and						,	·		
Tobacco	4	7,977	333,253	356	341,586	105,343	26,983	78,360	446,929
Footwear and leather	5	1,172	51,133	38	52,343	27,992	9,808	18,184	80,335
Rubber products	6	322	6,182	11	6,515	3,161	1,207	1,954	9,676
Cotton textiles	7	28,767	320,684	213	349,664	276,040	107,715	168,325	625,704
Jute textiles	8	4,327	56,778		61,105	51,936	19,798	32,138	113,041
Other textiles	9	3,184	58,930	1,163	63,277	43,309	18,953	24,356	106,586
Wood	10	53	2,554	2	2,609	1,794	1,506	288	4,403
Paper	11	4,603	12,464	1	17,069	15,587	6,058	9,529	32,655
Printing	12	1,353	18,092	9 <b>85</b>	20,030	21,390	12,403	8,987	41,820
Petroleum and Chemi-		c = 1.1	04.000	22	101 (88	06.406	10.615	CC 070	107 164
cals	13	6,744	94,900	33	101,677	85,487	18,617	66,870	187,164
Non-metallic minerals	14	17,927	20,314	62	38,303	28,826	12,627	16,199	67,129 59,801
Basic Metals	15	3,909	38,987	131	43,027	16,774	6,678	10,096	
Metal Products	16	2,172	35,475	220	37,867	20,313	10,363	9,950	58,180
Machinery and electri-	17	2,620	28,052	252	30,925	25,496	15,512	9,984	56,421
cal goods Miscellaneous	19	9,134	578,392	<b>2,488</b>	590,014	89,200	32,364	56,836	679,214
Total:	7	94,264	1,656,190	5,955	1,756,410	812,648	300,592	512,056	2,569,058

<sup>\*</sup>Consolidated from Table 2.

TABLE
FOOD, DRINK, & TOBACCO

(in thousand rupees)

Code Nos.	Classification of Indus	stries	Canning (1)	Grain Milling Except Rice Milling (2)	Rice Milling	Bakery Products (4)	Sugar Factories & Refine- ries. (5)	Edible Oils (6)	Tea Manufac- tures	Salt (8)	Beverage In dustry	Tobacco	Miscella- neous (11)	Grand Total (12)
101.	Oil Seeds	<del></del>	· • • • • • • • • • • • • • • • • • • •		1,173			48,766	•••	•••		•••	•••	49,939
102.	Fibres	•••		•••		•••	•••	•••	•••	•••	•••		•••	•••
103.	Sugar Cane	•••	•	•••	•••		50,228	•••		•••	•••	•••	•••	50,228
104.	Tobacco	•••		•••		•••	•••		•••	•••	•••	31,118	•••	31,118
105.	Tea			•••	•••	•••	•••	•••	37 <b>,477</b>	•••	•••	•••	••	37,477
106.	Forestry			•••	•••	•••	•••	•••	***	•••	•••	•••	•••	•••
107.	Hides & Skins			•••	•••	**.*	•••	•••	•••	•••	••	•	••	•••
108.	Wool & hair	• • •		::		•••	•••	•••	•••	•••		•••	•••	111,672
109.	Foodgrains			77,880	33,686	•••	•••	•••	***	***	<b>3</b> 9	•••	•••	340
110.	Fruits & Vegetables	• • •	. 340	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	
111.	Spices	••		•••	•••		•••	• • •	•••	•••	•••	•••	155	472
112.	Livestock		• •••	•••	•••	317	•••	•••	•••	•••	•••	•••		
113.	Fisheries		• •••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	***
114.	Others	••	20	1.007	···	320	1,113	2,761		263	 21 <b>0</b>	474	200	7,977
1.	Coal & Coke	• •		1,987	584		-					***		.,,,,,,
2.	Crude pet. & gas	••		•••	•••	•••	721	•••	•••	•••	•••	•••	•••	721
3.	Other mining	••	200	•••	•••	3,742	72/1	18,062	•••		502	•••	1,837	24,831
4.	Food, drink	••		•••	•••	3,742	•••	10,002	•••	•••		•••	•••	•••
5.	Footwear & leather Rubber products	••		•••	•••	•••	,		***		•••	•••		•••
6. 7.	C. tt . Transitor	••		•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	
%. 8.	T. 4 - (Manuallan	••	-	1,998	•••	•••	1,525	•••	•••	•••	•••	•••		3,523
9.	Other Textiles				•••	•••	.,,	***	***	• • • •	•••	•••	•••	
10.	Wood	•••		•••	•••	***	•••	•••	•••	•••	•••	•••	•••	•••
11.	Paper				•••	•••	•••		•••	•••	•••	962	•••	962
12.	Printing	• • • • • • • • • • • • • • • • • • • •		•••		•••	•••	•••	•••	•••	•••	•••	•••	
13.	Petroloum & Chemicals		01	•••		614	•••	2,233	•••	72	85	175	302	3,562
14.	Non-metallic minerals			•••			•••	•••		•••	•••	•••	•••	•••
15.	Basic metals				•••	•••	•••	•••		•••	***	•••		
16.	Metal Products		<b>478</b>				•••	•••	• • •	•••	•••	•••	•••	628
17.	Machinery & Electric Go	ods				• • •	•••	•••	• • •	• •	•••	•••	• • •	•••
18.	Electricity				•••		•••	•••	• • •	•••	•••	•••	***	•••
19.	Miscellaneous			•••	•••	***		:::		•••	1.007			10.006
20.	Unallocated	••	. 291	853	1,002	1,803	1,638	4,260	1,564	•••	1,037	6,662	885	19,995
	Total Intermediary Cost		. 2,058	82,718	36,445	6,796	55,225	76,082	39,076	335	1,873	39,391	3,379	343,378
21. 22. 23.	Wages Non-wage income Value Added	•	330 283 613	3,738 8,858 12,596	2,808 2,264 5,072	1,335 1,959 3,294	7,152 17,985 25,137	4,858 7,708 12,566	704 3,484 4,188	1,713 1,974 3,687	417 2,547 2,964	3,567 30,442 34,009	361 856 1,217	26,983 78,360 105,343
24.	Value of Total Output		. 2,671	95,314	41,517	10,090	80,362	88,648	43,264	4,022	4,837	73,400	4,596	448,721

TABLE 5
CLASSIFICATION OF EXPORTS AND IMPORTS OF PAKISTAN IN 1955

<del></del>	<del></del>	<del> </del>			
Indices	Classification		Exports	Imports allocated	Imports unallocated
	÷	- 1	(1)	(2)	(3)
		1	(-)	(2)	(3)
		/-	<del></del> '	<del></del>	
101	Oil Seeds	•••	3,243	4,464	
102	Fibres	•••	1,108,360	13,396	
103	Sugar Cane	•••	_	_	
104	Tobacco	•••	22	_	
105	<u>T</u> ea	•••	34,236	<del></del>	•
106	Forestry	•••	1,062	21,561	
107	Hides and Skins	•••	31,522	86	
108	Wool and Hair	•••	67,373	10,352	
109	Food Grains and Pulses	•••	66,629	13	
110	Fruits and Vegetables	•••	6,625	11,902	
111	Spices	•••	180	7,506	
112	Livestock Products		6,243	7	
113	Fisheries	•••	30,493	108	
114	Others	•••	19,362	7,281	
1	Coal and Coke	•••			
2 3 4 5	Crude Petroleum and Gas	•••			
3	Other Mining	•••	2,302	3,938	80,614
4	Food, Drink and Tobacco	•••	15,620	21,421	
5	Footwear	• • •	1,145	3,937	
6	Rubber	•••	18	13,059	
7	Cotton Textiles	•••	8,151	41,153	
8	Jute Textiles	•••	67,545	106	
9	Other Textiles	•••	670	40,215	
10	Wood	•••	243	990	
11	Paper	•••	5	16,278	
12	Printing		5	638	
13	Petroleum and Chemicals	• • • •	3,634	209,941	
14	Non-metallic Mineral Products	•••	856	19,504	
15	Basic Metals	•••	89	111,614	
16	Metal Products		2,986	18,886	
17	Machinery and Electrical Goods	•••	5,098	323,047	
18	Miscellaneous	•••	6,628	30,419	
19	Unallocated	•••	14,380	153,519	153,519
	Total Imports	•••		1,085,341	
	Balance of Trade	•••		419,384	
	Total:	•••	1,504,725	1,504,725	234,133

TABLE 6
IMPORTS FOR THE YEAR 1955

(In thousand rupees)

			(1) 1) 10 10 10 10 10 10 10 10 10 10 10 10 10			
Clasification of Imports (1)	Code (2)	Sea-Borne Imports (3)	Land-Borne Imports (4)	Total Imports (5)		
FOOD, DRINK AND TOBACCO		23,187	14,778	37,965		
A) Fish	113	·		<u> </u>		
B) Fruits and Vegetables	110	2,081	9,821	11,902		
C) Grain, Pulse, and Flour	109	6	6	12		
D) Liquors	4	1,222		1,222		
E) Provisions	4	5,700	55	5,755		
F) Spices	111	2,705	4,801	7,506		
G) Sugar	4			· . —-		
H) Tea	4	1,546	51	1,597		
I) Miscellaneous Food	4	186	<u> </u>	186		
J) Tobacco	4	9,740	44	9,784		
RAW MATERIAL		180,007	15,265	195,272		
A) Non-Met. Minerals	?	11,900	1,483	13,383		
B) Fodder Bran	109	· -				
C) Gums etc	106	671	75	746		
D) Hides and Skins, Raw	107	<u></u> .	86	86		
E) Metal Ores and Scraps	3	196		196		
F) Oils	?	124,645	278	124,923		
G) Oil Cakes			·			
H) Raw Rubber	106	3,311		3,311		
I) Paper making Materials	106	3,312	_	3,312		
J) Seeds	101	4,193	271	4,464		
K) Tallow Stearine Wax	106	3,808		3,808		
L) Cotton Raw and Waste	102	13,112	14	13,126		
M) Jute Raw	102			_		
N) Silk Raw and Cocoons	102	10	_	10		
	102	10,331		10,331		
O) Wool Raw and Waste	100	10,551		,		

(1)	(2)	<b>(3)</b>	(4)	(5)
P) Textile Materials	102	260		260
Q) Wood and Timber	106	2,126	7,332	9,458
R) Miscellaneous Raw Material	?	2,130	5,725	7,856
MANUFACTURED ARTICLES		689,061	9,525	698,586
A) Apparel, Boots and Shoes	5	3,443	121	3,564
B) Arms and Ammunitions	16	1,964		1,964
C) Chemicals and Drugs	13	58,671	2,725	61,396
D) Cutlery and Hardware	16	16,545	377	16,921
E) Dyes and Colours	13	22,437	473	22,910
F) Electric Apparatus	17	22,956	22	22,979
G) Furniture	10	346	_	346
H) Glassware and Earthenware	14	8,162	558	8,720
I) Leather	5	294	79	373
J) Machinery	17	249,172	934	250,106
K) Iron and Steel Manufactures	15	99,142	98	99,240
L) Non-Ferrous Metals and Manufactures	15	12,371	3	12,374
M) Paper and Stationery	11	16,180	98	16,278
N) Rubber Manufactures	6	13,033	26	13,059
O) Vehicles	17	49,307	120	49,427
P) Cotton Manufactures	7	40,653	499	41,152
Q) Jute Manufactures	8	66	40	106
R) Silk Manufactures	9	693	12	705
S) Woollen Manufactures	9	4,576	42	4,618
T) Other Textile Manufactures	9	34,868	23	34,891
U) Miscellaneous Manufactured Articles	?	34,180	3,276	37,456
LIVING ANIMALS	?	6		6
POSTAL ARTICLES	?	5,964	-	5,964
GOVERNMENT	?	147,555		147,555
TOTAL IMPORTS:		1,045,782	39,569	1,085,351

TABLE 7
EXPORTS FOR THE YEAR 1955

	-		- 12.1K 1755		
				(In thousa	and rupees)
	Classification of exports	Code No.	Sea-Borne Exports	Land-Borne Exports	Total Exports
	(1)	(2)	(3)	(4)	(5)
I. FO	OOD, DRINK AND TOBACCO		£103,817	<b>[</b> 32,644	136,461
A.		. 113	5,432	23,591	29,023
В.	Fruits and Vegetables	110	769	5,856	6,625
C.	Grain Pulse and Flour	. 109	65,450	477	65,927
D.	Liquors	4		5	5
E.	Provisions	4	51	10	61
F.	Spices	. 111	163	17	180
G.	Sugar	. 4	182	63	245
H.	Tea	. 4	31,689	2,515	34.704
I.	Miscellaneous Food	. 4	81	86	167
J.	Tobacco	4	<del>-</del>	22	22
II. R	AW MATERIAL		1,094,904	162,740	1,257,644
A.	Non-Met. Minerals	. ?		783	783
В.	Fodder Bran	. 109	702		702
C.	Gums etc	. 106	435		435
D.	Hides and Skins Raw	. 107	23,593	7.929	31,522
E.	Metal Ores and Scraps	. 3	2,301		2,301
F.	Oils	. ?	_,	39	39
G.	Oil Cakes	. 4	15,141	_	15,141
H.	Paper making Material	. 106	57		57
I.	Rubber Raw	. 106			
J.	Seeds	. 101	1,861	1,383	3,243
K.	Tallow Stearine Wax	. 106	13	<del></del>	13
L.	Cotton Raw and Waste	102	411,508		411,508
M.	Jute Raw	. 102	557,694	138,551	696,245
N.	Silk Raw and Cocoons	. 102	-	_	
Ο.	Wool Raw and Waste	. 108	64,670	2,698	67,368
P.	Textile Materials	. 102	573	33	606
Q.	Wood and Timber	106	1	10,341	342
R.	Miscellaneous Raw Materials	114	16,353	10,982	27,335
пі. м	ANUFACTURED ARTICLES		87,060	8,053	95,113
A.	Apparel, Boots and Shoes	. 5	87	579	666
В.	Arms and Ammunitions	16	1	J.,	1
C.	Chemical and Drugs	12	2,437	856	3,293

(1)	(2)	(3)	(4)	(5)
D. Cutlery and Hardware	16	2,653	332	2,985
E. Dyes and Colours	13	114	37	151
F. Electric Apparatus	17	261	_	261
G. Furniture	10	241	. 2	243
H. Glassware and Earthenware	14	13	59	72
I. Leather	5	420	59	479
J. Machinery	17	2,370	32	2,402
K. Iron and Steel Manufactures	15			-,
L. Non-Ferrous Metals and Manfs.	15	88		88
M. Paper and Stationery	11	4	1	5
N. Rubber Manufactures	6		18	18
O. Vehicles	17	2,375	60	2,435
P. Cotton Manufactures	7	7,624	527	8,151
Q. Jute Manufactures	8	63,467	4,078	67,545
R. Silk Manufactures	9		.,	07,545
S. Woollen Manufactures	9	479		479
T. Other Textile Manufactures	9	189	4	191
U. Miscellaneous Manufactured			•	171
Articles	?	4,239	1,407	5,646
V. LIVING ANIMALS	?	102	1,025	1,127
POSTAL ARTICLES	?	5,241		5,241
Exports on Private Account		1,291,124	204,462	1,495,586
Exports on Government Account				9,139
Total E	<b>kpor</b> ts			1,504,725