

Institute of Economic Development and Research
School of Economics
University of the Philippines

Discussion Paper No. 68-11

March 29, 1968

ON SOME USES OF INPUT-OUTPUT INFORMATION IN STUDYING THE
DEMAND FOR LABOR IN THE PHILIPPINES
(A Rough Draft of a Progress Report)

by

copy and
J.E. MORTON

NOTE: IKDR Discussion Papers are preliminary versions circulated privately to elicit critical comment. References in publications to Discussion Papers should be cleared with the author.

Based on the Philippine I-O project undertaken by the University of the Philippines School of Economics - Bureau of the Census and Statistics, the subsequent pages attempt to explore its applicability to the study of some aspects of the Philippine manpower situation, with emphasis on the demand rather than the supply side. In so doing, the primary objective has been to stimulate appetites for further experimentation rather than to provide sustaining nourishment.

The basic Peso-transaction table was made accessible, through the great kindness of Dr. Tito A. Mijares, Director of the Bureau of the Census and Statistics at an early stage of the Bureau's project, and prior to its having had an opportunity to describe its own project, analyze the data, or release the findings of this very major undertaking.

Thanks, therefore, is due to Dr. Mijares not only for his kind assistance but also for his trust in making the preliminary information available at all for what may have seemed a premature effort.

It goes without saying that any responsibility for having used data which later may be amended and otherwise qualified, and for having used one or the other shortcut, must rest entirely with me and my impatience, because of the short remainder left of my expected stay in Manila, to avail myself of this veritable gold mine of statistical information.

My profound gratitude also goes to my two research assistants, Misses Maria Luisa Alfonso and Maria Caridad Braganza, for their untiring efforts, often hampered by deficient equipment, for their infinite patience, and for their charm and poise in making substantive recommendations and improvements. Without their valuable and cheerful help this paper literally could not have been written.

Work was started in Spring 1968 while I was visiting professor at the University of the Philippines on a Ford Foundation supported Development Economics Program, offered by the University of the Philippines School of Economics, with the assistance of the University of Wisconsin.

* * *

One of the approaches toward forming an opinion about "demand" for labor is the input-output or interindustry approach. In spite of its well known, and sometimes severe limitations, the use of this technique would seem to be warranted, especially if a basic input-output table (a so-called transaction matrix) is available.

The Bureau of the Census and Statistics in Manila (BCS) is engaged in finalizing such a matrix which, although unchecked and preliminary, was very kindly made available to me for experimental use. Since BCS itself is now preparing a final matrix and its analysis, it is understood that it wishes to have the information treated confidentially; it made the preliminary material available with the express agreement on our part that the information be treated confidentially, that it be used for the purpose of "discussion" only, and that it not be made public prior to the contemplated official release by the Bureau.

The here presented preliminary tables should therefore be so treated, in spite of the fact that they do not disclose directly the basic data themselves, which are in terms of peso transactions rather than manpower equivalents.

A further caveat ought to be respected; since the transaction data were collected and estimated with a primary view to other than employment objectives, corrections and amendments may and will vitiate some of the estimates here presented with a view to illuminating "labor-demand" patterns.

Interindustry employment analysis may be undertaken with several objectives in mind, among them forecasting and structural analysis.

The here used transaction matrix reflects the situation in the Philippines as of 1961. Even stretching the period usually allowed in interindustry analysis of highly developed countries for assuming relative invariance of the technical coefficients, we would hardly be justified in using, in a rapidly developing hence changing structure, the 1961 matrix as the basis for the analysis of the present, let alone the future.

Furthermore, it is now expected that a new I-O matrix will be developed in the near future, at the conclusion of the current economic census.

Such a table will provide not only much more up-to-date information, but will have profited from the experience with the 1961 input-output project, the first one undertaken by the Republic of the Philippines. Therefore, forecasting on the basis of the latter information, even if time and other resources were available to us, would hardly seem warranted.

Hence, the emphasis will be in the direction of structural analysis, and even that mainly for "demonstration" purposes so as to stimulate thoughts and preparatory steps toward 1968 based employment matrices.

Within limits, a mere comparison of the manpower structures, the one in 1961 and the other in 1967/68, may prove to be more fruitful than an attempt to forecast at this time, on the basis of only one cross-section, and that one of 1961; although six years may seem a very short period, the particular period involved has been one of significant structural change in the Philippines, of the kind of change that is likely to have altered some of the basic relationships which affect the numerical values of the "employment coefficients."

Several tables will be presented and others may follow. Table I is primarily a descriptive attempt to characterize the broad outlines of the basic employment structure in 1961.

For this purpose, the Philippine economy was divided into 29 sectors for which separate employment-input estimates had to be made, roughly reflecting the situation in 1961. Employment data from various sources were adjusted and used, e.g., from the 1960 Census of Population and Housing,^{1/} from the Philippine Statistical Survey of Households,^{2/} and from the 1961 Economic Census of the Philippines.^{3/}

Special adjustments had to be made for the manufacturing sectors to arrive at employment estimates because of the exclusion from the Census of "unlicensed"

^{1/} Bureau of the Census and Statistics, Census of the Philippines 1960, Population and Housing, (Special Report), Manila, 1965.

^{2/} Bureau of the Census and Statistics, The Philippine Statistical Survey of Households Bulletin, Series Number 10, Labor Force, October 1961, Manila, 1963.

^{3/} Bureau of the Census and Statistics, Economic Census of the Philippines, 1961, Volumes I through VIII, and in particular Volume III and VIII, Manila, 1965.

establishments; to make these adjustments, population survey type of data had to be mixed with establishment survey based figures; this combining of data from two quite different and not necessarily commensurate information sources are likely to vitiate the results. On the other hand, the sectors most directly affected by this unsatisfactory estimation procedure turned out to be relatively very small in terms of employment.

In particular, the ratio of manufacturing employment was used as indicated in the Philippine Statistical Survey of Households of October 1961 (which shows all manufacturing employment without regard to whether or not employment was in "licensed" establishments, since it is a population type survey) to the corresponding figure of the Economic Census of 1961 (which, as already mentioned, includes only "licensed" establishments) to adjust the Census figures. Because only the latter source gives a breakdown of employment by categories relevant to the here used input-output taxonomy, a single and constant ratio had to be applied to all sector estimates of employment. Luckily, this arbitrary procedure is likely to have resulted in less distortion than was feared originally; sectors in which the contribution of "unlicensed" employment was least also turned out to be numerically the smallest -- e.g. transportation with only less than 3.5% of total manufacturing employment, and petroleum products, with only 0.3%. Hence, the weighting effect implicit in the use of a single over-all ratio estimate for all manufacturing components was hardly noticeable (in absolute numbers) when adjusting the "small" industries.

Another problem deserves notice. The employment figures here used refer to jobs rather than, say, to number of gainfully employed people. Unpaid family workers thus were included. If a different concept is to be preferred for a particular analysis, according to which demand for labor is to be limited to currently "paid"

employment, this will result in a reduction of the labor input figures as here used, in particular for agriculture (where unpaid family workers accounted for approximately 24%) and for retail and wholesale trade (where they accounted for about 14%). Thus, the here used employment estimates are intended to include wage and salary workers, self-employed, and the unpaid family workers.

Finally, one of the numerically (in terms of employment) large sectors was represented by the "other services" category (I-0 sector 29). In order to sin in the direction of under rather than over-estimating direct and indirect effects on this industry category's employment, an allowance was made for government workers in non-business enterprise, and for domestics, which were subtracted from this category's employment estimate, and thus excluded altogether.

The conceptually perhaps simplest, and from the information point of view basic tableau in conventional input-output jargon is the so-called transaction table. This table lists in physical or more often in monetary terms the inter-sector transactions; it is usually an arrangement of rows and columns such that the row stub indicates the industry (i) which produces the "commodity" which, in turn, is used up by the sector listed at the top of a column (j) as an input, or which goes to the columns headed final demand (possibly to several demand categories). There thus appears in the body of the table an n by n part containing the interindustry transaction of the so-called processing sector, and an n by m part which describes the "deliveries to final demand", or generally speaking the deliveries outside the processing sector.

An analogous table was here prepared in terms of the corresponding "job" inputs and "job" content in the outputs. (Table I). This table therefore can be

interpreted as containing in a cell, say E_{ij} , the amount of estimated job units involved in the product of industry (i) provided to sector (j) as an input -- in terms of the primary factor labor rather than in terms of pesos. One might look at this table as a description, (in terms of job units) of the inter-industry flow of labor contained in the respective goods and services, by industry of origin and destination.

Table II indicates, again in terms of job units, the direct requirements of industry (j) imposed on the several supplying industries (i). There is a Table A and a Table B. These two tables differ from each other in one respect only which, however, affects the numerical content of nearly all cells, and which might be of significance for a study of the Philippine labor use because of the central and controversial role played by the service category in some of the recent discussions (as voiced among others, by Galenson and Harry Oshima). Table IIA is based on the gross services estimate which includes government employees and domestics; in Table IIB these two groups are excluded, as mentioned above. For example about 32% according to Table IIA of the first sector's total manpower input represented by that sector's output are labor inputs furnished by the "other services" category; in Table IIB this percentage is 24 only, suggesting a much smaller dependence (in terms of job units of this industry) on sector 29.

Whereas tables I and II may be used as ready reference where it is desired to glean an impression, for specific industries and for given final demand categories, concerning their use of and demand for labor (and conversely, their role in providing jobs), a much more difficult question arises when not only immediate demand and labor requirements but secondary and indirect ones are also

to be explored. For instance, one might raise the question from the overall national point of view, as to the total effect on job creation, hence on demand for labor, of an increase in sector j's production, as compared with a similar increase in the demand for, or the use of sector k's output. The problem here is to develop an estimate which, in addition to the direct requirements, also accommodates secondary and higher order employment or job effects.

Although this is a more complex question, the input-output model can be used for this purpose; (keeping in mind its general assumptions and restrictions, and last but not least the quality of the data) this is particularly tempting when a so-called inverse of the coefficient matrix is available, i.e., a general solution to the system of simultaneous equations representing the information contained in the rows and columns of the preceding two tables.

Table III is an attempt of applying the principle of this technique to labor coefficients rather than to the conventional transactions and input coefficients of the classical input-output table. A brief perusal of these tables suggests some interesting patterns concerning manpower use in general, and demand for labor as it seems to have obtained at the beginning of this decade.

A brief study of the character of the Philippine manpower use structure as expressed by the four tables will bring to the fore a great many configurations and relationships, as disclosed by the numerical values in the cells of the several tables, too many of them to be enumerated specifically. For example, comparing the entries in the processing and the final demand sectors respectively with total labor use by a given sector i, it is found that only for five sectors did final demand account for less than half of the labor input, and that for ten of them the

deliveries outside the processing sector amounted to as much as 90 percent of the particular industries' labor use. Considering that the table represents the manpower structure as of the early sixties, these results do not seem unreasonable: heavy dependence on the final demand sector as a provider of jobs, typical for a developing economy in which a large volume of commodities entering final demand coexist with a relatively minor role of the processing sector.

Looked at the economy as a whole, about 21% of the total manpower use reflected labor requirements by the production of intermediate goods, i.e., jobs in the processing segment's activities. Even after limiting the comparison to household demand the ratio, although doubling, advances to a modest 41%.

The dependence of a sector's output (again represented by job-content) can be gauged by inspection of tables I and II. Table I shows in its rows how the total manpower content of sector i 's output is distributed over the other j sectors or activities into which it becomes an input. Diagonal elements ($i = j$) present manpower required by that industry from itself - the intra-sectoral flows. The columns j give a summary of the labor input required by sector j from other industries (i) to make possible sector j 's own production activities. Table II indicates the structure of unit labor requirements per unit job content of sector j , i.e., the labor content of sector j 's immediate purchases from the sectors i . In other words, the coefficient in cell ij indicates the job units contained in the commodity transfers from sectors i to j , per unit job output of activity j . Diagonal cells again show job units involved in intra-sector flows. E.g., the entry .00248 in cell $i = 6, j = 1$ in table II-A signifies that agriculture's output corresponding to the use of one hundred job units, require $2\frac{1}{2}$ job units from textile production

and, mutatis mutandis, for other cells in this column. The entries in that column also show that no labor input of measurable size was required by agriculture from industries 2, 4, 5, 7, 9, 12, 16, and 17; that the largest input was required from industry 29, the next largest from industry 24, and so forth. It also can be seen that food manufacturing, for instance, (sector $j = 3$) used the equivalent of 76 job units from industry 1 for every 100 job units "worth" of its own output.

Table III might be labeled "Direct and Indirect Labor Requirements" per categories of final demand. The entries in this table, analogous to the so-called inverse must be approached with particular caution; the estimation procedure here used is "quick and dirty" (and it turned out ^{to} be dirty rather than quick), instead of first estimating an analogue to the input coefficient matrix and inverting its transpose step by step. However, it is hoped that the table as it now stands will assist in conveying a general impression of the order of magnitude of the importance of indirect and higher order effects as contrasted with simple and direct requirements only.

Using table III in conjunction with the other tables, we find that the "visible", "direct", and "primary" labor use pattern in Agriculture to satisfy the bill of household demand as it existed about 1961, required about 3,200,000 jobs; this accounted for nearly 70% of all the direct manpower requirements to satisfy household demand in that year.

On the other hand there are the much less "visible", the "indirect" but no less "real" higher order requirements, which result in demand for labor, hence jobs, just as do the "direct" requirements.

Seen from that point of view, total (i.e., direct and indirect) requirements to fill the particular bill of household demand was hardly larger (3,300,000) than "direct" requirements (see table III and IV). Consequently, total job requirements in Agriculture amounted to only less than 34% of the "total" job requirement of all sectors.

Conversely, the leverage exerted by demand for labor via the vehicle of "indirect" (hence much less patent) requirements was considerably less for agriculture than for the non-agriculture industries (only about 2½%) when described by comparing indirect requirements in agriculture with those in the remainder of the economic structure.

Thus, agriculture is a large direct user of manpower in response to final demand but a negligible provider of "indirect" employment. This contrast is further sharpened in the light of the earlier mentioned existence of a heavy component of unpaid family workers in the total of the agriculture employment estimate.

Looking at the contribution to indirect employment in response to final demand expansion (here, illustrated for household demand only) the several sectors seem to fall into two neatly separated groups (see chart 1) those with little indirect effects, and those with very large ones; the manufacturing sectors fall generally in the second group (see chart 1 and table IV)*.

Again, it should be pointed out that the translation into employment equivalents of the inter-industry taxonomy presents problems of its own, particularly in developing countries with their plural economies.

*In interpreting the tables it need, of course, be remembered that the units throughout are "job" units, and not perhaps "value", "pesos" or physical production units.

Among the present gaps are lack of satisfactory data which would enable the analyst to translate the conceptual equivalent of value added into "job" terms, average wages, productivity estimates, measures of underemployment, and the like, on a level commensurate with the here used inter-industry taxonomy. This would call for huge efforts not only in a "developed" economy but particularly in a dual or plural one, in which the coexistence of a subsistence and a market sector causes the within cell variances of the estimates to be not only unknown but most likely so sizeable as to interfere seriously with the straightforward and unqualified interpretation of the figures.

As many macro approaches, input-output techniques do help in disentangling configurations embedded in complex systems. However, to explore in detail the enormous number of explicit, implied, suspected, and latent relationships it is necessary to use a much stronger magnifying glasses.

The fascinating suggestions of a particular input-output pattern, interesting and stimulating as it may be, may require supporting analysis on much lower levels of aggregation.

The product mix of a particular sector's output at a given time, its establishment composition (perhaps reflecting a great disparity of co-temporaneous labor productivity situations), the presence of a pronounced non-linearity (non-additivity) whose existence is always considered a possibility but wishfully hope away because of "permissible" simplification of the particular model, all of them and many more place the manpower analyst into an even more awkward position than the general user of input-output techniques.

- 13 -

Nevertheless, as a heuristic tool this approach toward an analysis of labor demand, manpower use, and employment phenomena should not be discarded by the manpower analyst, the poor relative of the more opulent family.

- ### -

TABLE I
Employment "Transaction"*

		1	2	3	4	5
Ac., Fishing & Forestry	1	109,271	5,953	394,498	572	202,22
ing	2	-	147	210	1	-
Manufactures	3	10,675	-	12,619	576	1
erages	4	-	-	-	17	-
acco Products	5	-	-	-	-	7
ile Products	6	844	-	2,469	-	-
wear	7	-	-	-	-	-
Products	8	464	17	-	154	74
iture & Fixtures	9	-	-	-	-	-
er Products	10	27	2	1,097	20	1,36
ated Materials	11	4	2	-	neg. 1/	50
ther Products	12	-	-	-	-	-
ber Products	13	1	1	1	-	-
icals	14	4,530	110	988	283	28
roleum Products	15	149	75	175	4	-
Metallie Products	16	-	1	2,201	740	-
rous Metal Products	17	-	174	94	-	-
ferrous Metal Products	18	34	3	398	36	neg
electrical Machinery	19	550	166	-	-	-
etrical Machinery	20	31	-	-	-	-
asport Equipment	21	200	14	-	-	-
ellaneous Manufactures	22	62	2	1,386	35	96
struction	23	10,778	3,500	1,125	38	1,06
olesale & Retail Trade	24	79,216	12,503	27,251	1,136	18
asport Services	25	4,199	722	2,042	458	18
ommunication	26	487	540	4,094	76	3
lectricity, gas & water	27	157	120	4,094	65	4
aking Insurance & R.E.	28	10,123	296	2,843	342	19
er services	29	108,706	3,423	58,560	964	1,0
T o t a l		340,508	27,771	516,145	5,517	208,9

*For a description see pp. 6 and 9.

		6	7	8	9	10
Agric., Fishing & Forestry	1	92,672	2,805	96,850	1,202	4,57
Mining	2	-	neg.	4	-	4
Food Manufactures	3	30	2	22	-	1
Beverages	4	-	-	-	-	-
Tobacco Products	5	-	-	-	-	-
Textile Products	6	9,472	7,882	7	290	3
Footwear	7	-	7,870	-	-	2,47
Wood Products	8	14	225	7,090	1,132	
Furniture & Fixtures	9	-	-	-	217	-
Paper Products	10	130	114	30	27	2,7
Printed Materials	11	-	-	-	23	
Leather Products	12	-	1,950	-	61	-
Rubber Products	13	7	724	-	67	
Chemicals	14	358	45	162	82	
Petroleum Products	15	22	neg.	56	neg.	
Non-Metallic Products	16	-	-	16	62	
Ferrous Metal Products	17	-	4	2	101	
Non-ferrous Metal Products	18	2	68	29	139	
Non-electrical Machinery	19	-	-	neg.	neg.	
Electrical Machinery	20	-	-	neg.	2	-
Transport Equipment	21	-	-	-	-	-
Miscellaneous Manufactures	22	436	101	264	251	
Construction	23	156	1,521	1,349	57	
Wholesale & Retail Trade	24	13,877	3,508	27,819	2,885	23,
Transport Services	25	447	481	232	29	
Communication	26	94	185	226	112	
Electricity, gas & water	27	507	232	194	28	
Banking Insurance & R.E.	28	1,002	308	326	121	
Other services	29	2,326	1,106	6,252	521	1,
T o t a l		121,552	29,131	140,930	7,409	35,

		11	12	13	14	15
Agric., Fishing & Forestry	1	57	2,461	23,755	6,010	-
Mining	2	-	neg.	15	611	5,090
Food Manufactures	3	7	232	-	2,359	-
Beverages	4	-	-	-	-	-
Tobacco Products	5	-	-	-	-	-
Textile Products	6	187	10	1,365	56	-
Footwear	7	2	-	-	-	-
Food Products	8	2,507	41	-	9,963	-
Furniture & Fixtures	9	-	-	-	-	-
Paper Products	10	2,022	7	60	747	6
Printed Materials	11	-	-	-	-	-
Leather Products	12	3	256	-	7	-
Rubber Products	13	-	36	322	5	-
Chemicals	14	180	40	490	6,227	38
Petroleum Products	15	2	neg.	8	68	4
Non-Metallic Products	16	1	3	-	1,832	8
Ferrous Metal Products	17	33	-	4	41	-
Non-ferrous Metal Products	18	8	24	16	509	5
Non-electrical Machinery	19	-	-	-	-	-
Electrical Machinery	20	-	-	5	-	-
Transport Equipment	21	-	-	-	-	-
Miscellaneous Manufactures	22	114	26	175	1,586	25
Construction	23	298	14	156	535	5
Wholesale & Retail Trade	24	348	1,869	5,285	55,913	34,808
Transport Services	25	348	17	313	768	1,879
Communication	26	362	67	194	442	60
Electricity, gas & water	27	53	18	187	385	6
Banking Insurance & R.E.	28	191	186	248	656	116
Other services	29	1,024	-	676	3,501	1,398
T o t a l		7,747	5,307	33,274	92,221	43,448

		16	17	18	19	20
Agric., Fishing & Forestry	1	401	1,030	1,202	744	916
Mining	2	1,536	114	5	36	137
Food Manufactures	3	-	-	205	-	-
Beverages	4	-	-	-	-	-
Tobacco Products	5	-	-	-	-	-
Textile Products	6	9	-	-	-	10
Footwear	7	-	-	-	172	20
Food Products	8	141	34	577	-	56
Furniture & Fixtures	9	1	-	3	84	27
Paper Products	10	312	6	98	3	92
Printed Materials	11	-	-	-	44	neg.
Leather Products	12	-	1	-	-	-
Rubber Products	13	-	-	7	-	60
Chemicals	14	119	14	82	12	123
Petroleum Products	15	108	9	6	7	1
Non-Metallic Products	16	1,469	52	654	8	196
Ferrous Metal Products	17	34	2,431	889	17	380
Non-ferrous Metal Products	18	8	76	424	418	30
Non-electrical Machinery	19	-	-	neg.	140	2
Electrical Machinery	20	-	-	neg.	517	1,617
Transport Equipment	21	-	-	-	57	7
Miscellaneous Manufactures	22	238	92	298	148	266
Construction	23	196	98	1,490	601	300
Wholesale & Retail Trade	24	10,406	8,528	5,432	32,829	6,595
Transport Services	25	368	218	441	461	183
Communication	26	72	41	186	-	-
Electricity, gas & water	27	217	144	71	15	41
Banking Insurance & R.E.	28	513	375	361	374	368
Other services	29	2,276	1,572	1,152	1,750	238
T o t a l		18,424	14,835	13,583	38,437	11,665

		21	22	23	24	25
ric., Fishing & Forestry	1:	572	1,488	-	7,842	-
ning	2:	8	19	923	-	42
od Manufactures	3:	-	-	-	22	729
verages	4:	-	-	-	3	-
acco Products	5:	-	-	-	-	-
xtile Products	6:	12	328	-	105	-
otwear	7:	3	-	-	777	-
od Products	8:	158	236	2,724	230	14
urniture & Fixtures	9:	1	-	-	16	60
per Products	10:	18	51	119	-	59
rinted Materials	11:	-	-	-	-	47
ather Products	12:	neg.	21	-	99	-
ubber Products	13:	411	35	3	73	3,018
hemicals	14:	38	324	151	103	194
etroleum Products	15:	4	2	25	40	679
on-Metallic Products	16:	10	68	1,863	18	51
errous Metal Products	17:	176	106	401	-	-
on-ferrous Metal Products	18:	198	92	408	neg.	157
on-electrical Machinery	19:	69	-	54	96	neg.
lectrical Machinery	20:	610	40	165	22	24
ransport Equipment	21:	704	-	neg.	7	857
iscellaneous Manufactures	22:	186	278	neg.	210	-
nstruction	23:	401	96	6,770	-	19,451
olesale & Retail Trade	24:	10,250	12,164	-	-	-
ransport Services	25:	1,720	682	818	-	516
ommunication	26:	61	72	130	-	45
lectricity, gas & water	27:	38	42	85	418	51
anking Insurance & R.E.	28:	366	473	1,577	260	834
ther services	29:	407	434	384	-	7,179
T o t a l		16,421	17,051	16,600	10,341	34,007

		26	27	28	29	1 to 29
Agric., Fishing & Forestry	1	-	-	-	10,368	967,470
Mining	2	-	-	-	-	8,951
Food Manufactures	3	-	-	-	1,060	28,558
Beverages	4	-	-	-	670	691
Tobacco Products	5	-	-	-	90	164
Textile Products	6	-	-	-	62	23,141
Footwear	7	-	-	-	2,824	14,142
Wood Products	8	-	2	26	59	26,622
Furniture & Fixtures	9	-	-	243	-	652
Paper Products	10	-	7	270	74	9,497
Printed Materials	11	-	102	40	49	914
Leather Products	12	-	-	-	-	2,400
Rubber Products	13	-	-	-	-	4,773
Chemicals	14	-	42	10	90	15,186
Petroleum Products	15	neg.	172	2	10	1,647
Non-Metallic Products	16	-	4	-	158	9,428
Ferrous Metal Products	17	-	12	-	-	4,903
Non-ferrous Metal Products	18	-	4	-	-	3,103
Non-electrical Machinery	19	-	2	-	-	1,082
Electrical Machinery	20	-	6	-	-	3,042
Transport Equipment	21	123	2	5	-	1,976
Miscellaneous Manufactures	22	-	12	55	73	7,368
Construction	23	276	1,840	300	12,378	64,998
Wholesale & Retail Trade	24	-	-	16,589	-	392,991
Transport Services	25	-	386	864	1,212	20,190
Communication	26	-	80	1,190	687	9,619
Electricity, gas & water	27	40	1,528	122	757	9,833
Banking Insurance & R.E.	28	100	410	451	966	24,705
Other services	29	-	498	3,820	10,552	220,961
T o t a l		539	5,109	23,987	42,131	1,879,010

		F I N A L D E M A N D		
		Households	Government	Capital Formation ^{2/}
		30	31	32
Agric., Fishing & Forestry	1	3,201,032	53,061	1,234,896
Mining	2	-	-	1,632
Food Manufactures	3	181,110	2	2,835
Beverages	4	27,324	-	2,886
Tobacco Products	5	35,694	-	769
Textile Products	6	46,713	-	9,293
Footwear	7	118,273	14	13,525
Wood Products	8	28,291	24,042	3,377
Furniture & Fixtures	9	24,656	-	599
Paper Products	10	5,005	312	1,185
Printed Materials	11	14,898	23,480	1,689
Leather Products	12	131	-	4,215
Rubber Products	13	6,705	120	8,399
Chemicals	14	23,209	110	3,686
Petroleum Products	15	629	74	651
Non-Metallic Products	16	6,446	7,396	10,725
Ferrous Metal Products	17	-	-	11,922
Non-ferrous Metal Products	18	2,483	2,708	31,703
Electrical Machinery	19	1,112	326	25,479
Non-electrical Machinery	20	7,305	114	11,539
Transport Equipment	21	6,344	5,654	16,025
Miscellaneous Manufactures	22	1,988	11,887	3,504
Construction	23	101,985	35,774	70,242
Wholesale & Retail Trade	24	350,223	12,613	160,171
Transport Services	25	215,537	4,626	49,648
Communication	26	5,800	1,068	1,513
Electricity, gas & water	27	5,283	6,387	490
Insurance & R.E.	28	11,905	828	2,094
Other services	29	180,817	16,009	4,236
T o t a l		4,610,898	206,605	1,688,928

FINAL DEMAND			:	:
Exports	30 to 33	1 to 33	:	:
33	:	:	:	:
267,540	4,756,530	5,724,000	:1	Agric., Fishing & Forestry
23,417	25,049	34,000	:2	Mining
34,494	218,442	247,000	:3	Food Manufactures
99	30,309	31,000	:4	Beverages
1,372	37,835	38,000	:5	Tobacco Products
11,853	67,859	91,000	:6	Textile Products
23,046	154,858	169,000	:7	Footwear
9,667	65,378	92,000	:8	Wood Products
93	25,348	26,000	:9	Furniture & Fixtures
-	6,503	16,000	:10	Paper Products
19	40,086	41,000	:11	Printed Materials
254	4,600	7,000	:12	Leather Products
2	15,227	20,000	:13	Rubber Products
2,809	29,814	45,000	:14	Chemicals
neg.	1,353	3,000	:15	Petroleum Products
5	24,572	34,000	:16	Non-Metallic Products
174	12,096	17,000	:17	Ferrous Metal Products
4	36,897	40,000	:18	Non-ferrous Metal Products
2	26,918	28,000	:19	Non-electrical Machinery
-	18,958	22,000	:20	Electrical Machinery
neg.	28,024	30,000	:21	Transport Equipment
254	17,632	25,000	:22	Miscellaneous Manufactures
-	208,001	273,000	:23	Construction
-	523,008	916,000	:24	Wholesale & Retail Trade
-	269,810	290,000	:25	Transport Services
-	8,381	18,000	:26	Communication
-	12,161	22,000	:27	Electricity, gas & water
1,464	16,291	41,000	:28	Banking Insurance & R.E.
34,979	236,040	457,000	:29	Other services
11,547	6,917,980	8,797,000	:	T o t a l

TABLE II-A*

		1	2	3	4	5
Agric., Fishing & Forestry	1:	.32091	.21436	.76430	.10368	.96801
Mining	2:	-	.00529	.00041	.00018	-
Food Manufactures	3:	.03135	-	.02445	.10440	.00005
Beverages	4:	-	-	-	.00308	-
Tobacco Products	5:	-	-	-	-	.00036
Textile Products	6:	.00248	-	.00478	-	-
Footwear	7:	-	-	-	-	-
Wood Products	8:	.00248	.00061	-	.02791	.00358
Furniture & Fixtures	9:	-	-	-	-	-
Paper Products	10:	.00008	.00007	.00212	.00362	.00653
Printed Materials	11:	.00001	.00007	-	neg.	.00242
Leather Products	12:	-	-	-	-	-
Rubber Products	13:	.000002	.00004	.0000019	-	-
Chemicals	14:	.01330	.00396	.00191	.05130	.00137
Petroleum Products	15:	.00044	.00270	.00034	.00072	.00004
Non-Metallic Products	16:	-	.00004	.00426	.13413	-
Ferrous Metal Products	17:	-	.00626	.00018	-	-
Non-ferrous Metal Products	18:	.00010	.00011	.00077	.00652	neg.
Non-electrical Machinery	19:	.00162	.00598	-	-	-
Electrical Machinery	20:	.00009	-	-	-	-
Transport Equipment	21:	.00059	.00050	-	-	-
Miscellaneous Manufactures	22:	.00018	.00007	.00268	.00634	.00461
Construction	23:	.03165	.12603	.00218	.00689	.00510
Wholesale & Retail Trade	24:	.23264	.45022	.05280	.20591	.00088
Transport Services	25:	.01233	.02600	.00396	.08302	.00090
Communication	26:	.00143	.01944	.00793	.01378	.00017
Electricity, gas & water	27:	.00046	.00432	.00793	.01178	.00020
Banking Insurance & R.E.	28:	.02973	.01066	.00551	.06199	.00092
Other services	29:	.31925	.12326	.11345	.17473	.00483

* For description see pp. 7 and 9f.

		6	7	8	9	10
Agric., Fishing & Forestry	1:	.76240	.09629	.68722	.16223	.12728
Mining	2:	-	neg.	.00003	-	.00136
Food Manufactures	3:	.00025	.00007	.00016	-	.00028
Beverages	4:	-	-	-	-	-
Tobacco Products	5:	-	-	-	-	-
Textile Products	6:	.07792	.27057	.00005	.03914	.00089
Footwear	7:	-	.27016	-	-	.06871
Wood Products	8:	.00012	.00772	.05031	.15279	.00022
Furniture & Fixtures	9:	-	-	-	.02929	-
Paper Products	10:	.00107	.00391	.00021	.00364	.07594
Printed Materials	11:	-	-	-	.00310	.00261
Leather Products	12:	-	.06694	-	.00823	-
Rubber Products	13:	.00006	.02485	-	.00904	.00003
Chemicals	14:	.00294	.00154	.00115	.01107	.00175
Petroleum Products	15:	.00018	neg.	.00040	neg.	.00017
Non-Metallic Products	16:	-	-	.00011	.00837	.00028
Ferrous Metal Products	17:	-	.00014	.00001	.01363	.00011
Non-ferrous Metal Products	18:	.00002	.00233	.00020	.01876	.00042
Non-electrical Machinery	19:	-	-	neg.	neg.	neg.
Electrical Machinery	20:	-	-	neg.	.00027	-
Transport Equipment	21:	-	-	-	-	-
Miscellaneous Manufactures	22:	.00359	.00347	.00187	.03388	.00236
Construction	23:	.00128	.05221	.00957	.00769	.00570
Wholesale & Retail Trade	24:	.11416	.12042	.19740	.38939	.65590
Transport Services	25:	.00368	.01651	.00165	.00391	.00548
Communication	26:	.00077	.00635	.00160	.01512	.00225
Electricity, gas & water	27:	.00417	.00796	.00138	.00378	.00498
Banking Insurance & R.E.	28:	.00824	.01057	.00231	.01633	.00912
Other services	29:	.01914	.03797	.04436	.07032	.03416

		11	12	13	14	15
Agric., Fishing & Forestry	1:	.00736	.46373	.71390	.06517	-
Mining	2:	-	neg.	.00045	.00662	.11715
Food Manufactures	3:	.00090	.04372	-	.02558	-
Beverages	4:	-	-	-	-	-
Tobacco Products	5:	-	-	-	-	-
Textile Products	6:	.02414	.00188	.04102	.00061	-
Footwear	7:	.00026	-	-	-	-
Wood Products	8:	.32360	.00772	-	.10804	-
Furniture & Fixtures	9:	-	-	-	-	-
Paper Products	10:	.26100	.00132	.00180	.00810	.00014
Printed Materials	11:	-	-	-	-	-
Leather Products	12:	.00039	.04824	-	.00008	-
Rubber Products	13:	-	.00678	.00968	.00005	-
Chemicals	14:	.02323	.00754	.01472	.06752	.00087
Petroleum Products	15:	.00026	neg.	.00024	.00074	.00009
Non-Metallic Products	16:	.00013	.00056	-	.01987	.00018
Ferrous Metal Products	17:	.00426	-	.00012	.00044	-
Non-ferrous Metal Products	18:	.00103	.00452	.00048	.00552	.00012
Non-electrical Machinery	19:	-	-	-	-	-
Electrical Machinery	20:	-	-	.00015	-	-
Transport Equipment	21:	-	-	-	-	-
Miscellaneous Manufactures	22:	.01472	.00490	.00526	.01720	.00058
Construction	23:	.03846	.00264	.00469	.00580	.00012
Wholesale & Retail Trade	24:	.04492	.35218	.15883	.60632	.80114
Transport Services	25:	.04492	.00320	.00941	.00833	.04325
Communication	26:	.04673	.01262	.00583	.00479	.00138
Electricity, gas & water	27:	.00684	.00339	.00562	.00417	.0001
Insurance & R.E.	28:	.02465	.03505	.00745	.00711	.00267
Other services	29:	.13218	-	.02032	.03796	.03218

		16	17	18	19	20
Agriculture, Fishing & Forestry	1 :	.02176	.06943	.08849	.01936	.07852
Mining	2 :	.08337	.00768	.00037	.00094	.01174
Food Manufactures	3 :	-	-	.01509	-	-
Beverages	4 :	-	-	-	-	-
Tobacco Products	5 :	-	-	-	-	-
Textile Products	6 :	.00049	-	-	-	.00086
Footwear	7 :	-	-	-	.00447	.00171
Wood Products	8 :	.00765	.00229	.04248	-	.00480
Furniture & Fixtures	9 :	.00005	-	.00022	.00218	.00231
Paper Products	10 :	.01693	.00040	.00721	.00008	.00780
Printed Materials	11 :	-	-	-	.00114	neg
Leather Products	12 :	-	.00007	-	-	-
Rubber Products	13 :	-	-	.00052	-	.0051
Chemicals	14 :	.00646	.00094	.00604	.00031	.0105
Petroleum Products	15 :	.00586	.00061	.00044	.00018	.0000
Non-Metallic Products	16 :	.07973	.00350	.04815	.00021	.016
Non-ferrous Metal Products	17 :	.00184	.16387	.06545	.00044	.032
Ferrous Metal Products	18 :	.00043	.00512	.03122	.01087	.002
Electrical Machinery	19 :	-	-	neg.	.00364	.000
Machinery	20 :	-	-	neg.	.01345	.138
Transport Equipment	21 :	-	-	-	.00148	.000
Miscellaneous Manufactures	22 :	.01292	.00620	.02194	.00385	.022
Construction	23 :	.01064	.00660	.10970	.01564	.02
Wholesale & Retail Trade	24 :	.956481	.57486	.39991	.85408	.56
Transport Services	25 :	.01997	.01469	.03247	.01199	.01
Education	26 :	.00391	.00276	.01369	-	-
Electricity, gas & water	27 :	.01178	.00971	.00523	.00039	.00
Life Insurance & R.E.	28 :	.02784	.02528	.02658	.00973	.03
Other services	29 :	.12353	.10596	.08481	.04533	.02

		21	22	23	24	25
Agriculture, Fishing & Forestry	1 :	.03483	.08727	-	.75834	-
Mining	2 :	.00049	.00111	.05560	-	.00124
Food Manufactures	3 :	-	-	-	.00213	.02144
Beverages	4 :	-	-	-	.00029	-
Tobacco Products	5 :	-	-	-	-	-
Textile Products	6 :	.00073	.01924	-	.01015	-
Footwear	7 :	.00018	-	-	.07514	-
Leather Products	8 :	.00962	.01384	.16410	.02224	.00041
Furniture & Fixtures	9 :	.00006	-	-	.00155	.00176
Paper Products	10 :	.00110	.00299	.00717	-	.00173
Printed Materials	11 :	-	-	-	-	.00138
Other Products	12 :	neg.	.00123	-	.00957	-
Rubber Products	13 :	.02503	.00205	.00018	.00706	.08875
Chemicals	14 :	.00231	.01900	.00910	.00996	.00570
Petroleum Products	15 :	.00024	.00012	.00151	.00387	.01997
Non-Metallic Products	16 :	.00061	.00399	.11223	.00174	.00150
Non-ferrous Metal Products	17 :	.01072	.00622	.02416	-	-
Ferrous Metal Products	18 :	.01206	.00540	.02458	neg.	.00462
Electrical Machinery	19 :	.00420	-	.00325	.00928	neg.
Electrical Machinery	20 :	.03715	.00234	.00994	.00213	.00071
Transport Equipment	21 :	.04287	-	neg.	.00068	.02520
Miscellaneous Manufactures	22 :	.01133	.01630	neg.	.02031	-
Construction	23 :	.02442	.00563	.40783	-	.57198
Wholesale & Retail Trade	24 :	.62420	.71339	-	-	-
Transport Services	25 :	.10474	.04000	.04928	-	.01517
Communication	26 :	.00371	.00422	.00783	-	.00132
Electricity, gas & water	27 :	.00231	.00246	.00512	.04042	.00150
Life Insurance & R.E.	28 :	.02229	.02774	.09500	.02514	.02452
Other services	29 :	.02478	.02545	.02313	-	.21110

		26	27	28	29	1 to 29
Agriculture, Fishing & Forestry	1 :	-	-	-	.24589	.51488
Mining	2 :	-	-	-	-	.00476
Food Manufactures	3 :	-	-	-	.02516	.01520
Beverages	4 :	-	-	-	.01590	.00037
Tobacco Products	5 :	-	-	-	.00214	.00009
Textile Products	6 :	-	-	-	.00147	.01232
Footwear	7 :	-	-	-	.06703	.00753
Leather Products	8 :	-	.00039	.00108	.00140	.01417
Furniture & Fixtures	9 :	-	-	.01013	-	.00035
Other Products	10 :	-	.00137	.01126	.00176	.00505
Plastic Materials	11 :	-	.01996	.00167	.00116	.00049
Other Products	12 :	-	-	-	-	.00128
Other Products	13 :	-	-	-	-	.00254
Chemicals	14 :	-	.00822	.00042	.00214	.00808
Petroleum Products	15 :	neg.	.03366	.00008	.00024	.00088
Non-metallic Products	16 :	-	.00078	-	.00375	.00502
Non-ferrous Metal Products	17 :	-	.00235	-	-	.00261
Ferrous Metal Products	18 :	-	.00078	-	-	.00165
Electrical Machinery	19 :	-	.00039	-	-	.00058
Other Machinery	20 :	-	.00117	-	-	.00162
Transport Equipment	21 :	.22878	.00039	.00021	-	.00105
Miscellaneous Manufactures	22 :	-	.00235	.00229	.00173	.00392
Construction	23 :	.51336	.36014	.01251	.29379	.03459
Wholesale & Retail Trade	24 :	-	-	.69158	-	.20914
Transport Services	25 :	-	.07555	.03602	.02877	.01074
Communication	26 :	-	.01566	.04961	.01630	.00512
Electricity, gas & water	27 :	.07440	.29908	.00509	.01797	.00524
Insurance & R.E.	28 :	.18600	.08025	.01880	.02293	.01315
Other services	29 :	-	.09747	.15925	.25045	.11759

		26	27	28	29	1 to 29
Agriculture, Fishing & Forestry	1 :	-	-	-	.24589	.51488
Mining	2 :	-	-	-	-	.00476
Food Manufactures	3 :	-	-	-	.02516	.01520
Beverages	4 :	-	-	-	.01590	.00037
Tobacco Products	5 :	-	-	-	.00214	.00009
Textile Products	6 :	-	-	-	.00147	.01232
Footwear	7 :	-	-	-	.06703	.00753
Leather Products	8 :	-	.00039	.00108	.00140	.01417
Furniture & Fixtures	9 :	-	-	.01013	-	.00035
Other Products	10 :	-	.00137	.01126	.00176	.00505
Printed Materials	11 :	-	.01996	.00167	.00116	.00049
Leather Products	12 :	-	-	-	-	.00128
Other Products	13 :	-	-	-	-	.00254
Chemicals	14 :	-	.00822	.00042	.00214	.00808
Petroleum Products	15 :	neg.	.03366	.00008	.00024	.00088
Non-metallic Products	16 :	-	.00078	-	.00375	.00502
Various Metal Products	17 :	-	.00235	-	-	.00261
Ferrous Metal Products	18 :	-	.00078	-	-	.00165
Electrical Machinery	19 :	-	.00039	-	-	.00058
Electrical Machinery	20 :	-	.00117	-	-	.00162
Transport Equipment	21 :	.22878	.00039	.00021	-	.00105
Miscellaneous Manufactures	22 :	-	.00235	.00229	.00173	.00392
Construction	23 :	.51336	.36014	.01251	.29379	.03459
Wholesale & Retail Trade	24 :	-	-	.69158	-	.20914
Transport Services	25 :	-	.07553	.03602	.02877	.01074
Communication	26 :	-	.01566	.04961	.01630	.00512
Electricity, gas & water	27 :	.07440	.29908	.00509	.01797	.00524
Insurance & R.E.	28 :	.18600	.08025	.01880	.02293	.01315
Other services	29 :	-	.09747	.15925	.25045	.11759

TABLE II-B*

		1	2	3	4	5
Agric., Fishing & Forestry	1 :	.35819	: .22333	: .79369	: .10994	: .96955
Mining	2 :	-	: .00551	: .00042	: .00019	: -
Food Manufactures	3 :	.03499	: -	: .02539	: .11071	: .00005
Beverages	4 :	-	: -	: -	: .00327	: -
Tobacco Products	5 :	-	: -	: -	: -	: .00036
Textile Products	6 :	.00277	: -	: .00497	: -	: -
Footwear	7 :	-	: -	: -	: -	: -
Wood Products	8 :	.00152	: .00064	: -	: .02960	: .00359
Furniture & Fixtures	9 :	-	: -	: -	: -	: -
Paper Products	10 :	.00009	: .00008	: .00221	: .00384	: .00654
Printed Materials	11 :	.00001	: .00008	: -	: neg.	: .00242
Leather Products	12 :	-	: -	: -	: -	: -
Rubber Products	13 :	.0000033	: .00004	: .0000020	: -	: -
Chemicals	14 :	.01485	: .00413	: .00199	: .05439	: .00138
Petroleum Products	15 :	.00049	: .00281	: .00035	: .00077	: .00004
Non-Metallic Products	16 :	-	: .00004	: .00443	: .14223	: -
Ferrous Metal Products	17 :	-	: .00653	: .00019	: -	: -
Non-ferrous Metal Products	18 :	.00011	: .00011	: .00080	: .00692	: neg.
Non-electrical Machinery	19 :	.00180	: .00623	: -	: -	: -
Electrical Machinery	20 :	.00010	: -	: -	: -	: -
Transport Equipment	21 :	.00066	: .00052	: -	: -	: -
Miscellaneous Manufactures	22 :	.00020	: .00008	: .00279	: .00673	: .00462
Construction	23 :	.03533	: .13131	: .00226	: .00730	: .00510
Wholesale & Retail Trade	24 :	.25967	: .46906	: .05483	: .21834	: .00088
Transport Services	25 :	.01376	: .02709	: .00411	: .08803	: .00090
Communication	26 :	.00160	: .02026	: .00824	: .01461	: .00017
Electricity, gas & water	27 :	.00051	: .00450	: .00824	: .01249	: .00021
Banking Insurance & R.E.	28 :	.03318	: .01110	: .00572	: .06573	: .00092
Other services	29 :	.24016	: .08655	: .07940	: .12493	: .00326

*For a description see pp. 7 and 9f

		6	7	8	9	10
Agric., Fishing & Forestry	1 :	.76719	: .09750	: .69731	: .16604	: .12872
Mining	2 :	-	: neg.	: .00003	: -	: .00138
Food Manufactures	3 :	.00025	: .00007	: .00016	: -	: .00028
Beverages	4 :	-	: -	: -	: -	: -
Tobacco Products	5 :	-	: -	: -	: -	: -
Textile Products	6 :	.07841	: .27396	: .00005	: .04006	: .00090
Footwear	7 :	-	: .27354	: -	: -	: .06949
Wood Products	8 :	.00012	: .00782	: .05105	: .15637	: .00022
Furniture & Fixtures	9 :	-	: -	: -	: .02998	: -
Paper Products	10 :	.00108	: .00396	: .00022	: .00373	: .07680
Printed Materials	11 :	-	: -	: -	: .00318	: .00264
Leather Products	12 :	-	: .06778	: -	: .00843	: -
Rubber Products	13 :	.00006	: .02516	: -	: .00926	: .00003
Chemicals	14 :	.00296	: .00156	: .00117	: .01133	: .00177
Petroleum Products	15 :	.00018	: neg.	: .00040	: neg.	: .00017
Non-Metallic Products	16 :	-	: -	: .00012	: .00856	: .00028
Ferrous Metal Products	17 :	-	: .00014	: .00001	: .01395	: .00011
Non-ferrous Metal Products	18 :	.00002	: .00236	: .00021	: .01920	: .00042
Non-electrical Machinery	19 :	-	: -	: neg.	: neg.	: neg.
Electrical Machinery	20 :	-	: -	: neg.	: .00028	: -
Transport Equipment	21 :	-	: -	: -	: -	: -
Miscellaneous Manufactures	22 :	.00361	: .00351	: .00190	: .03467	: .00239
Construction	23 :	.00129	: .05287	: .00971	: .00787	: .00576
Wholesale & Retail Trade	24 :	.11488	: .12193	: .20029	: .39853	: .66328
Transport Services	25 :	.00370	: .01672	: .00167	: .00401	: .00554
Communication	26 :	.00078	: .00643	: .00163	: .01547	: .00228
Electricity, gas & water	27 :	.00420	: .00806	: .00140	: .00387	: .00503
Banking Insurance & R.E.	28 :	.00830	: .01070	: .00235	: .01671	: .00922
Other services	29 :	.01298	: .02589	: .03033	: .04849	: .02328

		11	12	13	14	15
Agric., Fishing & Forestry	1 :	.00769	.46373	.71868	.06598	-
Mining	2 :	-	neg.	.00045	.00671	.11839
Food Manufactures	3 :	.00094	.04372	-	.02590	-
Beverages	4 :	-	-	-	-	-
Tobacco Products	5 :	-	-	-	-	-
Textile Products	6 :	.02523	.00188	.04130	.00061	-
Footwear	7 :	.00027	-	-	-	-
Wood Products	8 :	.33819	.00772	-	.10938	-
Furniture & Fixtures	9 :	-	-	-	-	-
Paper Products	10 :	.27277	.00132	.00182	.00820	.00014
Printed Materials	11 :	-	-	-	-	-
Leather Products	12 :	.00040	.04824	-	.00008	-
Rubber Products	13 :	-	.00678	.00974	.00005	-
Chemicals	14 :	.02428	.00754	.01482	.06837	.00088
Petroleum Products	15 :	.00027	neg.	.00024	.00075	.00009
Non-Metallic Products	16 :	.00013	.00056	-	.02011	.00014
Ferrous Metal Products	17 :	.00445	-	.00012	.00045	-
Non-ferrous Metal Products	18 :	.00108	.00452	.00048	.00559	.00014
Non-electrical Machinery	19 :	-	-	-	-	-
Electrical Machinery	20 :	-	-	.00015	-	-
Transport Equipment	21 :	-	-	-	-	-
Miscellaneous Manufactures	22 :	.01538	.00490	.00529	.01741	.00054
Construction	23 :	.04020	.00264	.00472	.00587	.00014
Wholesale & Retail Trade	24 :	.04694	.35218	.15989	.61387	.80964
Transport Services	25 :	.04694	.00320	.00947	.00843	.04374
Communication	26 :	.04883	.01262	.00587	.00485	.00144
Electricity, gas & water	27 :	.00715	.00339	.00566	.00423	.00014
Banking Insurance & R.E.	28 :	.02576	.03505	.00750	.00720	.00274
Other services	29 :	.09308	-	.01380	.02590	.02194

		16	17	18	19	20
Agric., Fishing & Forestry	1	: .02268	: .07191	: .09101	: .01965	: .07905
Mining	2	: .08687	: .00796	: .00038	: .00095	: .01182
Food Manufactures	3	: -	: -	: .01552	: -	: -
Beverages	4	: -	: -	: -	: -	: -
Tobacco Products	5	: -	: -	: -	: -	: -
Textile Products	6	: .00051	: -	: -	: -	: .00086
Footwear	7	: -	: -	: -	: .00454	: .00173
Food Products	8	: .00797	: .00237	: .04369	: -	: .00483
Furniture & Fixtures	9	: .00006	: -	: .00023	: .00222	: .00233
Paper Products	10	: .01764	: .00042	: .00742	: .00008	: .00794
Printed Materials	11	: -	: -	: -	: .00116	: neg.
Leather Products	12	: -	: .00007	: -	: -	: -
Rubber Products	13	: -	: -	: .00053	: -	: .00518
Chemicals	14	: .00673	: .00098	: .00621	: .00032	: .01062
Petroleum Products	15	: .00611	: .00063	: .00045	: .00018	: .00009
Non-Metallic Products	16	: .08308	: .00363	: .04952	: .00021	: .01692
Ferrous Metal Products	17	: .00192	: .16973	: .06731	: .00045	: .03280
Non-ferrous Metal Products	18	: .00045	: .00531	: .03210	: .01104	: .00259
Non-electrical Machinery	19	: -	: -	: neg.	: .00370	: .00017
Electrical Machinery	20	: -	: -	: neg.	: .01365	: .13955
Transport Equipment	21	: -	: -	: -	: .00150	: .00060
Miscellaneous Manufactures	22	: .01346	: .00642	: .02256	: .00391	: .02296
Construction	23	: .01108	: .00684	: .11282	: .01587	: .02589
Wholesale & Retail Trade	24	: .58851	: .59541	: .41129	: .86695	: .56917
Transport Services	25	: .02081	: .01522	: .03339	: .01217	: .01579
Communication	26	: .00407	: .00286	: .01408	: -	: -
Electricity, gas & water	27	: .01227	: .01005	: .00538	: .00040	: .00354
Banking Insurance & R.E.	28	: .02901	: .02612	: .02733	: .00988	: .03176
Other services	29	: .08676	: .07401	: .05876	: .03116	: .01381

		21	22	23	24	25
Agric., Fishing & Forestry	1	.03512	.08800	-	.75834	-
Mining	2	.00049	.00112	.05602	-	.0013
Food Manufactures	3	-	-	-	.00213	.0230
Beverages	4	-	-	-	.00029	-
Tobacco Products	5	-	-	-	-	-
Textile Products	6	.00074	.01940	-	.01015	-
Footwear	7	.00018	-	-	.07514	-
Food Products	8	.00970	.01396	.16534	.00224	.0004
Furniture & Fixtures	9	.00006	-	-	.00155	.0018
Paper Products	10	.00110	.00302	.00722	-	.0018
Printed Materials	11	-	-	-	-	.0014
Leather Products	12	neg.	.00124	-	.00957	-
Rubber Products	13	.02523	.00207	.00018	.00706	.0953
Chemicals	14	.00233	.01916	.00916	.00996	.0061
Petroleum Products	15	.00024	.00012	.00152	.00387	.021
Non-Metallic Products	16	.00061	.00402	.11308	.00174	.0018
Ferrous Metal Products	17	.01030	.00627	.02434	-	-
Non-ferrous Metal Products	18	.01216	.00544	.02476	neg.	.0049
Non-electrical Machinery	19	.00424	-	.00328	.00928	neg.
Electrical Machinery	20	.03745	.00236	.01002	.00213	.0007
Transport Equipment	21	.04322	-	neg.	.00068	.0270
Miscellaneous Manufactures	22	.01142	.01644	neg.	.02031	-
Construction	23	.02462	.00568	.41092	-	.614
Wholesale & Retail Trade	24	.62930	.71934	-	-	-
Transport Services	25	.10560	.04033	.04965	-	.016
Communication	26	.00374	.00426	.00739	-	.001
Electricity, gas & water	27	.00233	.00248	.00516	.04042	.001
Life Insurance & R.E.	28	.02247	.02797	.09572	.02514	.026
Other services	29	.01682	.01733	.01572	-	.152

			26	27	28	29	1 to 2
Agriculture, Fishing & Forestry	1	:	-	-	-	.26776	.53541
Mining	2	:	-	-	-	-	.00495
Food Manufactures	3	:	-	-	-	.02740	.01580
Beverages	4	:	-	-	-	.01732	.00038
Tobacco Products	5	:	-	-	-	.00233	.00009
Textile Products	6	:	-	-	-	.00160	.01281
Footwear	7	:	-	-	-	.07299	.00783
Food Products	8	:	-	.00040	.00114	.00152	.01473
Furniture & Fixtures	9	:	-	-	.01068	-	.00036
Leather Products	10	:	-	.00141	.01187	.00191	.00526
Printed Materials	11	:	-	.02062	.00176	.00127	.00050
Rubber Products	12	:	-	-	-	-	.00133
Chemicals	13	:	-	-	-	-	.00264
Petroleum Products	14	:	-	.00849	.00044	.00233	.00840
Non-Metallic Products	15	:	-	.03477	.00008	.00026	.00091
Non-Ferrous Metal Products	16	:	-	.00081	-	.00408	.00522
Ferrous Metal Products	17	:	-	.00242	-	-	.00271
Non-ferrous Metal Products	18	:	-	.00081	-	-	.00172
Non-electrical Machinery	19	:	-	.00040	-	-	.00060
Electrical Machinery	20	:	-	.00121	-	-	.00168
Transport Equipment	21	:	.22878	.00040	.00022	-	.00109
Miscellaneous Manufactures	22	:	-	.00242	.00242	.00189	.00408
Construction	23	:	.51336	.37194	.01319	.31992	.03597
Wholesale & Retail Trade	24	:	-	-	.72945	-	.21748
Transport Services	25	:	-	.07803	.03799	.03132	.01117
Communication	26	:	-	.01617	.05233	.01776	.00532
Electricity, gas & water	27	:	.07440	.30887	.00536	.01956	.00544
Banking Insurance & R.E.	28	:	.18600	.08288	.01983	.02497	.01367
Other services	29	:	-	.06792	.11323	.18382	.08241

TABLE 3 *

		1	2	3	4	5
Agriculture, Fishing & Forestry	1	3,279,071	64,007	249,496	19,390	970,020
Mining	2	-	-	-	-	-
Food Manufactures	3	8,639	409	191,699	7,589	2,770
Beverages	4	9	5	6	27,341	
Tobacco Products	5	3	1	2	neg.	35,760
Textile Products	6	84	9	220	13	40
Footwear	7	35	27	30	12	100
Wood Products	8	60	54	17	124	240
Furniture & Fixtures	9	2	2	1	1	
Paper Products	10	6	4	25	13	220
Printed Materials	11	neg.	1	1	neg.	50
Leather Products	12	neg.	neg.	neg.	neg.	neg.
Rubber Products	13	1	3	1	1	
Chemicals	14	524	236	168	541	440
Petroleum Products	15	5	34	6	4	
Non-Metallic Products	16	6	8	28	139	
Iron and Steel Products	17	-	-	-	-	-
Non-ferrous Metal Products	18	neg.	1	1	2	neg.
Non-electrical Machinery	19	1	6	neg.	neg.	neg.
Electrical Machinery	20	1	1	neg.	neg.	neg.
Transport Equipment	21	2	4	1	neg.	
Miscellaneous Manufactures	22	1	1	4	2	
Construction	23	768	3,310	260	130	730
Wholesale & Retail Trade	24	20,369	51,272	9,939	8,272	13,200
Transport Services	25	2,030	5,407	1,393	3,257	2,200
Communication	26	4	33	16	6	
Electricity, gas & water	27	14	49	93	30	
Insurance & R.E.	28	2,830	1,642	1,131	1,642	1,400
Other services	29	11,471	6,400	7,281	2,190	4,480

			6	7	8	9	10
Ac., Fishing & Forestry	1	:	438,822	154,239	646,152	54,735	70,64
ing	2	:	-	-	-	-	-
d Manufactures	3	:	1,530	1,635	2,144	492	53
verages	4	:	3	3	8	6	
acco Products	5	:	1	1	2	2	
tile Products	6	:	52,160	11,803	35	712	29
ewear	7	:	24	124,083	41	31	2,39
d Products	8	:	40	178	30,693	1,105	3
niture & Fixtures	9	:	2	2	2	24,864	
er Products	10	:	24	51	10	20	6,04
ated Materials	11	:	1	1	neg.	10	3
ther Products	12	:	neg.	7	neg.	neg.	neg
ber Products	13	:	2	198	1	30	
icals	14	:	405	272	324	321	19
roleum Products	15	:	7	4	18	2	
Metallic Products	16	:	3	5	6	24	
ous Metal Products	17	:	-	-	-	-	-
ferrous Metal Products	18	:	neg.	4	1	12	
electrical Machinery	19	:	neg.	neg.	neg.	neg.	neg
rical Machinery	20	:	neg.	neg.	neg.	1	neg
port Equipment	21	:	neg.	1	1	neg.	neg
llaneous Manufactures	22	:	9	8	8	20	
uction	23	:	248	1,674	1,096	279	40
ale & Retail Trade	24	:	29,375	26,683	73,610	24,638	118,43
ort Services	25	:	2,261	4,579	2,104	1,502	2,36
ation	26	:	4	16	11	13	8
ity, gas & water	27	:	88	117	54	26	9
Insurance & R.E.	28	:	2,580	2,603	1,685	1,243	2,23
Services	29	:	3,608	3,387	9,552	7,451	3,36

		11	12	13	14	15
Agric., Fishing & Forestry	1	63,885	179,742	365,079	83,194	6,99
Mining	2	-	-	-	-	-
Food Manufactures	3	686	18,820	1,603	11,544	1
Beverages	4	3	1	3	3	
Tobacco Products	5	1	neg.	1	1	n
Textile Products	6	456	136	2,654	65	
Footwear	7	430	20	29	61	
Food Products	8	2,172	179	113	1,987	
Furniture & Fixtures	9	2	4	2	1	
Paper Products	10	1,053	21	37	96	
Printed Materials	11	14,904	neg.	1	1	r
Leather Products	12	neg.	136	neg.	neg.	r
Rubber Products	13	3	52	6,817	3	
Chemicals	14	603	522	1,423	27,005	
Petroleum Products	15	5	3	8	15	
Non-Metallic Products	16	5	10	8	130	
Non-ferrous Metal Products	17	-	-	-	-	
Ferrous Metal Products	18	1	8	2	10	
Electrical Machinery	19	neg.	neg.	neg.	neg.	
Electrical Machinery	20	neg.	neg.	2	neg.	
Transport Equipment	21	1	1	1	1	
Miscellaneous Manufactures	22	10	8	13	26	
Construction	23	663	196	404	395	
Wholesale & Retail Trade	24	30,723	46,261	37,039	84,339	66
Transport Services	25	4,627	1,528	4,052	3,491	6
Communication	26	36	27	18	12	
Electricity, gas & water	27	53	52	104	66	
Insurance & R.E.	28	1,965	5,292	2,177	1,500	
Services	29	4,191	1,573	3,344	3,646	1

		16	17	18	19	20
Ag., Fishing & Forestry	1	14,618	15,540	32,902	13,492	24,290
Mining	2	-	-	-	-	-
Food Manufactures	3	279	148	3,704	185	301
Beverages	4	4	3	3	3	1
Tobacco Products	5	1	1	1	1	neg.
Textile Products	6	31	7	21	29	55
Footwear	7	68	18	33	164	60
Wood Products	8	113	32	440	24	100
Furniture & Fixtures	9	3	2	4	52	29
Paper Products	10	117	4	48	5	59
Printed Materials	11	1	neg.	1	11	1
Leather Products	12	neg.	neg.	neg.	neg.	neg.
Rubber Products	13	2	1	4	3	28
Chemicals	14	285	48	239	53	451
Petroleum Products	15	54	6	7	5	4
Non-Metallic Products	16	6,740	14	164	6	69
Ferrous Metal Products	17	-	-	-	-	-
Non-ferrous Metal Products	18	1	5	2,510	22	3
Non-electrical Machinery	19	neg.	neg.	neg.	1,118	neg.
Electrical Machinery	20	neg.	neg.	1	123	7,885
Transport Equipment	21	1	neg.	1	11	2
Miscellaneous Manufactures	22	12	5	18	8	21
Construction	23	520	228	1,851	704	582
Wholesale & Retail Trade	24	53,590	40,677	33,469	129,766	48,905
Transport Services	25	4,180	2,244	4,929	3,869	3,387
Communication	26	8	4	16	1	2
Electricity, gas & water	27	92	67	45	15	34
Banking Insurance & R.E.	28	2,795	2,208	2,492	2,012	3,170
Other services	29	5,044	3,626	3,400	3,501	1,298

		21	22	23	24	25
Agric., Fishing & Forestry	1	19,486	51,685	18,344	9,161	7,
Mining	2	-	-	-	-	-
Food Manufactures	3	245	1,169	172	71	1,
Beverages	4	1	2	1	neg.	
Tobacco Products	5	neg.	1	neg.	neg.	n
Textile Products	6	82	880	4	22	
Footwear	7	20	39	14	59	
Wood Products	8	131	350	764	16	
Furniture & Fixtures	9	4	5	3	1	
Paper Products	10	12	42	26	neg.	
Printed Materials	11	neg.	1	neg.	neg.	
Leather Products	12	neg.	neg.	neg.	neg.	n
Rubber Products	13	132	50	2	2	
Chemicals	14	147	1,236	170	24	
Petroleum Products	15	5	17	8	2	
Non-Metallic Products	16	7	34	179	neg.	
Ferrous Metal Products	17	-	-	-	-	
Non-ferrous Metal Products	18	13	10	10	neg.	
Non-electrical Machinery	19	3	neg.	1	neg.	n
Electrical Machinery	20	169	17	18	1	
Transport Equipment	21	6,498	7	neg.	neg.	
Miscellaneous Manufactures	22	11	2,012	1	1	n
Construction	23	652	1,054	105,075	10	2,
Wholesale & Retail Trade	24	51,325	92,999	7,422	350,765	46,
Transport Services	25	14,885	85,264	3,183	87	216,
Communication	26	6	11	6	neg.	
Electricity, gas & water	27	24	42	22	16	
Insurance & R.E.	28	2,326	4,501	3,744	146	
Other services	29	1,332	2,731	1,044	57	1,

		26	27	28	29
Agriculture, Fishing & Forestry	1	709	1,463	319	21,763
Mining	2	-	-	-	-
Food Manufactures	3	11	70	13	2,364
Beverages	4	neg.	1	neg.	100
Tobacco Products	5	neg.	neg.	neg.	29
Textile Products	6	2	3	1	49
Footwear	7	2	6	4	326
Food Products	8	13	20	2	23
Furniture & Fixtures	9	2	1	9	1
Paper Products	10	2	5	6	6
Printed Materials	11	neg.	19	1	2
Leather Products	12	neg.	neg.	neg.	neg.
Rubber Products	13	2	1	neg.	1
Chemicals	14	7	75	2	41
Petroleum Products	15	3	59	neg.	2
Non-Metallic Products	16	2	4	neg.	9
Non-ferrous Metal Products	17	-	-	-	-
Ferrous Metal Products	18	neg.	neg.	neg.	neg.
Electrical Machinery	19	neg.	neg.	neg.	neg.
Transport Equipment	20	3	1	1	neg.
Miscellaneous Manufactures	21	122	1	neg.	neg.
Construction	22	neg.	1	neg.	1
Wholesale & Retail Trade	23	1,416	1,390	31	1,834
Transport Services	24	2,180	7,186	3,916	1,106
Communication	25	457	2,781	396	1,481
Electricity, gas & water	26	5,801	5	5	7
Insurance & R.E.	27	79	5,679	3	45
Other services	28	2,598	1,582	12,050	831
	29	149	958	45	124,985

TABLE 4*
Estimated Total "Direct" and "Indirect" Manpower Requirements per HH Demand
as of 1961

		Total Jobs ^{1/}	% Direct ^{2/}	% Indirect ^{2/}
Agric., Fishing & Forestry	1 :	3,326,000	96%	4%
Mining	2 :	133,000	0	100
Food Manufactures	3 :	462,000	39	61
Beverages	4 :	71,000	39	61
Tobacco Products	5 :	1,032,000	3	97
Textile Products	6 :	531,000	9	91
Footwear	7 :	332,000	36	64
Wood Products	8 :	768,000	4	96
Furniture & Fixtures	9 :	118,000	21	79
Paper Products	10 :	207,000	2	98
Printed Materials	11 :	126,000	12	88
Leather Products	12 :	254,000	.05	99.95
Rubber Products	13 :	425,000	2	98
Chemicals	14 :	218,000	11	89
Petroleum Products	15 :	84,000	1	99
Non-Metallic Products	16 :	88,000	7	93
Ferrous Metal Products	17 :	65,000	0	100
Non-ferrous Metal Products	18 :	86,000	3	97
Non-electrical Machinery	19 :	155,000	1	99
Electrical Machinery	20 :	91,000	8	92
Transport Equipment	21 :	98,000	6	94
Miscellaneous Manufactures	22 :	244,000	1	99
Construction	23 :	140,000	73	27
Wholesale & Retail Trade	24 :	360,000	97	3
Transport Services	25 :	276,000	78	22
Communication	26 :	14,000	43	57
Electricity, gas & water	27 :	21,000	25	75
Banking Insurance & R.E.	28 :	17,000	71	29
Other services	29 :	155,000	79	21

^{1/} Rounding off to the nearest thousand.

**CHART I. DISTRIBUTION OF SECTORS BY PERCENT INDIRECT MANPOWER REQUIREMENTS
IMPOSED BY HOUSEHOLD DEMAND**



