

# An Analysis of the Industrial Development Strategy for the Philippines

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## Introduction

The determination of strategic industries is an initial but important step for a country to attain the objectives of industrial development. The Filipino government has listed the strategic industries in the Seventh Investment Incentives Plan of 1974 and Export Incentives Plan of 1974. These industries, however, seem to have been selected without any consideration to inter-industrial relations.

When the strategic industries of development are selected and implemented without any consideration given to inter-industrial relations, various problems may ensue:

(1) Any change in production of a strategic industry affects production in other industries via technical inter-relations. Ultimately the repercussions from that change may be felt throughout the economy. When demands for increased production circulate to a sector which is incapable of expanding its production capacity, production of the strategic industry will become dormant.

(2) Although promoting employment is a major objective of the "Four-Year Development Plan"<sup>1)</sup>, strategic industries should not be selected solely on the basis of the number of new job openings that can be made available in the industries concerned; instead the total

amount of new employment that will be created throughout the economy as a whole should be considered.

(3) In an economy dependent on many kinds of imported raw and intermediate materials, a change in production in one sector induces imports to every sector on the production chain. Consequently, when a development plan is implemented without the knowledge of the import requirements by the entire economic chain, trouble may arise from the unexpected insufficiency of foreign exchange.

It is necessary, therefore, to assess the total effects created by the incremental production of the strategic industry, once such industry is chosen. In this paper, the author tries to determine which industries are strategic for the development of the Filipino economy. The criterion employed in this paper for selection is the total effects of production, namely "Induced Value Added Effect," "Induced Wage and Salary Effect," and "Induced Import Effect." These effects have been estimated quantitatively by use of the 1969 Input-Output Table of the Philippines (with 120 subsectors).

### I. Effects of Induced Value Added, Induced Wage and Salary, and Induced Import

The following is a brief explanation of the methodology adopted by the author in measuring the effects as mentioned above.

#### A. Induced Value Added Effect ( $B_j^V$ )

One may measure the induced value added effect of each sector in the economy by a sum of column vector  $\left(\sum_{i=1}^n b_{ij}^V, \text{ to be denoted as } B_j^V\right)$  in the  $B^V$  inverse matrix<sup>2)</sup>.

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1) National Economic and Developing Authority, *Four-Year Developing Plan FY 1974-1977*.

2)  $B^V$  is adopted here as a symbol of an inverse matrix  $\bar{V}[I - (I - \bar{M})A]^{-1}$ , where  $\bar{V}$  is a diagonal matrix of value added ratio ( $V_i/X_i$ ),  $\bar{M}$  is a diagonal matrix of import dependence ratio  $M_i/(\sum_{j=1}^n x_{ij} + Y_i)$ , and  $Y_i$  is the final demand excluding export.

Assuming that there are no bottlenecks in the production chain, increased production in the sectors having higher  $B_j^V$  s will bring greater induced value added. In order to obtain higher domestic value added, therefore, investment in those sectors having high  $B_j^V$  s should be most effective.

### B. Induced Wage and Salary Effect ( $B_j^W$ )

The induced wage and salary effect of each sector in the economy may be measured by a sum of column vector  $\left(\sum_{i=1}^n b_{ij}^W\right)$ , to be denoted as  $B_j^W$  in the  $B^W$  inverse matrix<sup>3)</sup>.

Unemployment is the problem which should be solved as quickly as possible. Since employment and the wage data of each sector on the input-output table of the Philippines were not available at the time of this writing, the induced wage and salary effect, as measured here, does not refer directly to the number of employees, but to the induced amount of payments. If the wage rate in each sector is taken to be constant, a higher value of the  $B_j^W$  implies a larger number of new employment that can be offered.

### C. Induced Import Effect ( $B_j^m$ )

One may measure the induced import effect of each sector in the economy by a sum of column vector  $\left(\sum_{i=1}^n b_{ij}^m\right)$ , to be denoted as  $B_j^m$  in the  $B^m$  inverse matrix<sup>4)</sup>.

Because of the nation's chronic imbalance in the international payments, preference should be given to the development of those industries which will improve the balance of payments, or at least contribute to reducing outstanding debts. Therefore, process industries, requiring large amounts of foreign currency to import capital goods and buy large quantities of raw materials, should not be given full support until the external disequilibrium is eliminated.

The balance of payments can be improved by two methods. Firstly, foreign currencies may be earned through export (export effect). If a unit of product of an industrial sector  $j$  is exported, the export effect equals  $1-B_j^m$ . Thus, the export effect is large in a sector with a small  $B_j^m$ .

Secondly, the balance of payments can be improved by saving foreign currencies by sub-

stituting domestic goods for imported commodities (import substitution effect). The import substitution effect can be represented by the same expression as above,  $1-B_j^m$ . Therefore, the import substitution effect is also large in a sector with a small  $B_j^m$ <sup>5)</sup>.

## II. Strategic Industrial Sectors for Development

This section attempts to determine the industrial sectors which should be given priorities in the Filipino development program.

The industrial sectors which should be given preference are those having a large induced value added effect, a large wage and salary effect and a small induced import effect. Appendix Table I shows magnitudes and rank order of the coefficients associated with the three effects (confined to the manufacturing sector). Seventeen sectors, satisfying the above criteria, are selected as strategic industries (see the listing on page 371).

Suppose that the production of the seventeen designated strategic industries are now hypothetically increased by 10%. By examining its consequences, one should be able to acquire a lucid perspective on the sectoral inter-relations in the economy. An assumption is made here that the total increment will be used solely for exportation<sup>6)</sup>.

5) Import substitution is represented by the following expression:

$$F_j = X_j(1 - B_j^m),$$

where  $X_j$  is an increase of the domestic production of an industrial sector  $j$  through import substitution,  $B_j^m$  is the induced import coefficient of an industrial sector  $j$ , and  $F_j$  is the saving of foreign currencies by import substitution. The low value of  $B_j^m$  is also the first qualification for a strategic industry. However, if the market for an industry's output is small causing production to operate below optimum conditions, then the price will become considerably higher than the imported price of the same product. Under such a circumstance, the higher price will become a burden for the domestic production. In this sense, the import-substituting industry should have an  $X_j$  large enough to enjoy scale economies, enabling the industry to produce its commodities at a price which can compete with the imported price of the same commodities. Thus, import-substitution industries should have promising markets as well as small  $B_j^m$ .

6) Although not considered in this paper, the income elasticity of export demand should be checked so that exports of strategic industries may be

3)  $B^W$  stands for  $\bar{W}[I - (I - \bar{M})A]^{-1}$ , where  $\bar{W}$  is a diagonal matrix of wage ratio ( $W_i/X_i$ ).

4)  $B^m$  stands for  $\bar{M}A[I - (I - \bar{M})A]^{-1}$ .



The following equations in matrix form are used in the calculations:

$$V = B^V[(I - \bar{M})Y + E], \quad W = B^W[(I - \bar{M})Y + E], \quad M = B^m[(I - \bar{M})Y + E]$$

By substituting the assumed exports of the sectors in question (Appendix Table II) into  $E$  of the above equations, the induced value added,

	$B_j^V$	$B_j^W$	$B_j^m$	$m_i$	$E_i/X_i$
	(rank order)			(coefficients)	
1. Meat products (26)	4	2	4	0.044	0.020
2. Sugar milling and refining (29)	5	13	5	0.000	0.533
3. Processed fruit and vegetables (30)	14	21	14	0.103	0.230
4. Processed fish and other sea foods (31)	10	39	10	0.191	0.011
5. Desiccated coconut products (35)	2	12	2	0.000	0.502
6. Tobacco products (39)	6	65	6	0.084	0.055
7. Foot wear (42)	16	10	16	0.011	0.009
8. Other wearing apparels (43)	45	16	45	0.006	0.006
9. Other made-up textile goods (44)	66	48	66	0.103	0.485
10. Lumber (45)	7	34	7	0.001	0.155
11. Plywood and veneer plants (46)	9	30	9	0.001	0.528
12. Other wood, cane and cork products except furniture (47)	11	25	11	0.081	0.220
13. Wood and rattan furniture and fixture (48)	20	6	20	0.004	0.035
14. Pulp, paper and paper-board manufacturing (50)*	38	56	38	0.576	0.016
15. Coconut and other oils and fats (59)	1	11	1	0.217	0.474
16. Soap and other washing and related compounds (64)	36	43	36	0.036	0.015
17. Hydraulic cement (67)	49	41	49	0.017	0.017

(Note) Figures in parenthesis indicate the I-O classification code as displayed in Appendix Table III.

\* Though the employment effect is small in this sector, the following bright prospects are evident:

- 1) expected increase in domestic production in the near future; and 2) probable introduction of the production technique which will produce pulp from broadleaf trees.

estimated. Ten percent of production is regarded as a provisional figure in order to measure the effect of strategic industries.

induced wage and salary and induced import can be secured. The results are shown in Appendix Table III.

In increasing the production of any industry, one must always be alert for the areas where bottlenecks are apt to occur. This study, however, proceeds with the assumption that all the sectors are adequately equipped to handle the augmented production.

#### (a) Induced Value Added Effect

The 10% production increase (669,449 thousand pesos) in these seventeen sectors directly or indirectly creates 612,627 thousand pesos of value added in the whole economy. This induced value added equals 1.78% of the total value added in the whole economy in 1969 (34,362,379 thousand pesos), showing the extent of the influence of the strategic sectors.

Another feature one notices is that this 10% production increase directly affects the value-added level of the primary industry. These supply industries showing the highest rates of induced value added are as follows (refer to Appendix Table III for a complete account):

1. Tobacco (11)	11.3 %
2. Sugar cane (9)	10.5 %
3. Hogs (15)	10.3 %
4. Cattle (14)	8.6 %
5. Leather and leather product (54)	6.8 %
6. Coconut and copra (10)	5.2 %

Therefore, it is mandatory that encouragement should be given to the primary industries in the development program so that the operations of the strategic industries will not be impeded.

#### (b) Employment Creation Effect

As presented in Appendix Table V, the primary industries account for 46.3% of the total induced wage and salary (on monetary basis), whereas the manufacturing industries, which are centered around the strategic industries, account for 37.4%, service groups 15.5%, and other groups 0.7%. These figures once again reflect the strong inter-industrial relationships existing among the sectors.

The hypothetical 10% production increase will next be applied for estimating the number of new jobs made available. For this purpose, per-capita income figures by industry, as reported in Appendix Table IV, have been utilized. In the "Agriculture, fishery, and forestry" sector, for example, the number of new employment opportunities are estimated by dividing induced wage and salary by the average per-capita income; in

this case, the solution of 152,355 persons is obtained by dividing 100,554 (obtained from lines 1 through 21 of Appendix Table III) by 0.660 (Appendix Table IV). If calculated in the same manner, one finds that the economy as a whole could employ additional 220,489 persons with the 10% increment. According to the 1969 employment records<sup>7)</sup>, 812,000 persons were unemployed in the Philippines. Therefore, the assumed 10% increase in strategic industries' production would provide employment for 27.2% of the unemployed population. This example illustrates another great potential which lies in the strategic industries for the creation of new jobs.

### (c) Improvement in the Balance of Payments

The final step is determining to what extent the augmented exportation can contribute to alleviating the chronic imbalance of international payments. The amount of foreign currency which can be earned by these new exports may be expressed as:

$$E - M = F^8),$$

where  $E$  represents the total value of the commodities exported from the strategic industries,  $M$  the cost of induced import needed in all industries in order to produce the export commodities, and  $F$  the net earning of foreign currencies from export.

According to Appendix Tables II and III,  $E$  is equal to 669 million pesos and  $M$  to 57 million pesos. By substituting these figures into the above equation, one finds that 612 million pesos can be earned by a 10% increase in the strategic industries. Since the average deficit in the trade balance up to the year 1975 was 924 million

7) Bureau of the Census and Statistics, Survey of Households.

8) This equation can be rearranged into the following formula using  $B_j^m$ :

$$F = E - M = \sum_{j=1}^{16} E_j(1 - B_j^m),$$

where  $E_j$  is the exports of the strategic sector  $j$ , and  $B_j^m$  is the induced import of the strategic sector  $j$ . Note that sector 1 here refers to industry 26 (Meat products), sector 2 refers to industry 29 (Sugar milling and refining)...sector 16 refers to industry 67 (Hydraulic cement) as shown in Appendix Table I. From the point of the economy as a whole, the net earning of foreign currencies from the export is equal to the total value added generated by the exports in question.

pesos<sup>9)</sup>, the hypothetical exports could have improved the balance of payments by 66%.

### III. Concluding Remarks

The strategic industrial sectors with high development potential have been selected on the basis of their technological inter-relationships. However, one must not overlook the importance of the primary industries whose outputs support the production of the strategic industries. As can be seen by the volume of exportation, primary products play a very important role in the earning of foreign currencies. The first priority in the development of the Filipino economy should be the expansion of industrial production. The exportation of the primary industries, however, will continue to be the main source of foreign currencies until the manufacturing industries can earn enough foreign currencies to sustain the industrial development.

The strategic industrial sectors discussed in the present paper have been determined in terms of the three criteria from the input-output analysis. A further study, especially on the demand side of the economy, should be made before finalizing the list of the strategic industries. Nevertheless, the information obtained from the present study alone has already illustrated where the strength of the Filipino economy may lie in the future.

Finally, policies for industrial development must not be written for the strategic industries alone, but must also consider other factors, especially:

- 1) fiscal and monetary policies - i. e., curbing inflation, justifying the exchange rate.
- 2) policies for increased productivity - i. e., vocational training, technological research, quality control, management training.
- 3) allocation policies - i. e., optimum usage of capital, labor, and natural resources.
- 4) taxation policies - i. e., functional operation of duties and domestic taxation.

These are, however, topics for separate studies.

(The Long-Term Credit Bank of Japan)

9) Central Bank of the Philippines, Statistical Bulletin Dec. 1975. Calculation has been made with the exchange rate of \$1 = 3.9 pesos.



Appendix Table I  $B_j^V$ ,  $B_j^W$ , and  $B_j^m$ , and Ranking by Sector (Manufacturing only)

I-O code No.	Name of Sector	$B_j^V$	Order of Ranking	$B_j^W$	Order of Ranking	$B_j^m$	Order of Ranking
26	Meat products	.972	4	.408	2	.028	4
27	Dairy products	.843	28	.263	51	.157	28
28	Rice milling	.973	3	.488	1	.027	3
29	Sugar milling and refining	.949	5	.358	13	.051	5
30	Processed fruits and vegetables	.914	14	.333	21	.086	14
31	Processed fish and other sea foods	.930	10	.298	39	.070	10
32	Other grain mill products	.774	46	.341	18	.226	46
33	Bakery products	.851	26	.365	9	.149	26
34	Cocoa, chocolate and sugar confectionaries	.891	17	.325	26	.109	17
35	Desiccated coconut products	.974	2	.359	12	.026	2
36	Other manufactured foods	.887	19	.305	37	.113	19
37	Liquors, Wines, brewery and malt products	.891	18	.230	60	.109	18
38	Soft drink and carbonated water	.918	12	.323	27	.082	12
39	Tobacco products	.948	6	.213	65	.052	6
40	Textile and knitting mill products	.737	55	.249	55	.263	55
41	Cordage, twine and other textile products	.917	13	.393	3	.083	13
42	Footwear	.895	16	.365	10	.105	16
43	Other wearing apparels	.783	45	.353	16	.217	45
44	Other made-up textile goods	.656	66	.267	48	.344	66
45	Lumber	.948	7	.307	34	.052	7
46	Plywood and veneer plants	.931	9	.318	30	.069	9
47	Other wood, cane and cork products except furniture	.926	11	.326	25	.074	11
48	Wood and rattan furniture and fixture	.885	20	.380	6	.115	20
49	Metal and other furniture and fixture	.900	15	.337	20	.100	15
50	Pulp, paper and paperboard manufacturing	.808	38	.249	56	.192	38
51	Articles of pulp, paper and paperboard	.742	54	.224	61	.258	54
52	Newspapers, periodicals, books	.787	42	.333	22	.213	42
53	Printing, bookbinding and allied industries	.840	29	.309	33	.160	29
54	Leather and leather products	.879	22	.351	17	.121	22
55	Rubber footwear	.728	58	.265	50	.272	58
56	Tires, tire vulcanizing and recapping services	.770	47	.230	47	.230	47
57	Other rubber and related products	.737	56	.221	62	.263	56
58	Basic industrial chemicals	.787	43	.307	35	.213	43
59	Coconut and other oils and fats	.977	1	.361	11	.023	1
60	Fertilizers and lime	.701	62	.195	66	.299	62
61	Paints, varnishes and related compounds	.784	44	.269	46	.216	44
62	Plastic materials	.827	32	.167	67	.173	32
63	Medicinal and pharmaceutical preparations	.856	24	.317	31	.144	24
64	Soap and other washing and cleaning compounds	.811	36	.280	43	.189	36
65	Other chemical products	.835	30	.284	42	.165	30
66	Petroleum refineries & other petroleum products	.593	67	.096	68	.407	67
67	Hydraulic cement	.752	49	.288	41	.248	49
68	Structural clay and concrete products	.805	39	.298	40	.195	39
69	Other non-metallic mineral product	.810	37	.314	32	.190	37
70	Iron and steel basic industries	.700	63	.259	54	.300	63
71	Iron and steel foundry product	.847	27	.321	28	.153	27
72	Basic non-ferrous metal products	.733	57	.278	44	.267	57
73	Cutlery, handtools and general hardware	.708	61	.269	47	.292	61
74	Fabricated structural metal products	.796	40	.338	19	.204	40
75	Heating apparatus, lighting and plumbing fixtures	.746	51	.239	58	.254	51
76	Other fabricated metal products	.672	65	.263	52	.328	65
77	Tractors and other agricultural machinery and equipment	.745	52	.382	5	.255	52
78	Special industry machinery	.764	48	.332	23	.236	48
79	General industry machinery and equipment except electrical	.748	50	.306	36	.252	50
80	Office computing and accounting machinery	.876	23	.370	8	.124	23
81	Electrical industrial machinery and apparatus	.852	25	.358	14	.148	25
82	Communication equipment except radio and television sets	.721	59	.234	59	.279	59
83	Batteries	.743	53	.330	24	.257	53
84	Electric lamps, fixtures, wires and wiring devices	.714	60	.241	57	.286	60
85	Household electrical appliances	.790	41	.260	53	.210	41
86	Household radio and television receiving sets, phonograph and accessories	.880	21	.319	86	.120	21
87	Miscellaneous electrical machinery and apparatus appliances and supplies	.831	31	.273	45	.169	31
88	Shipbuilding and repairing	.824	33	.379	7	.176	33
89	Motor vehicles, manufactured or assembled engine	.696	64	.267	49	.304	64
90	Repair of motor vehicles	.942	8	.385	4	.058	8
91	Other transport equipment, n. e. c.	.532	68	.217	63	.468	68
92	Miscellaneous manufactures	.823	34	.303	38	.177	34
93	Scrap	.815	35	.355	15	.185	35

Appendix Table III Value Added, Wage &amp; Salary and Import by Sector Induced by Strategic Industries

	(1) Induced value added	(1) Induced wage & salary	(3) Induced import	(4) (1)/ $W_t$	(5) (2)/ $W_t$
001 Palay	321	184	0	0.0%	0.0%
002 Corn	1787	949	37	0.4	0.4
003 Bananas	1494	503	0	0.3	0.3
004 Citrus	13	5	2	0.0	0.0
005 Other fruits and nuts	4101	1146	196	1.3	1.3
006 Vegetables	1301	542	9	0.2	0.2
007 Tubers and rootcrops	3023	1323	23	0.8	0.8
008 Coffee and cacao	577	128	32	0.3	0.3
009 Sugar cane	46868	22961	0	10.5	10.5
010 Coconut and copra	41953	16352	0	5.2	5.2
011 Tobacco (native and virginia)	10951	9732	0	11.3	11.3
012 Abaca and other fiber crops	863	375	0	1.0	1.0
013 Other crops	151	75	532	0.3	0.3
014 Cattle	9789	5161	50	8.6	8.6
015 Hogs	49397	26523	2	10.3	10.3
016 Other livestock	3411	567	29	4.6	4.6
017 Poultry	466	199	6	0.1	0.1
018 Other agricultural activities	2387	1090	0	2.4	2.4
019 Commercial and deep-sea fishing	4976	1955	1	1.2	1.2
020 Fishponds and other fisheries	11613	5026	0	1.4	1.4
021 Forestry and logging	19406	5753	185	1.6	1.6
022 Gold and silver mining	9	9	0	0.0	0.0
023 Copper ore mining	0	0	0	0.0	0.0
024 Other metallic mining	40	15	15	0.1	0.1
025 Non-metallic mining and quarrying	2294	718	9109	1.7	1.7
026 Meat products	26380	6292	273	10.4	10.4
027 Dairy products	55	14	113	0.1	0.1
028 Rice milling	32	3	0	0.0	0.0
029 Sugar milling and refining	42055	11102	0	10.6	10.6
030 Processed fruits and vegetables	10889	4182	59	10.2	10.2
031 Processed fish and other sea foods	15772	3040	61	10.1	10.1
032 Other grain mill products	146	34	54	0.1	0.1
033 Bakery products	47	23	0	0.0	0.0
034 Cocoa, chocolate and sugar confectionaries	12	5	2	0.0	0.0
035 Desiccated coconut products	4210	1424	0	10.3	10.3
036 Other manufactured foods	2656	759	301	0.9	0.9
037 Liquors, Wines, brewery and malt products	163	36	10	0.1	0.1
038 Soft drink and carbonated water	36	12	0	0.0	0.0
039 Tobacco products	78095	8190	1771	11.8	11.8
040 Textile and knitting mill products	9986	3334	16226	2.8	2.8
041 Cordage, twine and other textile products	328	148	173	0.7	0.7
042 Footwear	6093	2613	3	10.2	10.2
043 Other wearing apparel	19295	9683	0	10.0	10.0
044 Other made-up textile goods	10621	4977	375	11.0	11.0
045 Lumber	9667	3116	3	11.6	11.6
046 Plywood and veneer plants	9829	3568	1	10.6	10.6
047 Other wood, cane and cork products except furniture	3328	1281	71	10.9	10.9
048 Wood and rattan furniture and fixture	5535	2600	0	10.0	10.0
049 Metal and other furniture and fixture	23	9	1	0.1	0.1
050 Pulp, paper and paperboard manufacturing	1249	324	3741	2.1	2.1
051 Articles of pulp, paper and paperboard	2111	568	288	2.2	2.2
052 Newspapers, periodicals, books	282	128	181	0.4	0.4
053 Printing, bookbinding and allied industries	1466	544	126	1.5	1.5
054 Leather and leather products	2656	1065	242	6.8	6.8
055 Rubber footwear	232	86	1	0.7	0.7
056 Tires, tire vulcanizing and recapping services	808	188	173	0.8	0.8
057 Other rubber and related products	127	35	165	0.7	0.7
058 Basic industrial chemicals	1046	420	5153	2.5	2.5
059 Coconut and other oils and fats	7334	1855	1932	11.5	11.5
060 Fertilizers and lime	910	215	1101	2.1	2.1

	(1) Induced value added	(2) Induced wage & salary	(3) Induced import	(4) (1)/V <sub>t</sub>	(5) (2)/W <sub>t</sub>
061	300	98	123	0.7%	0.7%
062	643	83	2035	1.9	1.9
063	532	195	393	0.5	0.5
064	9329	2985	17	10.2	10.2
065	1199	385	1408	1.1	1.1
066	5749	448	1076	1.4	1.4
067	8816	4017	5	10.1	10.1
068	73	27	20	0.1	0.1
069	517	207	317	0.5	0.5
070	492	180	1644	0.4	0.4
071	31	11	37	0.1	0.1
072	77	28	258	0.2	0.2
073	23	9	267	0.6	0.6
074	97	44	104	0.1	0.1
075	3	1	10	0.1	0.1
076	1429	580	823	0.9	0.9
077	4	2	52	0.1	0.1
078	5	3	370	0.1	0.1
079	8	4	58	0.0	0.0
080	26	11	71	0.1	0.1
081	5	2	56	0.1	0.1
082	1	0	45	0.0	0.0
083	79	40	19	0.3	0.3
084	47	14	146	0.3	0.3
085	35	11	43	0.1	0.1
086	4	1	2	0.0	0.0
087	1	0	4	0.0	0.0
088	38	19	140	0.2	0.2
089	107	42	307	0.1	0.1
090	316	132	0	0.6	0.6
091	7	3	160	0.1	0.1
092	1107	412	1234	0.8	0.8
093	114	50	0	0.5	0.5
094	2927	998	29	1.1	1.1
095	19	8	0	0.1	0.1
096	591	415	2	1.0	1.0
097	472	234	2	0.0	0.0
098	44739	18212	0	1.4	1.4
099	195	68	0	0.0	0.0
100	7008	2732	6	1.0	1.0
101	83	34	0	0.1	0.1
102	937	344	128	0.2	0.2
103	5305	384	48	0.2	0.2
104	562	519	111	1.9	1.9
105	6634	2159	140	0.9	0.9
106	3206	1090	0	0.8	0.8
107	674	359	420	0.6	0.6
108	1007	459	0	1.0	1.0
109	675	275	0	1.2	1.2
110	1743	1107	60	0.9	0.9
111	73	40	1	0.0	0.0
112	809	377	50	0.2	0.2
113	4984	2913	171	0.6	0.6
114	1209	506	51	1.7	1.7
115	2597	1123	638	1.0	1.0
116	875	261	142	0.3	0.3
117	1408	532	242	0.2	0.2
118	929	329	499	0.4	0.4
119	187	86	8	0.1	0.1
120	0	0	0	0.0	0.0
Total	612,627	218,777	56,821	1.78	1.55



Appendix Table II Assumed Exports by Strategic Industries

I-O code No.	Name of strategic industries <sup>1)</sup>	$X_i^{2)}$	$E_i^{3)}$
26	Meat products	1,317,197	131,720
29	Sugar milling and refining	1,098,228	109,823
30	Processed fruit and vegetables	235,727	23,573
31	Processed fish and other sea foods	411,943	41,194
39	Tobacco products	1,093,929	109,393
35	Desiccated coconut products	108,515	10,852
59	Coconut and other oils and fats	455,543	45,554
64	Soap and other washing and related compounds	248,166	24,817
45	Lumber	237,194	23,719
46	Plywood and veneer plants	225,672	22,567
47	Other wood, cane and cork products except furniture	92,099	9,210
48	Wood and rattan furniture and fixture	97,268	9,727
42	Footwear	146,671	14,667
43	Other wearing apparel	379,512	37,951
44	Other made-up textile goods	318,716	31,872
67	Hydraulic cement	228,099	22,810
	Total	6,694,479	669,449

Source: "Input-output table of the Philippines for 1969."

Note: 1) Except for No. 50, pulp, paper and paperboard manufacturing.

2)  $X_i$  is the gross domestic production of sector  $i$ .

3)  $E_i$  is the assumed export of sector  $i$  ( $E_i$  0.10  $X_i$ ).

Table IV Per Capita Income by Industry

	Wage & salary <sup>1)</sup>	Employed persons <sup>2)</sup>	Per capita income <sup>3)</sup>
Agriculture, fishery and forestry	4,171,861	6,325	0.660
Mining and quarrying	188,853	51	3.703
Manufacturing	2,036,165	1,291	1.577
Electricity, gas and water	142,600	29	4.917
Construction	694,704	349	1.991
Services	6,849,932	3,148	2.176
Total	14,084,115	11,193	1.258

Source: a) Bureau of the Census and Statistics, Survey of Households

b) I-O table of the Philippines for 1969.

Notes: 1) and 3) are in thousand pesos.

2) is in number of thousands.

Table V Induced Employment by Industrial group

	Induced wage <sup>1)</sup>	Per cent	Per capita income <sup>2)</sup>	Induced employment	Per cent
Agriculture, fishery, and forestry	100,554	46.0	0.660	152,355	69.1
Mining and quarrying	742	0.3	3.703	199	0.1
Manufacturing	81,917	37.4	1.577	51,945	23.6
Electricity, gas and water	1,421	0.6	4.917	289	0.1
Construction	234	0.1	1.991	118	0.1
Services	33,909	15.5	2.176	15,583	7.1
Total	218,777	100.0		220,489	100.0

Source: Table III and IV.

Note: 1) and 2) are in thousand pesos.

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