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**PHILIPPINE EXPORT TRADE WITH JAPAN
AND THE UNITED STATES, 1962-1971**

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Romeo M. Bautista and Gwendolyn R. Tecson*

This paper is in two parts. The first part is an examination of recorded bilateral data on Philippine export trade during 1962-1971 with the two dominant trading partners--Japan and the United States, which jointly accounted for about three-quarters of total Philippine export flows. The second part of the paper analyzes the "sources of growth" of principal export commodities and non-principal exports to these two destination markets, applying the familiar constant-market-share (CMS) model of export performance on the alternative data sets.

*Associate Professor and Assistant Professor of Economics, respectively, at the University of the Philippines. A revised version of part of an earlier paper, "Philippine Trade with Japan and the United States: Examination of Recorded Data and Analysis of Export Performance," I.E.D.R. Discussion Paper No. 74-12 (August 12, 1974), this paper improves substantially on the consistency of Japanese import data and extends the analysis to include more recent data. Lucille Mamon has provided valuable and painstaking research assistance. The authors also gratefully acknowledge the financial support of the I.E.D.R.

Examination of Bilateral Export Trade Data

Previous studies on bilateral trade statistics (e.g. Naya and Morgan, 1969) have shown that recordings of commodity-by-country trade flows have discrepancies much larger and of wider variation generally than those for total trade, the underlying reason being that aggregative magnitudes tend to cancel net discrepancies in opposite direction at more disaggregative levels. In examining trade data at very high levels of disaggregation, however, commodity misclassification and different recording definitions used between countries by customs officials or trade statistics compilers become a major source of bilateral trade discrepancies. On the basis of our preliminary investigation, it does not seem advisable to make comparisons of pairwise recordings beyond the 3-digit SITC level.

Dollar f.o.b. values of Philippine export and United States import flows are available in the various issues of the Commodity Trade Statistics (United Nations) and the Foreign Trade Statistics of Asia and the Far East (ECAFE); Japanese imports are however valued on c.i.f. basis. For present purposes, an identical method of valuation of trade flows is desirable in order to eliminate one of the more overt sources of discrepancies between pairwise recordings, that of transport

cost and other service charges. Conversion of c.i.f. data into f.o.b. normally employs a 10 per cent margin. Actual margins, however, have been observed to depart significantly from 10 per cent, the difference tending to vary inversely with the value per unit weight of the traded item (Moneta, 1959). This observation is of particular importance in the present context because of the generally unprocessed and semi-processed nature of Philippine exports. As will be noted in a subsequent section, Philippine exports to Japan are heavily concentrated in SITC no. 2 (Crude materials) for which the average ratio of freight and other related costs to total cost is about 30 per cent.

Actual freight and insurance costs of Philippine exports are reported in the Foreign Trade Statistics of the Philippines published by the National Census and Statistics Office, starting 1967. Such margins are used here to adjust Japanese c.i.f. import data at the 3-digit SITC level into f.o.b. from 1967 to 1971, while for the earlier years for which such data are not available the average for 1967 to 1969 is used. Admittedly, the resulting annual and period totals from 1962-1966 are expected to be slightly overstated because of the generally increasing trend of the f.o.b. - c.i.f. ratio over time. Period aggregates indicate an f.o.b. - c.i.f. ratio of 78 per cent for Philippine exports to Japan.

Philippine export figures to the United States and Japan and their corresponding import in f.o.b. values for the period 1962-1971 are presented in Table 1. A consistent understatement of Philippine recordings relative to those of the United States is evident in the period and annual totals. On the other hand Philippine recorded flows exceeded the Japanese import figures in seven years out of ten. Period totals show the understatement figure representing 13 per cent of the value of Philippine exports to the United States and the overstatement figure 6 per cent of exports to Japan.

Such discrepancies between bilateral recordings are likewise seen from the export ratios presented in the last column of Table 1. Export ratios with the United States are consistently less than one while those of Japan are greater than one except in 1968, 1969, and 1971.

From similar studies a common presupposition has arisen to the effect that corresponding developed country (DC) data are generally closer to the 'true' trade values than LDC trade recordings. While this assumption is probably a safe and reasonable one to take, the above observation (as well as a closer examination of bilateral trade data at a more disaggregative level) suggests that developed country trade statistics

are similarly subject to error and that varying degrees of data reliability may be found to exist among them. This is easily verified from a scatter-diagram of Philippine recorded exports cumulated over 1962 to 1971 of 3-digit SITC commodities valued in excess of one million U.S. dollars and plotted against corresponding Japanese and U.S. import data (cf. Figures 1 and 2). A large number of such points are seen to locate below and above the 45-degree line indicative of exact correspondence in pairwise recordings.

In such cases where presumably DC partner data are also understated, an alternative method of estimating the magnitude of LDC trade flows consists in considering as more accurate the higher value from the two sources at some level of commodity aggregation, in the present case, at the three-digit SITC level. Thus, for every year, $\max(X_{pi}^s, M_{ip}^s)$ is estimated for Philippine exports of any 3-digit commodity s and of country i ($i = \text{United States, Japan}$). Aggregated across commodity groups, maximum trade values of total exports for each year are thus given by $\sum_s \max(X_{pi}^s, M_{ip}^s)$.

These "maximum" value sets, together with the annual and period export and import ratios of partner countries relative to corresponding "maximum" trade values, are presented in

Table 2. Both Philippine and trading partner recordings appear to be understated. Philippine export ratios to Japanese imports were the least understated especially during the first half of the period, diverging by only 1 or 2 percentage points from unity. The U.S. import ratios were thus less understated relative to the maximum trade values than Japanese import ratios.

Rates of growth for the period are expected to differ depending on which of the different sets of estimates of Philippine export flows are used. Maximum trade values of exports to Japan have grown at an average annual rate of 14.03 per cent while partner country data suggest lower growth rates of 12.51 and 5.17 per cent for Japan and the United States respectively. The Philippine data set however indicates a higher growth rate for exports (6.19 per cent) than those recorded in the maximum and U.S. data sets, although exports to the Japan seem to have expanded at a slower rate (13.69 per cent) than what maximum trade values would suggest, though somewhat faster than that indicated by Japanese import data.

Disaggregative Comparisons

The high commodity concentration of Philippine export trade, a well-known characteristic shared with most other LDCs,

is confirmed from an examination of trade patterns by major commodity groups. In Table 3 SITC 0,2, and 4 are seen to contribute about 80 per cent of total exports to the United States for the period. On the other hand, crude materials alone (SITC 2) account for 91 to 94 per cent of total exports to Japan (depending on which data set is used) indicating an even heavier product concentration in the latter case.

The previously stated hypothesis that there is a wide dispersion in commodity group recordings that disappears in the aggregation process is established by the export ratios computed for the major commodity groups (cf. Table 4). Over-recording of Philippine exports for the period is apparent for SITC 2,3,4 and 5 for the United States and for SITC 1,2,3,4 and 6 in the case of Japan. This is further confirmed by the ratios using maximum values as reference which show an understatement of partner country data in the above-mentioned commodity groups.

Average annual rates of increase over 1962 to 1971 in export trade flows of the dominant 1-digit SITC groups implied by the three alternative data sets suggest that food exports (SITC 0) to Japan have apparently grown faster than what maximum and Philippine data would suggest, but whose growth has been

overstated by the latter set of exports to the United States. On the other hand, maximum values register higher growth rates in crude material exports (SITC 2) to both trading partners. (cf. Table 5).

The existence of discrepancies in bilateral trade recordings of Philippine trade flows having been established, the next step is to allocate such observed aggregate discrepancies into finer commodity categories. At the 3-digit SITC level, Philippine exports to Japan over the period have been overstated by \$254.1 million and understated by \$9.8 million; the overstatement figure of exports relative to U.S. import data is much less, \$73.7 million, as against an understatement figure of \$548.6 million. (cf. Table 6). It is thus important to undertake an examination of such discrepancies at a more disaggregative level in order to be able to identify the export groups responsible for most of the overall divergence.

The principal sources of understatement and overstatement at the 2- and 3-digit SITC levels are presented in Tables 7 and 8, respectively. A high degree of concentration is again evident from the fact that the ten commodities chosen for their discrepancy figures account from 88 to as much as 99 per cent of total under-recording (over-recording) of Philippine exports to each country.

On the other side, SITC 06 (Sugar, sugar preparations and honey) SITC 27 (Crude fertilizers and crude minerals) and SITC 93 (Special transactions) are seen to contribute 70.65 per cent to the total understatement of export flows to Japan, which at the 3-digit level are accounted for by 061 (Sugar and honey), 276 (Other crude minerals) and 931 (Special transactions). On the other hand, under-recording of Philippine exports to the United States during the period is principally attributable to SITC 84 (Clothing) and 06 (Sugar, sugar preparations and honey) whose percentage shares of total understatement are 58.97 and 22.92 per cent respectively. Again, as in Japan, such large discrepancies can be traced to only two 3-digit SITC groups, namely 841 (Clothing, except fur clothing), and 061 (Sugar and honey).

As noted earlier, overstatement of Philippine data in export trade with Japan is concentrated in the crude materials commodity group (SITC 2) which explains why only two export groups belonging to the 2-digit SITC classification, namely SITC 24 (Wood, lumber and cork), and 28 (Metalliferous ores and metal scraps) are jointly responsible for 85 per cent of total overstatement. At the 3-digit level one can trace this to SITC 242 (Wood in the rough or roughly squared), SITC 283

(Ores and concentrates of non-ferrous base metals), 281 (Iron ore and concentrates), and 241 (Fuel wood and charcoal). Although overstatement is relatively insignificant compared with the magnitude of apparent under-reporting of exports to the United States, nevertheless we find substantial overstatement in SITC 33 (Petroleum and petroleum products) and SITC 24 (Wood, lumber and cork) and SITC 28 (Metalliferous ores and metal scrap) which on the 3-digit level are accounted for by SITC 332 (Petroleum products), and SITC 242 and 243 (Wood in the rough or roughly squared, and wood, shaped or simply worked, respectively), and 283 (Ores and concentrates of non-ferrous base metal).

Constant-market-share analysis of export growth

The constant-market-share model, so called because of its underlying assumption, decomposes the total change in a country's exports over a given period into (i) the change that would have occurred had the country maintained a constant market share of destination imports, and (ii) the change due to an increase or decrease in the country's export share. The first source of growth is commonly referred to as the "expansion effect" and the second as the "residual effect" (being the difference between actual exports and the hypothetical export

level had a constant market share been maintained).

Let a country's export value of commodity k to a destination market in the base year be denoted by S_{ko} . Defining further S_{ko} as the share of the country's exports of k to total imports M_{ko}^T of the destination market in the base period, we may write

$$(1) \quad X_{ko} = S_{ko} M_{ko}^T$$

Over a period of n years, the change in the country's exports of k to the partner country is given by:

$$(2) \quad \Delta X_k = X_{kn} - X_{ko} = S_{kn} M_{kn}^T - S_{ko} M_{ko}^T$$

$$= S_{ko} (M_{kn}^T - M_{ko}^T) + (S_{kn} - S_{ko}) M_{ko}^T + (S_{kn} - S_{ko}) (M_{kn}^T - M_{ko}^T)$$

$$= S_{ko} \Delta M_k^T + \Delta S_k (M_{ko}^T + \Delta M_k^T)$$

The first term in the R.H.S. represents the change in exports due to the expansion of the destination country's imports, based on a constant-share norm (expansion effect); the other term is attributable to the change in the exporting country's share of the destination market (residual effect). From eq. (2), one can identify two components of the residual effect: (1) the "market

share effect", representing the product of the change in share and the base period export value; and (2) the "interaction effect" (also called the "sequence-of-calculation effect") which is attributable to the simultaneous changes in market share and value of destination country imports during the period.

Although no more than accounting relationships are involved in the CMS framework as presented above, constant-share growth has been derived elsewhere¹ as a descriptive model of export performance from assumptions, admittedly rather strong, of product heterogeneity among different export sources, constant relative product prices and unchanging homothetic preferences of the importing country among the alternative product varieties.

Thus the decomposition of export growth into the various "effects" has entailed some subsequent inferences, sometimes unwarranted, relating to the explanation of a country's export performance. For instance, the expansion effect has been attributed largely to exogenous forces outside the control of the exporting country, e.g., growth of income in the destination market, relative price changes involving substitutes and complements, and income and price elasticities of demand. The residual effect, on the other

¹The interested reader is referred to Ooms (1967) and Richardson (1971).

hand, is usually associated with the endogenous or supply forces internal to the focus country, which is perhaps why it has been termed alternatively as the "competitiveness effect". Factors such as the production level, domestic demand, export pricing, etc. are assumed to determine the residual effect. In such categorization the role of economic policy gets confined to the enlargement of the residual effect for export expansion.

We shall not discuss here the merits and deficiencies of such interpretation of the components of the overall change in a particular country's exports to a particular destination market.² It suffices to point out that the arithmetical decomposition does not say anything on how the components should be causally interpreted. But one is of course free to use the CMS framework as a point of departure in the identification of possible influences on a country's export growth. In what follows we examine the pattern of Philippine export trade with Japan and the United States at both the aggregative and disaggregative levels using the CMS model simply to distinguish rather than explain magnitudes of the expansion, share and interaction effects suggested by Philippine export data, corresponding partner country import statistics and

²cf. Baerresen et al. (1965), pp. 70-71.

the "maximum" values as discussed earlier.

Assuming constant annual rates of change in export share and destination market imports, the following relationship may be obtained from eqs. (1) and (2):

$$(3) \quad x = m + s(1 + nm)$$

where x , m and s denote the annual growth rates over n years of commodity k exports of the focus country, total k imports of the destination market and the country's export share, respectively. The overall export growth rate (x) is therefore divided into the growth rate of destination market (m), the growth rate of the exporting country's share (s) and a resitern involving interaction between m and s . Notice that the interaction term becomes smaller as n decreases and will vanish entirely when instantaneous growth rate (involving time derivatives) are used.

In the present study we make use of annual trade data to obtain average annual growth rates during 1962-1971. This contrasts with the usual practice of looking only at beginning and ending year values (or moving averages over a few years) and computing export changes, in absolute or percentage terms,

during the entire period. Apart from being more vulnerable to the possibility of using extreme values that may not be representative

of the actual growth of exports during the period, the latter procedure would entail, as should be evident from the foregoing discussion, higher values of the interaction term which is the most difficult to interpret among the three terms in the R.H.S. of eq. (3).

Table 9 presents the overall growth rates of Philippine exports decomposed into the expansion, market share and interaction effects. These are given for total exports, principal exports and non-principal exports, utilizing the three alternative sets of data (Philippine, partner country and maximum figures).

We have already noted the apparent overstatement of the growth rate of total exports to the United States suggested by Philippine statistics and its understatement by both Philippine and Japanese data sets when compared to the growth rate of maximum values. These are confirmed in the table, which also shows that our export trade with Japan has been increasing at an overall rate more than twice that with the United States. And yet, the Japanese import market is seen to have an edge in the expansion effect of only three percentage points over the U.S. market. Apparently, the greater decline in market share in the United States accounts for the relatively poorer performance of Philippine exports

to this country in the 1960s. By contrast the share effect in exports to Japan is positive (using maximum values, though slightly negative using Philippine and partner country recordings), the expansion effect dominating the observed overall growth rate of slightly over 14 per cent. The interaction term, negative with respect to either partner country, is observed to be less important than the market share effect on exports to the United States but more significant in the case of Japan.

The "principal exports" consisting here of export commodities which have appeared in the ten principal exports list of the Central Bank in any year from 1962 to 1971 have contributed roughly 80 per cent of total Philippine export earnings from Japan and the United States during the period, the Philippines having supplied around 20 per cent of total imports of these commodities by the two countries. The Japanese market for these commodities has expanded more than twice the U.S. market. The Philippine share in either market has decreased (except for a .09 share effect in Philippine-recorded exports to the U.S.) which, noting the relative insignificance of the interaction effect, made the overall growth rate of principal exports commensurately lower than the CMS growth rate.

A slight overstatement in the overall growth rate of principal exports to Japan and to the United States are implied from Philippine data in comparison with corresponding partner country and "maximum" values.

The expansion effects on Philippine "non-principal" exports induced by the growth of markets in Japan and the United States are seen to be roughly of the same order of magnitude. A marked difference characterizes the market share effect, however. The share of "non-principal" exports to the U.S. have virtually stagnated in terms of market shares, in contrast with the marked rise in share of 5 to 10 percentage points in the Japanese market. The overall effects have been an average annual rise in Philippine non-principal exports to Japan of more than 20 per cent (based on either Philippine or partner country data) and an increase of any where between 7.4 and 9.9 per cent annually (depending on which of the three data sets is used) in exports of such commodities to the United States. Partner country recordings likewise appear to underestimate the overall growth of non-principal exports to the United States, while this is true of maximum values in Japan.

As a summary observation from Table 9, it can be stated that the slower growth of Philippine exports to the United States

is partly due to the concentration in the relatively slow-growing principal commodities, while in the case of Japan a significant portion of the remarkable export performance of the Philippines rides the crest of a rapidly expanding Japanese market for these principal products, in spite of some loss of foothold in terms of market shares. Moreover, Philippine exports to the United States has also suffered a slight deterioration or at least one stagnation in the market share in both principal and non-principal commodities; in the case of exports to Japan, the expansion effect of non-principal exports has been re-enforced by no mean gains in market share.

Growth components of individual principal exports

Tables 10 and 11 present the magnitudes of the various sources of export growth during 1962-1971 to Japan and the United States, respectively, in the principal commodities as computed from annual data in the bilateral trade recordings as well as from the "maximum" trade flow estimates. These major exports products are ranked according to their contribution total Philippine exports to each partner country. Also shown in the table are the percentage shares of Philippine exports to the partner countries to the latter's total imports of the different

commodities.

Significant understatement of overall growth rates based on Philippine data relative to those suggested by trade partner and/or "maximum" values are observed for the following commodities: copra, molasses desiccated coconut, and canned pineapples in export trade to Japan, and veneer in the case of U.S. exports. On the other hand, there is an apparent overestimation in the computed export growth rates for copper concentrates and lumber in Japan trade and for copper concentrates, and copra meal/cake to the United States.

Such discrepancies notwithstanding, it is possible to distinguish the rapidly growing export commodities from those exhibiting sluggish, if not negative, growth. Of the nine principal exports to Japan listed in Table 10, three (logs, iron ores, and abaca) have average annual growth rates below 10 per cent. The remaining export commodities have benefited immensely from very large expansion effects and market share effects as well. The extremely high rates of increase in both market shares and overall growth rate exhibited by desiccated coconut and lumber are worth noting; the latter case may have entailed a substitution from logs which suffered from a decline in share in the 1960s.

Among the principal export commodities to the United States shown in Table 11, relatively high overall growth rates are seen for coconut oil, copper concentrates and copra meal/cake. The first two products mentioned account for slightly less than 20 per cent of Philippine export earnings from U.S. trade while the third has a minimal share of less than 1%. However, the value of exports of the most dominant commodity (Sugar), contributing 41 per cent, is observed to have expanded at a conservative rate of 5-8 per cent during the period because of a modest expansion of the import market, coupled with some growth in share. Important products showing declining market shares are plywood and desiccated coconut. Together, these factors account for the relatively slower growth performance of total exports to the United States compared with those of Japan. Copra meal/cake has increased substantially its market share, but its contribution of less than 1% to total exports to the United States is too small to affect greatly the overall performance.

TABLE 1

Philippine Export Trade with the United States and Japan, 1962-71
(f.o.b. value in thousand U.S. dollars)

Country	Year	Exports to country (S_{pi})	Imports from country (M_{ip})	Difference ($X_{pi} - M_{ip}$)	Export Ratio X_{pi}/M_{ip}
United States	1962	279,479	321,284	(41,805)	0.870
	1963	327,078	344,068	(16,990)	0.951
	1964	353,314	396,493	(43,179)	0.891
	1965	347,990	369,058	(21,068)	0.943
	1966	332,421	397,616	(65,191)	0.936
	1967	351,622	380,505	(28,883)	0.924
	1968	355,836	335,147	(79,311)	0.818
	1969	321,258	322,552	(101,294)	0.760
	1970	440,297	474,845	(34,548)	0.927
	1971	450,285	452,926	(42,641)	0.913
	1962-71	3,559,584	4,034,494	(474,910)	0.882
Japan	1962	136,608	127,675	8,933	1.070
	1963	196,614	160,858	35,756	1.222
	1964	187,585	159,238	28,347	1.178
	1965	216,669	181,235	35,434	1.196
	1966	278,568	232,922	45,646	1.196
	1967	277,835	270,707	7,128	1.026
	1968	283,158	288,678	(5,520)	0.981
	1969	336,932	342,426	(5,494)	0.984
	1970	418,536	392,849	25,687	1.065
	1971	397,212	410,763	(13,551)	0.967
	1962-71	2,729,717	2,567,351	162,366	1.063

Source of basic data: United Nations, Commodity Trade Statistics
National Census and Statistics Office, Foreign Trade
Statistics of the Philippines.

TABLE 2

"Maximum" Export Values $X_{\max}$ and Ratios of
 X_{pi} and M_{ip} to $X_{\max}$, 1962-1971

Country	Year	(f.o.b. value in thousand U.S.\$)	Export Ratios	Import Ratios
United States	1962	332,292	.841	.967
	1963	369,753	.885	.931
	1964	406,521	.869	.975
	1965	391,162	.890	.943
	1966	412,420	.806	.964
	1967	403,298	.872	.943
	1968	442,267	.805	.934
	1969	427,051	.752	.989
	1970	500,454	.880	.949
	1971	517,858	.870	.958
	1962-1971	4,203,076	.847	.960
Japan	1962	138,257	.988	.923
	1963	198,203	.992	.812
	1964	190,201	.986	.837
	1965	219,362	.988	.826
	1966	286,269	.973	.814
	1967	290,800	.955	.931
	1968	298,292	.949	.968
	1969	355,584	.948	.963
	1970	431,941	.969	.909
	1971	426,658	.931	.963
	1962-1971	2,835,567	.963	.905

TABLE 3

Distribution of Total Philippine Exports by Major Commodity Group, 1962-71
(in per cent)

SITC No.	Phil. Export to the U.S. (X_{us})	U.S. Imports from the Phil. (M_{usp})	Phil. Exports to Japan (X_{jp})	Japan Imports from the Phil. (M_{jp})
0 Food & live animals	49.13	46.86	4.69	6.16
1 Beverages & tobacco	1.69	1.54	0.04	.04
2 Crude Minerals	21.82	18.77	93.67	91.36
3 Mineral fuels	0.70	0	0.62	.26
4 Animal & veg. oils	15.71	13.80	0.06	.05
5 Chemicals	0.17	0.10	0.42	.47
6 Manufactured goods classified chiefly by materials	9.99	9.62	0.42	.34
7 Machinery & transport	.03	0.03	0	.13
8 Miscellaneous manufactured articles	.70	8.73	0.08	.11
9 Commodities & transactions not classified according to kind	.06	0.57	0.01	1.08
TOTAL	100.00	100.00	100.00	100.00

TABLE 4

Export and Import Ratios by Major Commodity Group

Country	STC No.			
United States	0	.925	.914	.988
	1	.970	.923	.952
	2	1.026	.943	.920
	3	889.643	1.000	.001
	4	1.005	.962	.958
	5	1.537	.934	.607
	6	.917	.877	.957
	7	.911	.518	.569
	8	.071	.070	.986
	9	.085	.084	.992
	TOTAL	.882	.847	.960
Japan	0	.810	.790	.975
	1	1.192	.903	.758
	2	1.090	.987	.905
	3	2.530	.998	.394
	4	1.256	.874	.696
	5	.934	.869	.930
	6	1.312	.775	.591
	7	.003	.003	.998
	8	.795	.572	.719
	9	.006	.006	.997
	TOTAL	1.063	.963	.905

**Average Annual Growth Rates of Selected Philippine
Export-Trade Flows by Major Commodity Group, 1962-1971**

		(in per cent)		Based On:	
Trade Flow	SITC No.	Philippine Data	Trade Partner Data	"Maximum" Values	
Exports to:					
Japan	0	24.38	24.61	23.83	
	2	13.20	13.45	14.84	
U.S.	0	8.08	5.52	5.28	
	2	.46	- 0.03	0.95	

TABLE 6

Relative Understatement and Overstatement of Philippine
Export Data by Major Commodity Group, 1962-71

SITC No.	Exports to	Understatement		Overstatement	
		\$ Thousand	Per cent	\$ Thousand	Per cent
0	Japan	31,346	34.16	1,295	.51
	U.S.	150,038	27.35	8,363	11.34
1	Japan	8	.01	205	.08
	U.S.	7	.38	227	.31
2	Japan	23,255	25.34	234,481	92.27
	U.S.	5,867	1.07	25,290	34.30
3	Japan	7	.01	10,244	4.03
	U.S.	0	0	24,885	33.75
4	Japan	222	.24	540	.21
	U.S.	0	0	2,613	3.54
5	Japan	988	1.08	189	.07
	U.S.	18	0	2,188	2.97
6	Japan	3,406	3.71	6,123	2.41
	U.S.	38,288	6.98	5,972	8.10
7	Japan	3,372	3.67	-	-
	U.S.	901	.16	796	1.08
8	Japan	1,618	1.76	1,046	.41
	U.S.	330,301	60.20	3,404	4.62
9	Japan	27,534	30.01	-	-
	U.S.	21,137	3.85	0	0
TOTAL	Japan	9,756	100.00	254,122	100.00
	U.S.	548,647	100.00	73,738	100.00

TABLE 7a

Ten Principal Sources of Relative Understatement of Philippine

Export Data at the 2-Digit Level, 1962-71

Export Data at the 2-Digit Level, 1962-71

1962-1971, Inc.

SITC No.	Commodity Description	\$ Thousand	Per cent
I. Export to Japan			
05	Fruits & vegetables	3,130	3.41
06	Sugar, sugar preparations		
	& honey	28,112	30.64
24	Wood, lumber, & cork	4,087	4.45
26	Textile fibers & their waste	3,742	4.08
27	Crude fertilizers & crude minerals	9,211	10.04
28	Metalliferous ores	5,462	5.95
65	Textile yarns, fabrics & made-up articles	12,132	2.32
66	Non-metallic mineral manufactures, n.e.s.	1,054	1.15
73	Transport equipment	3,017	3.29
93	Special transaction	27,499	29.97
	TOTAL	87,446	95.30
II. Exports to the United States			
05	Fruit & vegetables	22,065	4.02
06	Sugar, sugar prep. & honey	125,723	22.92
26	Textile fibers & their waste	3,340	.61
63	Wood & cork manufactures	22,234	4.05
65	Textile yarns, fabrics & made-up articles	9,550	1.74
67	Iron & steel	3,344	.61
84	Clothing	323,544	58.97
89	Miscellaneous manufactures n.e.s.	4,673	.85
93	Special transactions	17,210	3.14
95	War firearms & ammunition	3,756	.68
	TOTAL	535,439	97.59

TABLE 7b

Ten Principal Sources of Relative Overstatement of Philippine
Export Data at the 2-Digit Level, 1962-1971

SITC No.	Commodity Description	\$ Thousand	Per cent
I. Exports to Japan			
03	Fish & fish preparations	1,178	.46
22	Oil seeds, oil nuts, & oil	7,756	3.05
24	Wood, lumber & cork	118,554	46.65
26	Textile fibers, & their waste	7,731	3.04
28	Metalliferous ores & metal scrap	99,634	39.21
29	Crude animal & vegetable materials, n.e.s.	707	.28
33	Petroleum & petroleum products	10,244	4.03
63	Wood & cork manufactures	1,095	.43
68	Non-ferrous metals	4,774	1.88
83	Travel goods, hand bags & similar articles	587	.23
	TOTAL	252,260	99.26
II. Exports to the United States			
08	Feeding stuff for animals	6,048	8.20
09	Margarine & shortening	1,347	1.83
24	Wood, lumber, & cork	12,344	16.74
28	Metalliferous ores & metal scrap	12,258	16.62
33	Petroleum & petroleum products	24,885	33.75
42	Vegetable oils and fats	2,611	3.54
51	Chemical elements & compounds	1,196	1.62
67	Iron & Steel	3,142	4.26
68	Non-ferrous metals	1,326	1.80
89	Miscellaneous manufactures, n.e.s.	2,518	3.41
	TOTAL	67,675	91.77

TABLE 8a

Ten Principal Sources of Relative Understatement of Philippine
Export Data at the 3-Digit Level, 1962-1971

SITC No.	Commodity Description	\$ Thousand	Per cent
I. Exports to Japan			
061	Fruits, fresh and nuts	28,112	30.64
053	Sugar and honey	11,960	12.14
243	Wood in the rough or roughly squared	4,087	4.45
264	Jute	3,678	4.01
274	Sulphur, iron pyrites, unroasted	2,687	2.93
276	Other crude minerals	6,487	7.07
284	Non-ferrous metal scrap	5,377	5.86
656	Made-up articles of textile materials	1,831	2.00
735	Ships and boats	2,392	2.61
931	Special transactions	27,499	29.97
TOTAL		84,110	91.68

II. Exports to the United States

051	Fruit, fresh, and nuts	4,118	7.75
053	Fruit, preserved and fruit preparations	17,933	3.27
061	Sugar and honey	125,723	22.92
631	Veneers, plywood boards, etc.	19,675	3.59
655	Special textile fabrics	5,311	1.97
656	Made-up articles of textile materials	3,912	.71
674	Iron, steel plate, sheet, etc.	3,329	.61
841	Clothing	323,474	58.96
931	Special transactions	17,210	3.14
951	War firearms and ammunition	3,756	.68
TOTAL		524,441	95.60

TABLE 8b

Ten Principal Sources of Relative Overstatement of Philippine
Export Data at the 3-Digit Level, 1962-1971

SITC No.	Commodity Description	\$ Thousand	Per cent
I. Export to Japan			
031	Fish, fresh, simply preserved	1,130	88.44
221	Oil seeds, oil nuts and oil kernels	7,756	13.05
241	Fuel Wood and charcoal	7,061	2.78
242	Wood in the rough or roughly squared	111,493	43.87
265	Vegetable fibres except cotton and jute	7,656	3.01
281	Iron ore and concentrates	40,389	15.89
283	Ores and concentrates of non-ferrous		
	base metal	58,228	22.91
285	Silver and platinum ores	1,017	.40
332	Petroleum products	10,244	4.03
682	Copper concentrates	4,571	1.80
	TOTAL	249,545	98.18
II. Export to the United States			
081	Feeding stuff for animals	6,048	8.20
099	Food preparation, n.e.s.	1,295	1.76
242	Wood in the rough or roughly squared	6,092	8.26
243	Wood shaped or simply worked	6,252	8.48
283	Ores & concentrates of non-ferrous		
	base metal	11,731	15.91
332	Petroleum products	24,885	33.75
422	Other fixed vegetable oils	2,611	3.54
672	Iron, steel ingots, etc.	3,142	4.26
681	Silver, platinum, etc.	1,326	1.80
894	Perambulators, toy, sporting goods	1,519	2.06
	TOTAL	64,901	88.02

TABLE 9

Components of Annual Growth Rates of Philippine
Exports, 1962-1971 (in per cent)

	Expansion effect	Share effect	Interaction effect	Overall growth
Total exports				
X _{pj}	15.16	-1.06	.41	13.69
M _{jp}	15.16	-.01	-2.64	12.51
Max _{pj}	15.16	5.07	-6.20	14.03
X _{pus}	12.30	-4.93	-1.18	6.19
M _{usp}	12.30	-6.24	-.89	5.17
Max _{pus}	12.30	-5.95	-1.06	5.29
Principal exports				
X _{pl}	18.01	-3.90	-.83	13.28
M _{jp}	18.01	-5.01	-1.32	11.68
Max _{pj}	18.01	-8.22	3.36	13.15
X _{pus}	7.10	.09	-1.26	5.93
M _{usp}	7.10	1.43	-.89	4.78
Max _{pus}	7.10	-1.62	-.16	5.32
Non-principal exports				
X _{pj}	14.69	5.60	1.56	21.85
M _{jp}	14.69	10.39	.99	26.07
Max _{pj}	14.69	9.73	-6.93	17.49
X _{pus}	12.67	-1.13	-2.83	8.71
M _{usp}	12.67	.68	-4.60	7.39
Max _{pus}	12.67	.75	-3.43	9.99

TABLE 10

CMS Performance of Principal Exports to Japan, 1962-1971
(in per cent)

SITC No.	Commodity description	Share of Philippine export to Japan	Share of total Japanese imports from the World	Expansion effect	Share effect	Interaction effect	Overall growth
242	Logs X M J P Max	56.12	32.67	19.26	-8.39 -9.61 -8.48	-1.91 -1.78 -1.84	8.96 7.87 8.94
2831	Copper concentrates X M J P Max	24.60	36.84	20.76	9.74 5.54 9.60	29.65 18.86 29.57	29.65 18.86 29.57
2813	Iron ores X M J P Max	4.87	4.86	17.28	-12.49 -10.47 -12.45	-2.01 -1.97 -4.02	2.78 4.84 -.81
2212	Cocoa X M J P Max	2.87	44.30	8.02	16.13 22.43 16.34	3.71 5.79 3.02	27.86 36.24 27.38
0615	Molasses X M J P Max	2.64	30.56	13.03	1.48 8.40 8.40	-.51 -.62 -.62	14.00 20.81 20.81

CMS Performance of Principal Exports to the United States, 1962-1971
(in per cent)

STC No.	Commodity description	Share of total exports to the U.S.	Share of U.S. imports	Expansion effect	Share effect	Interaction effect	Overall growth
061, 2	Sugar (refined & centrifugal)	41.21	25.43	5.52	4.02 4.86 .95	-.88 -4.95 -1.19	18.66 5.43 5.28
	X _{pus} M _{usp} Max						
4223	Cocconut oil	15.40	100.00	16.40	-.22 .01 -1.37	-.27 .00 .64	15.91 16.41 15.67
	X _{pus} M _{usp} Max						
2212	Copra	12.51	100.00	-1.39	6.41 .14 1.62	-4.90 -.02 -1.99	.12 -1.27 -1.76
	X _{pus} M _{usp} Max						
6312	Plywood	5.98	13.44	12.73	-1.53 -3.49 -2.88	-3.94 -1.30 -2.22	7.26 7.94 7.63
	X _{pus} M _{usp} Max						
0517	Dessicated coconut	4.21	19.29	7.48	-3.83 -2.74 -2.54	2.68 2.63 1.84	6.33 7.37 6.78
	X _{pus} M _{usp} Max						

Table 11: CMS Performance of . . .

2831	Copper Concentrates	4.22	57.95	19.59	19.69 -3.29 4.56	-8.44 -10.96 -6.86	30.84 5.34 17.29
	X _{pus} M _{usp} Max						
6311	Veneer	2.48	19.81	5.54	-2.55 2.23 1.95	1.41 1.97 1.99	4.40 9.74 9.48
	X _{pus} M _{usp} Max						
2655	Abaca (unmanufactured)	1.95	88.28	-4.35	.83 - .61 .22	- .54 .25 - .35	-4.06 -4.71 -4.48
	X _{pus} M _{usp} Max						
243	Lumber	1.23	.99	11.05	-10.19 -10.40 9.28	-2.80 -1.53 -2.29	-1.94 - .88 - .52
	X _{pus} M _{usp} Max						
0813	Copra meal/cake	.31	3.04	2.85	106.87 38.41 106.91	-69.40 -34.59 -69.14	40.32 6.67 40.32
	X _{pus} M _{usp} Max						
242	Logs	.27	3.17	-1.39	6.41 .14 1.62	-4.90 - .02 -1.99	.12 -1.27 -1.76
	X _{pus} M _{usp} Max						

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