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Statistician*



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## THE PHILIPPINE STATISTICIAN

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## THE ANNUAL CONFERENCE

The Association held its Fourth Annual Conference on February 25, 1956, at the Philippine Columbian Clubhouse, during which abstracts of the papers prepared by Members were read and discussed. Four of the papers are published in full in this issue of the Journal. The other papers will be published in subsequent issues.

Written commentaries or discussion of the papers is invited; it is thus that doubts may be cleared, and in general, progress may be achieved, towards the development of sound theory and effective practice. Comments and discussions will be published, with the replies of the authors concerned.

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### AT LONG LAST

After years of effort on the part of the Philippine Statistical Association and others interested in the development of statistics, the Office of Statistical Coordination and Standards was organized recently under the National Economic Council.

Appointed to head the new organization were Mr. Bernardino G. Bantegui as Director, and Mr. Burton T. Oñate as Assistant Director. Mr. Bantegui was formerly the Director of the Plans and Program Department of the ACCFA; Mr. Oñate is a Professorial Lecturer in the Statistical Center of the University of the Philippines.

There is very reason for hoping that under their guidance and direction the Office of Statistical Coordination and Standards will be a success.

Congratulations are in order.



# THE BANDUNG SEMINAR

*By*

ENRIQUE T. VIRATA \*

## *Introduction*

The United Nations Seminar on Population in Asia and the Far East was held at Bandung, Indonesia, from 21 November to 3 December, 1955. It was intended to provide an opportunity for governments in the area to exchange points of view on national and regional population problems, and it was hoped that it would contribute towards the development of sound population policies in the region.

The government of Indonesia provided the host facilities for the Seminar and the participants included government representatives and fellowship holders from Burma, Ceylon, India, Indonesia, Japan, Laos, Pakistan, the Philippines, Singapore, Thailand and Viet Nam, and observers from the Food and Agriculture Organization, the International Labor Organization, the World Health Organization, the International Social Science Council, the United Nations and its specialized agencies, the Population Council, and the World Veterans Federation. The International Social Science Council cooperated with the United Nations in this Seminar by contributing working papers, a library, the services of a discussion leader, and special fellowships for attendance at the Seminar. The United Nations appointed Mr. P. K. Whelpton Chairman of the Seminar and also engaged the services of several discussion leaders.

The Seminar was officially opened at the residence of the Governor of West Java on Monday, November 21, 1955, at 10:00 a.m. The speakers were: H. E. Soedibio, Minister of Social Affairs; H. E. Dr. Sumitro Djojohadikusumo, Minister of Finance; Mr. Ansgar Rosenberg, Resident Representative in Indonesia of the United Nations Technical Assistance Board; Mr. George Kuriyan, Representative of the International Social Science Council; and finally Mr. Pascal K. Whelpton, Director of the Seminar.

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\* Executive Vice-President, University of the Philippines.

The number of persons who participated in the Seminar is as follows:

Directorate .....	3
Discussion Leaders .....	9
Government representatives .....	23
Fellows .....	14
Representatives and experts of the UN, its specialized agencies and of the International Social Science Council .....	10
Representatives of other Organizations .....	2
Observers .....	42
<b>Total .....</b>	<b>103</b>

Each government representative was requested to prepare an individual statement on population problems. A national statement was prepared in collaboration with the other delegates.

#### *Work of the Seminar*

The substantive part of the work of the Seminar is described in a summary of recommendations and conclusions drafted by a committee composed of Prof. Kuriyan of India, Mr. Kuroda of Japan, Mr. R. Prasad of India, Dr. Mochtar of Indonesia, Mr. R. M. Sundrum of Burma, Mr. Wu of the ECAFE, Mr. Whelpton who was the Director of the Seminar, and myself. Mr. Durand of the United Nations was Chairman of this committee.

The conclusions and recommendations are found in Appendix A and the main topics are:

1. Prospects for future population growth
2. Labor supply
3. Consumption and housing
4. Public health
5. Agricultural development
6. Education and social welfare
7. Industrialization
8. Community development
9. Capital formation and investment

## THE BANDUNG SEMINAR

10. Programmes designed to affect the distribution of population
11. Programmes designed to affect population growth
12. Need for improvement of demographic statistics and extension of demographic research
13. Demographic training available in the region
14. Demographic research
15. Intra-regional and international cooperation in demographic training and research

The Program of the sessions of the Seminar, the list of participants, the list of the Chairman, Discussion Leader and Secretary for each session of the Seminar, the list of working papers used for purposes of reference, and the National Statement of the Philippines are found in Appendices B, C, D, E, and F.\*

Philippine participation in the discussion of these topics when they were taken up in the Seminar was divided among the Filipino delegates as follows:

Mr. E. T. Tavanlar — Programmes designed to affect the distribution of population. He read a paper entitled "Population Redistribution and Settlement," and his reporting was excellent.

Miss M. Concepcion — Social Welfare, Community development, Consumption and Housing, and Distribution of Population.

Dr. V. Valenzuela — Public Health, Need for Improvement of Demographic Statistics and Demographic Research.

For myself, I reported on Industrialization, Education, Demographic Training and Research, Prospects for Future Population Growth and Labor Supply. I also read the following:

### *Condensed Summary of Our National Statement*

The population of the Philippines in 1948, according to the National Census of that year, was nineteen and a quarter

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\* Those interested in the subject matter of appendices A, B, C, D, E, and F may obtain mimeograph copies from the Statistical Center, University of the Philippines—Editor.

of a million. At the rate of increase of about 20 per 1,000 per year, it is estimated that the Philippines now has a population of twenty-one and three quarters of a million. It is expected that this growth will be maintained for the next several years and that the population will therefore be doubled in about 35 years. These are but minimal estimates, inasmuch as the general improvement of health conditions, increasing fertility rates, and decreasing mortality rates due to effective control of diseases were not considered in these estimates. It is believed that, even if the population is doubled within the next 35 years, no food problem would arise as the country is fortunate enough to have a reserve of uncultivated land highly suitable for agricultural purposes and sufficient to provide a food supply for more than double its present population at the present level of consumption. Our country's population problem arises rather from the government's desire to raise the living standards and the welfare of a great portion of the people, especially those belonging to the lower income levels and who are settled in rural areas. The government is trying to evolve an economic development program aimed at increasing levels of production and, consequently, at raising standards of living and at relieving the unsatisfactory unemployment situation.

Very little demographic work is undertaken in the country today. This situation will not improve unless trained and competent personnel can be attracted to devote themselves to such studies. Another factor hindering the development of research work is the absence of reliable and comprehensive data because of the unsystematic and unintegrated collection of statistics by different government agencies. The recent establishment of additional service units for the collection of statistical information, among which are the Division of Economic Research of the Central Bank which gathers economic data, and the Division of Agricultural Economics of the Department of Agriculture and Natural Resources which collects agricultural statistics, tends to increase rather than diminish our statistical troubles. However, through the efforts of the Philippine Statistical Association, legislation was enacted so that an Office of Statistical Coordination and Standards was set up in the



## THE BANDUNG SEMINAR

National Economic Council. Its main functions are to serve as liaison between statistical entities and as a central point to which organizations, private, governmental or international, can address inquiries or from which they can ask for assistance on statistical questions.

At present, unlike that of the period prior to the grant of independence to the Philippines, there is no emigration of people. The population movements consist of the transfer of people from the more densely populated areas to the unoccupied areas suitable to agriculture. The population movements are to a great extent undertaken by private initiative of individual families, although the government has established several agricultural settlements in the southern islands of the country. There is no available data on the extent of this internal migration.

The characteristics of the Philippine population mentioned above are in close conformity with the results of the findings of the Population Division of the Department of Social Affairs of the United Nations, as published in their summary report entitled, "Population Growth and the Standard of Living in Under-Developed Countries." The rate of increase of 20 per 1,000 per year is rather high although not as high as those reported by other countries in the Far East. The death rate is decreasing due to improved sanitary conditions and a more effective control of epidemic diseases by proper public health measures. The ratio of the population under 15 years of age to the population between 15 to 60 years of age is about 7:10. This of course makes the educational expenditure of the country rather heavy. More than 30% of the National Government revenues is allocated for public education and 87% of the population of between 6-1/2 — 14 years of age are in schools. The average amount of land in crops per person is estimated at 2/3 of an acre instead of 1/4 to 1/8 as given in the Report.

From the conclusions drawn in the above-mentioned Report, one cannot help but be impressed by the enormity of the tasks which the present rulers of the under-developed countries have to perform if they are to succeed in improving, even by a moderate degree, the standards of living of their people. The origin of these problems may be found in the events of the past two centuries and the degree of success which will

be attained in their solution will constitute the severest measure of our capacity to govern ourselves adequately and well.

### *Observations*

The Seminar was a success because the objectives were more than fulfilled. The planning was thorough and the direction excellent. The housing arrangements for the delegates were the best the city could provide and their official needs were well taken care of. The delegates got to know each other fairly well and the discussions were cordial. The problems of each country were fully explained and the regional needs were adequately brought out.

The Philippine delegates learned a great deal about the present status of statistical services and demographic needs of each country. My impression is that outside of India and Japan, the Philippines is better off than most of the countries of the region as far as statistical training is concerned. The Philippines, therefore, should be in a position to offer some positive assistance in this field. We are, however, just as deficient as they are in demographic training and research.

All the countries around us are engaged in the stupendous task of improving the general welfare of the people by education, industrialization, and good public administration. With regard to these matters, I feel that the Philippines is in a better position than those who have just been freed from colonial rule. Our great advantage is that we have had more preparation for self-government than most of the people around us.

The Philippines should immediately train qualified persons for demographic studies and research. They will be very useful for the different departments and agencies in helping formulate the plans for the economic development, industrialization, education, public health, community development, housing, and redistribution and resettlement programs — all of which constitute the major problems of the Philippines today. We have in the University of the Philippines the facilities for the basic training of these persons, and the proposed regional demographic center for the Far Eastern countries could provide the advanced stages of this training.

# THE ACCFA FINANCING PROGRAM FOR THE COCONUT INDUSTRY

By

BERNARDINO G. BANTEGUI \*

The ACCFA financing program for the coconut industry, a bold move by the government to help an industry, has been conceived in response to urgent demands from various sectors of the economy for a down-to-earth means of providing solutions to the problems besetting the coconut industry. The over-all program was predicated upon the circumstances obtaining in the industry upon which 6 to 8 million people depend for a living. Let us take a brief look into the conditions in the industry.

## ROLE OF THE INDUSTRY IN THE PHILIPPINE ECONOMY

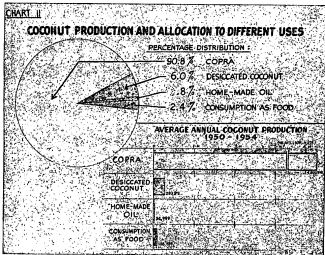
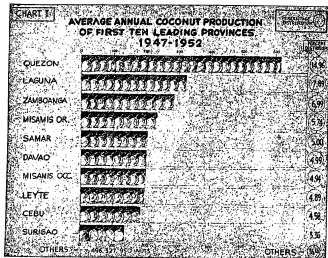
### *Number and Status of Farms and Producers*

*Coconut farms.* From the total area of farms devoted to coconut culture, one can draw ideas about the significance of the industry to the Philippine economy. Of the actual area under cultivation in the country in 1948, measuring some 3,712 thousand hectares, 755 thousand hectares or 20.3 per cent of the total is made up of coconut farms. These are made up of a total of 233,086 farms whose weighted average size is 4.6 hectares.

*Landholdings and sharing systems.* With respect to tenure, 75.2 per cent of the farms are run by full-owners, 5.8 per cent, by part-owners, and the remaining 19 per cent, by tenants, shareholders and the like. Of the total produce (copra) of a coconut farm in Quezon province, the largest coconut producing province in the country, two-thirds is retained by the landowner and the other third, by the tenant. In Laguna, where tenants receive cash and other payments, only 1/6 is given to the tenant.

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\* Director, Plans and Programs Department, ACCFA. The author has recently been appointed Director, Office of Statistical Coordination and Standards, National Economic Council.— *Editor.*



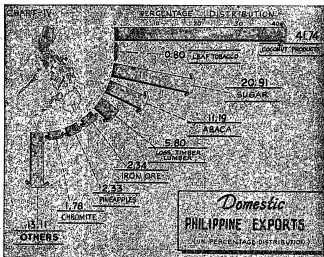
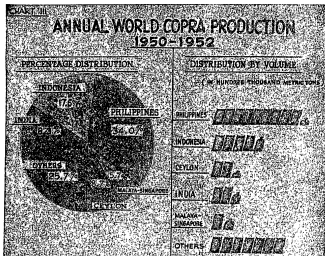
*Production*

*Coconut production.* In 1954 a total of 990,000 hectares was planted to coconuts. The total nut production during the period reached almost 5 billion valued at about 200 million pesos. Increased total land area devoted to coconuts is foreseeable with the country's numerous idle areas still available for conversion into coconut plantations.

All provinces in the country are coconut producers (Chart 1.) Quezon province tops the list with an average production totalling some 610.7 million nuts, constituting 14.96 per cent of the total average for the Philippines. The province of Laguna ranks second with an average of 322.1 million nuts, or 7.89 per cent of the total. Zamboanga province occupies the third place with its average production of 285.5 million nuts, or 6.99 per cent of the total. The succeeding positions, up to the tenth, have Misamis Oriental, followed by Samar, then Davao, Misamis Occidental, Leyte, and Cebu; with Surigao making the tenth position.

*Copra production* (Chart 2). Four principal products of the coconut, namely copra, desiccated coconut, home-made oil, and consumption as food item, constitute the main products about the production of which the whole industry depends. Of these, copra occupies a preponderant position—it utilized 90.8 per cent of the total nut production in the country; desiccated coconut, a poor second, used up only 6.0 per cent; for consumption as food item, the third, utilized 2.4 per cent; and home-made oil, the last, used only 0.8 per cent.

As a copra producer, the Philippines occupies the leading position among the world's copra producing countries (Chart 3). On a three-year average, Philippines showed an average of 927.8 thousand metric tons, representing 34.0 per cent of the world's total. Indonesia's average production, representing 17.6 per cent of the total world's production, or one-half of the Philippines' qualified it to second position. The third position goes to Ceylon whose average production constituted 8.7 per cent of the total world production. India and Malaya-Singapore make the fourth and fifth places, respectively: India producing 8.3 per cent of the total and Malaya-



## ACCFA FINANCING PROGRAM FOR THE COCONUT INDUSTRY

Singapore 5.7 per cent. The remaining 25.7 per cent, 8.3 per cent less than the Philippine total, constitutes the aggregate production of more than 17 other countries.

*Production in relation to total agricultural production.* With respect to volume of agricultural production, that of coconut production cannot be overlooked. Of the total production of 8,988,110 metric tons, preliminary estimate for agricultural production in the country for 1954, 12.9 per cent, or 1,156,828 metric tons, is made up of coconut products.

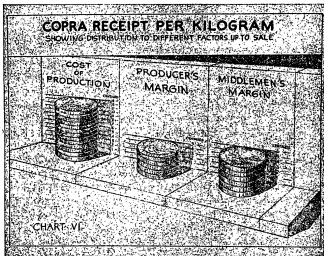
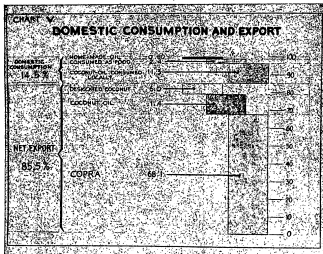
### *Internal and External Trade*

The industry has developed into one catering principally to demands existent in foreign markets. Accordingly, only a small fraction of the total coconut production finds its way into domestic consumption channels.

*Foreign trade* (Chart 4). For the period 1950-1954 it is evident why the industry has been dubbed "premier dollar producer". Of the total average amount of dollars produced yearly from the country's domestic exports for the period, 41.74 per cent was made up by coconut products. Sugar, the second dollar producer, comprised only 20.91 per cent of the total, or less than half of coconut products.

The relative position of Philippine copra in world exports of vegetable oil is not a bad one—it constitutes an average of 19.5 per cent for the four-year period 1950-1953. However, such position for Philippine copra exports slowly deteriorated from 22.9 per cent in 1950 to 17.4 per cent in 1953.

Further deterioration of the country's relative position in the world's exports of vegetable oils can reasonably be anticipated. Other coconut producing countries are slowly but surely reconstituting their pre-war coconut industries and are expected to swell the ranks of Philippine copra competitors. Furthermore, the impact of the pound sterling devaluation, which had been mitigated by the occurrence of Korean War, works to the disadvantage of the Philippine position, by way of lower priced copra from the sterling bloc, now that the Korean hostilities have been terminated.





## ACCFA FINANCING PROGRAM FOR THE COCONUT INDUSTRY

The problems of foreign trade have been further complicated starting January 1, 1956, when Philippine articles, including copra, entering the United States are subject to increasing duties, until full duties are levied by 1974. In the case of coconut oil, the tariff-free quota will be reduced progressively, so that by 1974 full duties shall likewise be paid on this commodity entering the United States.

*Domestic consumption* (Chart 5). The role of coconut products in domestic consumption is not so colorful as that in foreign trade. Only 14.5 per cent of the total production was consumed locally; the greater portion, 85.5 per cent, to exports. Per capita consumption of the Filipinos amounts to 7.2 kilograms.

Comparatively, present fats and oil consumption of Filipinos is placed at a level 25 per cent below that of the Americans, the Japanese, or the Danes. In view of the underconsumption of fats and oil by Filipinos, nutritionists recommend that the people eat at least the equivalent of half a coconut daily.

### CURRENT ECONOMIC PROBLEMS OF THE INDUSTRY

#### *Problems of Production: Economic*

*Production cost.* There is existing high production cost in copra making. This circumstance accounts for one of the two reasons that have spelled low receipt for the producer. For an insight into this unfavorable feature of the industry, the following data are very enlightening:

#### Copra Production Cost<sup>1</sup> (On a per kilogram basis)

1. Raw material procurement:	
a. Coconut (4.5 nuts for a kg. of Copra .....	P0.045 <sup>2</sup>
b. Harvesting .....	0.014
c. Gathering and piling ....	0.009
d. Husking .....	0.018
e. Transporting and handling	0.005 <sup>3</sup> P0.091
2. Processing .....	0.034
Total .....	<u>P0.125</u> or P0.13

Improved technology, along with better organization, should prove a good solution to the problem.

*Receipts of producers* (Chart 6). Copra producers, owing to a defective system, receive less than what they should for their productive endeavors. As indicated in the chart, the producer received only P0.05 per kilogram of copra, or less than one-fourth of the total of P0.24 for the period considered. The remaining P0.19 having been channeled to the middleman and to production cost—P0.13 to production cost and P0.06 to middleman. Insofar as production is concerned, low receipt stifles the incentive of the producer to produce more and better quality product.

*Credit facilities.* Among the features of the industry sadly neglected by the government is the matter about adequate credit facilities to minister to the credit needs of the small producers. These producers, owing to their low income, are perennially in need of funds to meet personal as well as industrial requirements. The absence, if not the lack of credit institutions, has disposed these helpless constituents of the industry to the bedeviling operations of loan sharks and shrewd middlemen.

#### *Problems of Production: Physical*

*Low Productivity* (Chart 7). Among the limiting factors to production is the low productive capacity of the Philippine coconut palm. This is evident in the chart which indicates the native palm only half as productive as those grown in other countries. On the one hand, while the average annual yield per tree of coconuts in the country is placed at 25 to 45 nuts, those in other countries produce an average of 45 to 60 nuts. Moreover, there are cases in other countries where coconut groves produce an average annual yield of 100 nuts to the palm. Essentially, this means a coconut farmer in the country receives only half as much as his counterpart in other countries. Based on census figures, the yield per hectare varies from 3,500 to 5,500 nuts.

*Pests and diseases.* There are a number of known pests of the coconut. These include the black beetle (*Rhinoceros oryctes*) that clears the way for red beetle infestation; the palm weevil

## ACCCA FINANCING PROGRAM FOR THE COCONUT INDUSTRY

(*Rhynchoporus ferrugineus*) that eats up the soft heart of the tree and causes it to die and the leaf-miner (*Prometheca comingii*) that feeds extensively upon the veins of the leaflets causing these to dry up.

Among the known diseases are included the "bud rot" which causes the yellowing and wilting of the youngest folded leaves; the "leaf spot" (*Pestulazzia palmarum*) and "stem bleeding."

But of the pests and diseases already named, none confronts the industry with such significance as the mysterious scourge of the Philippine coconut palm called "kadang-kadang". Its serious impact on the industry stems from the fact that its cause or causes have remained a mystery despite continued researches to identify the culprit. In Bicol provinces alone, an estimated total of 6 million coconut trees were either destroyed or killed by the "kadang-kadang."

*Typhoons.* Another limitation to production exists in the frequent typhoon visitations. This weather condition invariably leaves in its wake destruction to unprotected coconut trees.

### *Problems of Marketing and Prices*

*Marketing set-up.* The marketing set-up in the industry is one defective system that cries out for much needed reform—an inefficient organization that has contributed immensely to the impoverishment of the producer. It consists of well-worn circuitous channels connecting the producers to the consumers that is lorded over by alien middlemen.

Alien middlemen at present control the marketing of copra. The *modus operandi* of these middlemen, by and large, assumes greater significance by their role in serving as financiers. They advance cash, rice, cloth, or other commodities to the producers for which they require no collateral whatsoever, but the promise of the producers to deliver their produce to them (middlemen). In such commitments, the matter of price usually rests with the middlemen who stipulate this below that existing in the free market. Moreover, from the value of the copra delivered he usually deducts as much as P3.00 per 100 kilos, supposedly on the ground that the copra is of poor quality.

CHART VII

**PRODUCTIVITY OF PHILIPPINE COCONUT TREES  
COMPARED WITH  
COCONUT TREES GROWN IN OTHER COUNTRIES**  
(AVERAGE YIELD PER TREE)

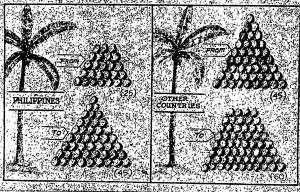
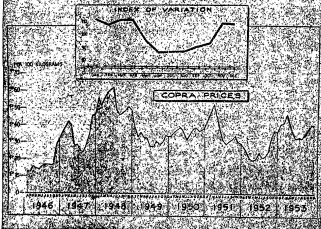


CHART VIII

**COPRA PRICES**  
1946 — 1953



## ACCFA FINANCING PROGRAM FOR THE COCONUT INDUSTRY

*Copra prices* (Chart 8). The highly erratic behaviour of copra prices which can be gleaned in the chart has its unfavorable effect on production. Because of the ever-changing pattern of movement of copra prices, whose amplitude is varied as its course, producers find great difficulty in organizing their productive resources on an effective basis. Consequently, heavy concentration in productive activity occurs during times of good prices; otherwise, when unfavorable prices exist.

*Quality of copra.* Another serious problem confronting the industry is that arising from the production of sub-standard quality copra. In a list of world copra producers (Yearbook of Food and Agricultural Statistics, United Nations, 1954), the Philippines ranked 35th of a total of 36 countries. This infers that the Philippines is one of the two countries producing the worst kind of copra in the world.

The widespread use of crude and inefficient *tapanan* method of production is to some extent responsible for the poor quality of local copra. Then also, there is the widespread utilization of unripe nuts for copra-making which results in inferior products. Furthermore, the pernicious practice among middlemen to deduct so much amount from the producers' receipts on the allegation that the quality of copra is poor, whether said allegation is justified or not, has disposed the producers to a nonchalant attitude about improving quality of their products.

### THE PROGRAM

Aware of the importance of the coconut industry to the Philippine economy and of the current problems confronting the industry, the ACCFA has prepared the following program of financing for the coconut industry.

#### *General Objectives*

The following are the general objectives which this program will attempt to achieve:

- First:* To effect the organization of cooperatives among small coconut farmers in order to increase their productive capacity through coordinated efforts to

improve techniques of production, storage, and processing.

*Second:* To extend liberal credit to small coconut farmers to enable them to meet production expenses, increase and diversify their production, and acquire essential tools of production at minimum cost, thereby releasing them from the clutches of usurers.

*Third:* To establish an orderly system of marketing the products of coconut farmers, thereby obtaining optimum income from marketing operations.

*Fourth:* To stimulate greater local utilization and consumption of copra and other coconut products, with a view towards reducing dependence on foreign markets and increasing domestic markets by establishing strong economic foundation for subsequent development and industrialization of coconut products.

#### *Specific Objectives*

To implement the above general objectives, the ACCFA proposes to accomplish the following during the first year of the program:

*First:* To organize 119 cooperatives including more than 53,000 coconut farmers.

*Second:* To finance the production and subsistence credit needs of 53,000 small farmers.

*Third:* To finance the construction and installation of storage and processing facilities for copra and other coconut by-products for 85 cooperatives.

*Fourth:* To extend commodity loans to 53,000 farmer-members of cooperatives to enable the farmers to establish an orderly marketing system.

ACCFA FINANCING PROGRAM FOR THE COCONUT INDUSTRY

POSSIBLE AREAS (PROVINCES) OF COPRA FACOMA ORGANIZATION, SHOWING POSSIBLE MEMBERSHIP DURING FISCAL YEAR 1955-56, AND ESTIMATED POSSIBLE COPRA PRODUCTION DELIVERABLE TO FACOMA WAREHOUSES YEARLY

<i>Region and Province</i>	<i>No. of FaCoMas that may be Organized, By 1955-56</i>	<i>Membership Possibilities</i>	<i>Copra Deliverable Yearly (kgs.)</i>
<i>Southern Tagalog Region</i>			
1. Batangas .....	3	1,000	1,600,000
2. Laguna .....	8	2,100	4,250,000
3. Quezon .....	24	9,350	18,550,000
4. Marinduque .....	3	1,600	1,850,000
5. Mindoro Oriental ..	4	1,100	2,100,000
<i>Bicol Region</i>			
1. Albay .....	5	2,800	2,450,000
2. Camarines Sur ....	6	2,750	2,900,000
3. Camarines Norte ..	3	900	650,000
4. Catanduanes .....	2	700	300,000
5. Masbate .....	5	2,500	2,850,000
6. Sorsogon .....	7	2,500	3,640,000
<i>Eastern Visayas Region</i>			
1. Leyte .....	5	4,300	2,500,000
2. Samar .....	5	3,100	2,950,000
<i>Mindanao Region</i>			
1. Davao .....	9	3,000	6,175,000
2. Zamboanga del Sur	3	1,700	3,700,000
3. Zamboanga del Norte	3	2,100	2,150,000
4. Misamis Occidental	5	2,360	3,000,000
5. Misamis Oriental ..	5	1,450	2,150,000
<i>Other Possible Provinces</i>			
1. Bohol .....	3	2,000	2,000,000
2. Capiz .....	2	1,000	1,500,000
3. Cotabato .....	2	1,000	1,000,000
4. Negros Oriental ...	3	2,000	1,500,000
5. Surigao .....	4	2,000	4,000,000
<b>TOTALS .....</b>	<b>119</b>	<b>53,310</b>	<b>73,765,000</b>

*General ACCFA Policies*

Before entering into the discussion of the nature and scope of the ACCFA program for coconut cooperatives, it would be well to consider briefly the general policies of the ACCFA concerning cooperatives development and financing operations.

First, the ACCFA is concerned only with *small farmers*, who are defined by Sec. 12(b) of Republic Act No. 821 as "an individual person who exclusively uses the labor available from within his immediate farm household in the cultivation of his holdings and/or one who owns agricultural land of not more than twenty-four (24) hectares and engages directly in its cultivation and resides in the municipality where the farm is located." Hence tenants, full or part owners of land who work their land and live on their farms are eligible. The large-scale farm operator is excluded from the ACCFA program. These latter are assumed to have sufficient property to use as collateral for loans that may be obtained from RFC or PNB.

Second, the ACCFA will grant loans for production and farm improvement only to members of cooperatives. Non-members, however, may be granted commodity loans on produce deposited by them in the warehouse cooperative.

Thirdly, only producers of agricultural commodities such as grains, livestock, poultry, fish and the like are covered by the ACCFA financing.

*Types of Loans Extended by the ACCFA*

The types of loans extended by ACCFA are production (crop), farm improvement, commodity, facility, and merchandising loans.

1. *Production (crop) Loans* are loans extended to farmers to meet their production expenses such as land preparation, seeds, subsistence, pesticides and other similar expenses. The rate of interest is 7% per annum. The duration of this loan varies from one crop to another.

2. *Farm Improvement Loans* are loans to farmers to enable them to increase and diversify their production. These



## ACCFA FINANCING PROGRAM FOR THE COCONUT INDUSTRY

loans are intended for the purchase of work animals, farm implement and equipment such as plows, harrows, pumps, sprayers and the like. The rate of interest is 7% per annum. In general the maturity of farm improvement, or its time of payment, does not go beyond the useful life of the improvement.

3. *Commodity Loans* are loans extended to farmers against commodities deposited by them in the FaCoMa warehouse. They are intended to make funds available at low interest rates to tide farmers over until they can sell their produce at the best prices obtainable through cooperative marketing. The rate of interest is 6% per annum. These loans are extended in amounts not exceeding 80% of the prevailing local market price of the commodity deposited, renewable every 3 months.

4. *Facility Loans* are loans extended to FaCoMas to enable them to acquire warehouses, rice mills and other fixed facilities as well as for tractors, trucks, crop driers and others.

5. *Merchandising Loans* are loans extended to FaCoMas to enable them to purchase palay and other commodities for marketing purposes and to procure commodities needed by members. The interest is 7% per annum. Length of loan is 1 year.

For the first year of the program, the ACCFA has programmed the organization of cooperatives in 119 municipalities with total copra production of all farmers estimated at approximately 147.53 metric tons per year.

First in the list of target areas for the organization of coconut cooperatives is the Quezon-Laguna coconut region. About 32 cooperatives with an aggregate membership of 11,450 members are proposed to be organized in the region. Twenty-four cooperatives will be organized in Quezon and 8 in Laguna.

Bicol coconut region is next in priority. Twenty-three cooperatives with an aggregate membership of 10,550 members are likewise scheduled to be organized in the area. In this region Sorsogon leads with 7 cooperatives, Camarines second with 6, Albay and Masbate third with 5 each.

In Eastern Visayas a total of 13 cooperatives with a total membership of 9,400 members will be organized. Leyte and Samar will have 5 coconut cooperatives each while Bohol will have 3. Three cooperatives with an estimated membership of 2,000 are scheduled to be organized in Negros Oriental while 2 cooperatives with about 1,000 members will be organized in Capiz.

The provinces of Misamis Oriental and Occidental will have 10 cooperatives with an aggregate membership of 3,810 members. People of Surigao will see the organization of 4 cooperatives with an estimated membership of 2,000 farmers. Nine cooperatives with a total membership of 3,000 will be organized in Davao. In the provinces of Zamboanga del Norte and Sur 6 cooperatives with an aggregate membership of 3,800 will be organized.

It is expected that only one-third of the coconut farmers in each municipality can be immediately organized, and that only 50% of the production of these prospective members can be pledged under existing sharing systems and practices. The total copra that can, therefore, be financed for the first year is estimated at 73,765,000 kilograms valued at ₱11,802,400 (based on ₱0.16 per kilo).

A summary of the financing program is as follows: (See chart 9)

<i>Types of Loans</i>	<i>No. of Farmers (Coop) Involved</i>	<i>Per Capita (Coops) Loans</i>	<i>Estimated Outlay</i>
Production (Crop) ...	32,000	₱ 150	₱ 1,200,000 <sup>3</sup>
Farm Improvement ...	10,000	250	2,500,000
Commodity and Mer- chandising Loans .	(85)	65,000	5,500,000
Facility .....	(85)	(35,000)	3,000,000
<b>T o t a l . . . .</b>	<b>53,000<sup>4</sup></b> <b>(85)</b>	<b>—</b>	<b>₱12,200,00</b>

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### *Procedural Aspects of Lending Operations*

The proposed particular procedure for each type of loan is as follows:

*Production Loans* to coconut farmers shall be granted as follows:

- (a) Production loans will be given only to farmers who have coconut trees that are already bearing.
- (b) Subsistence loans shall be granted at the rate of P25 per family per month, not exceeding P75 per quarter.
- (c) Fertilizer loans shall be granted at the rate of P0.50 per tree, but not exceeding P60 per quarter.
- (d) The maximum area to be financed shall not exceed five hectares.
- (e) For purposes of computing the loan value of each applicant for production loan, the price of P16 per hundred kilograms of copra shall be used.
- (f) The production loan to be granted for copra shall not exceed 50% of the value (computed at P16 per hundred kilograms of copra) of the copra for one year as per marketing agreement and shall be released quarterly according to a yearly budgeted farm program.
- (g) The entire production loan shall be payable in four equal instalments (three months apart) within a period of one year from the date of first release.
- (h) The ACCFA Board of Governors may authorize the Administrator to extend the quarterly amortization whenever the occasion so warrants, but not exceeding one year.

*Farm Improvement Loans* to coconut farmers shall be granted as follows:

- (a) The amount of farm improvement loan that may be extended to any applicant shall not exceed 60% of the value of the members' annual marketable surplus (or total marketing pledge per annum) *minus* the amount

applied for or granted as production loan computed on a yearly basis (i.e., production loan per quarter multiplied by four <sup>4</sup>).

- (b) The farm improvement loan shall be granted only if the above residual (i.e., loan value of his pledged crop minus production loan) is sufficient to cover an amortization including interest on the farm improvement loan.
- (c) The farm improvement loan for carabaos shall be payable within three years and shall be amortized quarterly; and for other improvements, such as simple tillage equipment, shall be payable in one year.

*Commodity Loans* will be granted to members of coconut cooperatives from funds advanced by ACCFA to these cooperatives, against warehouse receipts, to the extent of 80% of the market value of the stored copra at the time the loan is granted. Commodity loans mature in 90 days, i.e., every quarter.

*Merchandising Loans* will be granted to coconut cooperatives to enable such cooperatives to purchase any produce, other than copra and other coconut, of member-farmers for which the cooperative concerned has a ready or established market and to procure commodities needed by the members.

This type of loan shall mature in one year, renewable at the option of the ACCFA Board of Governors, at 7% interest per annum.

*Facility loans*: To enable coconut cooperatives to own and operate storage and processing facilities, which are necessary for operations preparatory to marketing or in actual marketing of produce, the ACCFA will grant long-term facility loans to the cooperatives. These facilities include buying-station warehouses, terminal port warehouses, copra driers similar to the "de Vapor" driers developed by PHILCOA, trucks, and other equipment.

All loans granted on facilities shall be paid in annual installments at an interest rate not exceeding 8 per cent per annum as follows:

## ACCFA FINANCING PROGRAM FOR THE COCONUT INDUSTRY

- (1) On permanent or fixed facilities (such as warehouses), not more than ten annual installments.
- (2) On semi-permanent facilities (such as driers) not more than five annual installments.
- (3) On movable facilities (such as trucks), from three to five annual installments.

### *Marketing Operations*

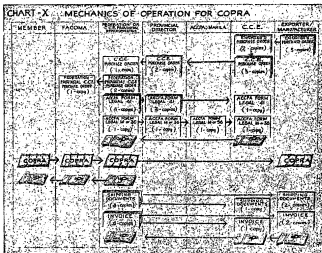
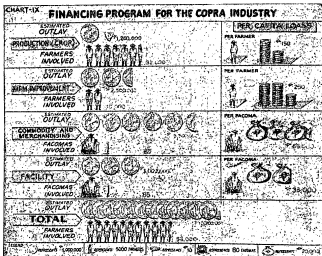
The marketing of copra through the copra cooperatives has been proposed to be developed according to the following steps: (Chart 10)

- (1) The central Cooperative Exchange will enter into a suitable marketing agreement with exporters and manufacturers, in order to supply periodic requirements of the latter for copra and other coconut products. The classification of copra, price, mode of shipment, storage, quality control and other marketing aspects shall be included in this agreement.

Standard operating procedures regarding the placing of orders with CCE shall likewise be adopted for the purpose of specifying the periodic requirements of exporters and manufacturers with respect to grade or class, quantity, price and date of delivery of copra and other coconut products.

- (2) Upon receipt of a purchase order from an exporter/manufacturer; the CCE shall immediately advise the Federation of copra cooperatives (or the CCE Provincial Representative, in the absence of a Federation) in the province concerned regarding such order; and shall specify the grade or class, quantity, price ex-bodega Federation, and date of delivery of copra.
- (3) To facilitate the procurement of copra, a check covering the amount of copra to be procured by the Federation will be forwarded by the CCE to the Federation, through the Provincial Director.

The Provincial Director shall release the check to the Federation upon submission by the Federation of



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4 copies of ACCFA Form Legal 41 (Trust Receipt) and 1 copy of ACCFA Form Legal 14 or 36 (Bond of Secretary-Treasurer of the Federation).

- (4) With the funds available to it for copra purchase, the Federation shall immediately advise the FaCoMas within the province regarding grade or class, quantity, buying price ex-bodega Federation, of the copra the Federation is willing to purchase.
- (5) The CCE shall allow the Federation a commission of, say, 5% of the value of the copra purchased by the latter for the CCE.

However, allowance for transportation, handling and other expenses incident to the copra purchase must have to be provided for and considered in setting the price ex-bodega Federation.

Likewise, the Federation in fixing its buying price ex-bodega FaCoMa, must allow for transportation, handling, and other expenses.

In short, the buying price ex-bodega FaCoMa equals the buying price ex-bodega Federation *minus* commission for the FaCoMa, transportation, handling and other expenses incurred in moving the commodity from the FaCoMa warehouse to the Federation warehouse.

- (6) Upon payment by the Federation to the FaCoMa of the purchase price, the FaCoMa Secretary-Treasurer shall turn over to the Federation the warehouse receipt of the commodity purchased by the latter.
- (7) The Federation shall effect shipment to the CCE or to the exporter/manufacturer designated on or before the date of delivery required.
- (8) Upon receipt by the CCE of the goods and/or the invoice including copies of the shipping document, the CCE shall acknowledge receipt thereof and shall advise the Federation of the amount of shipment received; and the balance of the amount originally sent

to the Federation by check shall be entered in the books, until subsequent shipments will cover the entire amount in the check.

- (9) Upon receipt by the exporter/manufacturer of the copra and/or invoice including copies of shipping documents, he shall pay the CCE the corresponding stipulated amount covering the shipment.

### CONCLUSIONS AND RECOMMENDATIONS

The ACCFA financing program for the coconut industry was evolved due to economic necessities existing in this type of agricultural production. There is urgent primary need to raise productivity levels and to establish an orderly producer-controlled marketing system. The ACCFA program seeks to fill these needs.

As such, the program deserves the unstinted support of the government and the people as a whole.

In this regard, the PHILCOA and the ACCFA must work closely together, not in an overlapping or duplicating manner, but in a complementary way.

Steps towards coordination of activities have already been undertaken by both these government entities.

The ACCFA is currently training PHILCOA fieldmen regarding organization and financing of copra cooperatives and producers.

A broader basis for coordination must be developed, with ACCFA setting the economic foundation of the coconut industry and the PHILCOA furthering this industry's technological aspect. The operations of the ACCFA and PHILCOA must merge together for the benefit of the copra cooperatives and their members.

Although the ACCFA program as explained before you may appear a novel and a bold one, nonetheless it is also practical, feasible, and essential. Through the program, the ACCFA, in coordination with PHILCOA and other government agencies, intends not only to promote increased production of better coco-



**ADMINISTRATIVE COSTS OF COPRA FINANCING PROGRAM BY PROVINCE: FY 1955-56**  
**(FIRST PRIORITY AREAS\*)**

PROVINCE	Volume of Activities		Administration and Administrative Costs						Unit Costs	
	No. of Facomas	Total Loan Requirements Amount of Revolving Fund & Facility Loan	No. of Field Personnel	Wages and Salaries @ P2,400 per Annum	Traveling Expenses and Per Diems @ P1,500 per Annum	Supplies and Materials (Average of P250 per Facoma)	Sundry Expenses (Average of P30 per Facoma)	Total Cost	Cost per Facoma	Cost per Peso Loaned
Batangas	3	P 204,000	1	P 2,400	P 1,500	P 750	P 930	P 5,580	P 1,860	P 0.027
Laguna	8	582,500	2	4,800	3,000	2,000	2,480	12,280	1,535	0.021
Marinduque	1	75,500	1	2,400	1,500	250	310	4,460	4,460	0.059
Mindoro Or.	3	261,750	1	2,400	10,500	750	930	5,580	1,860	0.021
Quezon	22	2,190,386	7	6,800	3,000	5,500	6,820	39,620	1,860	0.001
Albay	5	320,500	2	4,800	1,500	1,250	550	10,600	2,120	0.033
Camarines N.	3	118,500	1	2,400	3,000	750	930	5,580	1,860	0.016
Camarines S.	6	411,000	2	4,800	1,500	1,500	1,860	11,160	1,860	0.027
Masbate	3	228,900	1	2,400	1,500	750	930	5,580	1,860	0.008
Sorsogon	2	143,600	1	2,400	3,000	500	620	5,020	2,510	0.017
Leyte	5	350,000	2	4,800	3,000	250	550	10,600	2,120	0.030
Samar	5	390,500	2	4,800	4,500	1,250	1,550	10,600	2,120	0.027
Davao	9	735,745	3	7,200	500	2,750	2,790	16,740	1,860	0.023
Zamboanga S.	3	408,000	1	2,400	1,500	750	930	5,580	1,860	0.014
Zamboanga N.	2	169,000	1	2,400	1,500	500	620	5,020	2,510	0.015
Misamis Occ.	3	237,000	1	2,400	1,500	750	930	5,580	1,860	0.007
Misamis Or.	2	127,000	1	2,400	1,500	500	620	5,020	2,510	0.020
<b>Totals</b>	<b>85</b>	<b>6,954,281</b>	<b>30</b>	<b>72,000</b>	<b>45,000</b>	<b>21,250</b>	<b>26,350</b>	<b>164,600</b>	<b>1,936</b>	<b>0.024</b>

\* The eighty-five (85) facomas constitute the first priorities. Over-all plans call for the organization of 119 facomas.

nut products and to raise the coconut farmers' level of living, but also to enable the coconut producers (besides other farmers) to win some measure of social maturity and economic security by themselves through cooperatives.

The program attempts to initiate a new era in the evolution of the Philippine coconut industry. Whether the attempt will be successful depends on the manner by which this program is supported by the people, who especially should be concerned.

#### ACKNOWLEDGMENTS

The author wishes to express his appreciation to Messrs. C. R. Dimen, N. A. Ferrer, and D. L. Evangelista of the ACCFA Plans and Programs Department, and to other persons for their able assistance and sundry contributions in the preparation of the ACCFA Financing Program for the Coconut Industry.



#### FOOTNOTES AND REFERENCES

- <sup>1</sup> As determined from data of the Philippine Coconut Administration.
- <sup>2</sup> and <sup>3</sup> Writer's own conservative estimate.
- <sup>3</sup> Quarterly outlay.
- <sup>4</sup> Includes farmers to be extended commodity loans.



# THE CONCENTRATION OF PHILIPPINE FOREIGN TRADE, 1945-1954

*By*

BENITO LEGARDA, JR.\*

## I

The Philippine economy has been characterized as an agricultural export economy by an eminent authority,<sup>1</sup> and the major part of the economic ills that beset it at the present time are directly or indirectly traceable to its lop-sided economic structure.

A feature of that structure which will be singled out for quantitative measurement in this paper is the concentration of its foreign trade. Concentration enters the make-up of the Philippine agricultural export economy in that the export trade is confined largely to a few commodities. Before the war, in the quinquennium 1936-1940, three export groups (sugar, coconut products and abaca products) accounted for about 80 percent of Philippine export receipts (exclusive of gold and silver). In 1953, these same groups accounted for 75 percent.<sup>2</sup>

Such a situation, under conditions of general world peace and rising demand for raw materials, might not necessarily be undesirable, as a country would be specializing in those products which it was best fitted to produce, and would be financing its import needs with a rising level of export receipts which would probably, within a certain rate of demographic growth, also lead to higher levels and standards of living.

But with world conditions as unstable as they have been since the end of World War II, and with the secular demand for raw materials turning sluggish due in part to the development of chemical synthetics in industrial countries, a nation would be courting economic ruin if it were to persist in maintaining itself as an agricultural export economy. This is one of the reasons

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which has impelled the raw-material-producing countries of the world to diversify their economies, build up their internal markets, and industrialize. The Philippines is no exception to this movement.

It becomes of some interest, therefore, to watch the concentration of trade from year to year and see whether any trend towards or away from overspecialization is discernible. For this a quantitative statistical measure is required. But it is statistically awkward to devise such an index of *commodity* concentration due to the difficulty of defining a commodity or product and of adhering to the definition with sufficient closeness to preserve the statistical homogeneity of a series.

However, an index of concentration on a *geographic* basis is possible of computation. The territorial limits of most nations are well defined for given periods, and when they change, the fact is easy to note and to take into account. The problem of statistical homogeneity thus takes on manageable proportions.

Moreover, the index of geographic concentration sheds some light on commodity concentration. Investigations by Dr. Albert O. Hirschman on the subject covering forty-four countries in certain years before World War II revealed that a positive correlation existed between concentration of exports according to countries and concentration of exports according to commodities.<sup>3</sup> A high geographic concentration of exports therefore would lead one to hypothesize a high commodity concentration of exports.

It is for these reasons that the computations to be discussed here are based on geographic criteria. It should be stressed that there are specific problems arising out of commodity concentration which do not arise from geographic concentration, and vice-versa. These cannot be gone into in this paper, which is concerned simply with the application to Philippine data of a feasible statistical measure of concentration. What is relevant to the discussion is the hypothesis, based on previous findings, of some degree of positive correlation between commodity concentration and geographic concentration. The former type of concentration will not be adverted to again.

in detail, but will be kept in mind in connection with the latter type in the discussion which follows.

In the Philippine case, we find that in the quinquennium 1936-1940, slightly over 78 percent of Philippine exports went to the United States while in 1953 the same country accounted for 67 percent.<sup>4</sup> Since we have seen that the Philippine export trade was highly concentrated in a few commodities, this seems to support Dr. Hirschman's finding of a positive correlation between commodity concentration and geographic concentration.

An inspection of Philippine trade data also reveals elements of concentration in the Philippine import trade. For the decade 1945-1954, Philippine imports from the United States made up 78.4 percent of total imports. On the commodity side, the picture is not so clear due to the great variety of imported goods. However, it is possible to discern in pre-control years that the group "Textiles and Manufactures" accounted for over one-fifth of total imports — 23.1 percent in 1948 and 21.7 percent in 1949.<sup>5</sup>

## II

These facts lead directly to the main matter at hand. The percentage of exports or imports held by one country may, if that country is in an overwhelmingly preponderant position, give a clue as to the trend of the concentration of trade. But this is a special case which loses its clarity the moment more than one country accounts for a sizable share in another country's trade. What is needed is a statistical measure which will sum up in one number the relevant data regarding trade concentration.

Concentration is (1) a direct function of the relative inequality of distribution or dispersion, and (2) a reciprocal function of the number of exporting or importing countries. The greater the number of such countries, and the more equal the share of trade held by each, the less would be the concentration of trade, and the lower would have to be the index value. The smaller the number of trading countries, or the greater the share held by one country, the greater would be the concentration of trade, and the higher would have to be the index value.

To meet these requirements, Dr. Hirschman has devised an index which is the square root of the sum of the squares of the percentages accounted for by the various countries in the annual import or export trade. Mathematically, if  $a_1, a_2, \dots, a_n$  are the (absolute) values of the annual exports to (or imports from) various countries, and if the total of such values in any year is

$$\sum_{k=1}^n a_k = A, \text{ then the index is } C = \sqrt{\sum_{k=1}^n \left( \frac{a_k}{A} \cdot 100 \right)^2}$$

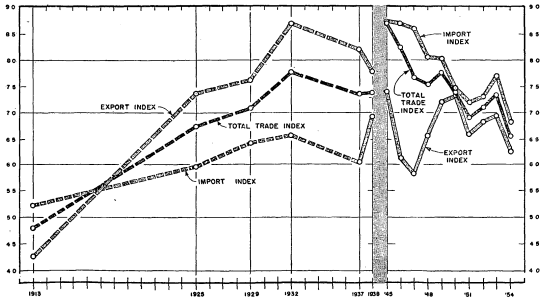
This index is computed separately for exports and imports each year and, in Dr. Hirschman's own words, "should . . . be considered as expressing the degree of *oligopoly* or *oligopsony* existing in a country's external market, *monopoly* being considered as a limiting case of *oligopoly*." <sup>6</sup> (The greater the share of a country in the import trade, the nearer it approaches a monopoly position; the greater the share of a country in the export trade, the nearer it approaches a monopsony position).

Theoretically, the index can assume any value from 0 to 100, the former when the country in question trades with an infinite number of countries equally, and the latter when it trades exclusively with one country. In practice, the lower limit was found to be 20, and the upper, 97. Dr. Hirschman suggests (without actually proposing) that 40 is the dividing line between countries of high and low trade concentration. He also finds that the export indices of the smaller trading countries tend to be higher than their import indices; i.e., their export trade is more concentrated than their import trade.<sup>7</sup>

### III

The results of the statistical inquiries for the Philippine case in the decade 1945-1954 are presented in the following tables. Tables 1 and 2 show the geographic distribution of Philippine foreign trade for each year in that decade. Table 3 shows the index of concentration for the export and import sectors for each year in the same period, computed from the data in Tables 1 and 2. (See also Chart 1.)

CHART 1  
**INDICES OF CONCENTRATION OF TRADE  
 FOR EXPORTS, IMPORTS AND TOTAL TRADE  
 OF THE PHILIPPINES**  
 IN CERTAIN CALENDAR YEARS  
 1913 - 1954



SOURCE OF BASIC DATA: TABLES 3, 4 and 5

TABLE 1  
 PERCENTAGE DISTRIBUTION OF DIFFERENT COUNTRIES  
 IN THE PHILIPPINE IMPORT TRADE  
 1945-1954 \*

<i>Country of Origin</i>	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
North America	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
United States .....	87.30	87.04	86.05	80.28	80.03	74.54	71.54	72.93	76.85	67.63
Canada .....	6.56	2.27	2.70	1.28	2.25	2.57	2.77	3.49	2.47	3.08
Mexico .....	.90	2.20	.35	.42	.06	.02	.01	"	"	.01
Newfoundland and Labrador .....	—	"	"	—	—	—	—	—	"	"
Alaska .....	—	—	—	—	—	"	"	—	—	—
Areas not specified .....	—	—	—	—	—	"	—	—	—	—
Central America and Antilles										
Costa Rica .....	—	.02	.04	.08	.14	.01	.01	—	"	"
Cuba .....	.15	.90	.04	.13	—	.01	"	—	"	"
Dominican Republic .....	—	"	.02	"	—	—	—	—	—	—
Guatemala .....	—	"	"	—	—	"	—	—	—	—
Haiti .....	—	—	—	—	—	—	—	—	—	"
Nicaragua .....	—	.35	.01	"	"	.01	—	—	—	—
Panama, Republic of .....	.02	.01	—	"	"	"	—	—	—	.04
Puerto Rico .....	.04	"	"	"	—	"	—	—	—	"
British Honduras .....	—	—	—	—	—	"	—	—	—	"
Salvador .....	—	—	—	—	—	—	"	—	—	.01
Panama, Canal zone .....	—	"	—	—	—	—	—	—	—	—
Areas not specified .....	—	—	—	—	—	—	—	"	"	"
South America										
Argentina .....	.21	.17	.30	.24	.22	.08	.30	.16	.14	.36
Brazil .....	1.24	.13	.33	.42	.48	.02	.47	.12	—	.09
Chile .....	1.46	.22	"	"	"	"	"	—	—	—



Country of Origin	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Colombia .....	—	.01	a	a	a	.01	a	—	—	—
Ecuador .....	—	—	.44	1.07	.53	a	—	.01	.01	.04
Paraguay .....	—	—	—	a	—	a	—	—	—	—
Peru .....	.03	.44	a	a	—	—	—	—	a	—
Uruguay .....	—	a	.06	.05	.04	.06	.08	.05	.04	.05
Venezuela .....	—	.02	a	.01	—	—	a	—	—	—
Dutch West Indies .....	—	—	a	—	—	—	—	a	.03	a
Other South American countries	—	—	—	—	—	.03	.03	—	—	—
<b>Northwestern Europe</b>										
United Kingdom .....	.08	.44	.61	.90	.86	1.54	1.33	1.17	.94	1.91
Austria .....	—	—	a	.07	a	a	a	.01	a	.04
Belgium and Luxemburg .....	—	.18	.48	.73	1.13	.97	.97	.73	.73	1.39
Denmark .....	—	.03	.04	.05	.03	.04	.09	.05	.03	.10
France .....	a	.05	.18	.16	.10	.19	.24	.44	.25	.63
Germany .....	—	—	—	.03	.15	.77	.64	.77	.83	1.80
Ireland .....	—	a	a	a	a	—	a	—	—	—
Netherlands .....	—	.13	.22	.09	.14	.36	1.03	.80	1.47	2.00
Norway .....	—	.18	.13	.08	.04	.05	.03	.02	.03	.06
Sweden .....	a	.24	.26	.34	.18	.17	.25	.24	.16	.21
Switzerland .....	.09	.17	.23	.42	.53	.39	.33	.25	.14	.39
French areas not specified .....	—	a	a	—	—	—	—	—	—	—
<b>Southern Europe</b>										
Italy .....	—	.04	.07	.20	.16	.93	.56	.73	.25	.22
Portugal .....	.98	.05	.06	.02	.03	.02	.02	.02	.02	.05
Spain .....	.34	.39	.25	.21	.12	.27	.20	.43	.20	.11
Turkey .....	—	—	—	—	a	a	—	—	—	—
Greece .....	—	—	—	—	a	.02	a	a	—	a

Country of Origin	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
<b>East Europe and USSR</b>										
USSR .....	.06	"	"	.04	"	"	—	"	—	—
Czechoslovakia .....	—	"	.02	.04	.03	.02	.01	.04	"	.01
Finland .....	—	—	"	"	"	"	—	"	.03	.01
Hungary .....	—	—	"	"	—	—	—	—	"	—
Poland .....	—	—	—	—	—	"	.01	.01	"	.02
Rumania .....	—	—	—	—	—	"	—	—	—	—
Other European countries .....	—	—	"	—	—	.08	—	—	—	—
<b>Middle East</b>										
Egypt .....	—	.03	.02	.27	.40	.06	.01	—	—	—
Iran .....	—	—	.48	.31	—	.03	.23	1.46	1.92	2.15
Saudi Arabia .....	—	—	.66	.56	.64	2.36	2.43	1.59	1.42	1.86
Syria and Lebanon .....	—	—	"	—	"	—	—	—	—	"
Arabia (Iraq) .....	—	—	"	—	—	.93	—	—	—	—
Palestine .....	—	—	"	—	—	—	—	—	—	—
<b>Other Asia</b>										
Burma .....	—	—	—	.08	.54	—	—	1.44	—	—
Ceylon .....	—	—	—	.05	.08	.20	.19	.16	.14	.17
China .....	.04	1.65	2.79	3.91	1.74	.94	.02	.06	.04	.08
Hongkong .....	—	.02	.02	.42	.26	2.59	1.79	1.36	1.39	1.79
India .....	—	.49	.79	1.12	.90	.65	.81	.67	.47	.38
Indonesia .....	—	.45	.45	2.57	2.73	1.30	2.22	2.89	2.27	2.70
Japan .....	—	.19	.36	2.74	4.15	6.75	4.36	4.39	6.04	—
Indo-China .....	—	—	—	—	—	—	.01	—	—	—
Malaya and Singapore .....	—	.01	.03	.02	.02	2.10	1.14	1.77	2.86	2.52
Thailand .....	—	1.09	—	1.52	1.16	.27	2.94	1.17	.01	.28
French East Indies .....	—	—	"	.02	.02	"	—	—	—	"
Korea .....	—	—	—	—	—	"	"	"	—	"

Country of Origin	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
British East Indies .....	—	—	.57	1.00	1.01	.44	.24	.11	—	.02
Pakistan .....	—	—	—	—	*	—	—	.09	.06	.72
Areas not specified .....	—	.44	—	—	—	—	—	—	—	—
Oceania										
Australia .....	—	.01	.34	.21	.28	.45	.20	.31	—	.60
New Zealand .....	—	—	.03	.02	.02	*	*	.01	.27	.07
Japanese Oceania .....	—	—	—	—	—	*	—	—	*	—
British Oceania .....	.02	.02	.01	*	—	—	—	*	—	*
British New Guinea .....	—	—	—	—	—	—	—	.01	—	—
Other Africa										
Union of South Africa .....	—	—	—	—	—	*	*	—	.08	.30
British Africa .....	.20	.06	.02	.01	.01	.01	*	*	*	*
French Africa .....	—	.01	*	—	—	—	—	*	*	.02
Miscellaneous										
British city, not specified .....	—	—	—	—	—	.02	—	*	.01	—
British West Indies .....	.28	.01	*	*	—	*	—	—	—	—
Other areas not specified .....	—	—	.50	—	.13	.06	.03	*	—	*
Other U.S. Insular Possessions										
Guam .....	—	—	—	—	*	.14	*	*	*	*
Hawaii .....	—	.04	.21	.21	.07	.13	.07	.07	.05	.04
Other ctys. not specified .....	—	*	—	—	—	—	—	—	—	—

\* SOURCES OF BASIC DATA: Bureau of the Census and Statistics, *Yearbook of Philippine Statistics, 1946*.  
 Bureau of the Census and Statistics, *Foreign Trade Statistics of the Philippines, 1947 and 1948*.  
 Bureau of the Census and Statistics, *Foreign Trade Statistics of the Philippines, 1948 and 1949*.  
 Central Bank of the Philippines, Department of Economic Research.

\* Less than .005.

TABLE 2  
 PERCENTAGE DISTRIBUTION OF DIFFERENT COUNTRIES  
 IN THE PHILIPPINE EXPORT TRADE  
 1945-1954 \*

<i>Country of Destination</i>	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
North America										
United States .....	34.07	59.88	57.48	65.36	71.69	72.84	65.12	67.30	68.33	60.50
Canada .....	—	2.48	2.12	1.79	1.41	1.31	1.12	1.09	.59	.88
Mexico .....	—	.32	.11	*	—	—	*	—	*	*
Newfoundland and Labrador .....	—	—	.04	—	—	*	*	—	*	*
Alaska .....	—	—	—	—	.01	—	—	*	—	—
42 Central America and Antilles										
Costa Rica .....	—	—	—	.01	.02	—	—	*	*	*
Cuba .....	—	—	.02	*	*	*	—	*	*	*
Dominican Republic .....	—	*	*	*	—	—	*	*	—	—
Guatemala .....	—	—	*	*	—	*	—	—	*	*
Haiti .....	—	—	*	.01	—	—	—	—	*	*
Nicaragua .....	—	—	*	*	*	—	—	—	*	*
Panama, Republic of .....	—	.01	.12	.21	.05	.02	.02	.07	.01	.07
Puerto Rico .....	—	—	.02	.10	.06	.05	.01	.03	.03	.03
British Honduras .....	—	*	*	*	*	—	—	*	*	*
Salvador .....	—	*	—	*	*	*	*	*	*	*
Panama, Canal zone .....	—	.11	.03	.02	.01	.01	—	*	*	*
Areas not specified .....	—	*	—	—	—	—	.07	*	*	*
South America										
Argentina .....	—	*	.57	.40	.17	.01	—	*	*	—
Brazil .....	—	—	—	.01	*	—	—	—	—	.10
Chile .....	—	.10	.07	.04	.03	*	.01	—	*	—

Country of Destination	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Colombia .....	—	.18	.36	.50	.07	1.06	1.23	1.20	1.40	1.44
Ecuador .....	—	.03	<sup>a</sup>	<sup>a</sup>	.02	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	.01	.03
Paraguay .....	—	—	—	<sup>a</sup>	—	—	—	—	—	—
Peru .....	—	.05	<sup>a</sup>	.01	.02	.01	.05	<sup>a</sup>	.01	.01
Uruguay .....	—	1.05	—	.02	<sup>a</sup>	—	—	—	—	—
Venezuela .....	—	.02	.37	.43	.01	1.15	.52	.53	1.35	1.31
Dutch West Indies .....	—	—	.01	.01	—	—	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
Dutch Guinea .....	—	—	<sup>a</sup>	.01	—	—	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
Other South American countries	—	—	—	<sup>a</sup>	—	.05	—	—	<sup>a</sup>	<sup>a</sup>
<b>Northwestern Europe</b>										
United Kingdom .....	—	3.79	3.10	.99	1.18	1.59	2.93	1.66	1.26	1.22
Austria .....	—	—	.72	.94	.18	—	<sup>a</sup>	—	—	<sup>a</sup>
Belgium and Luxemburg .....	—	.99	2.08	.64	.85	2.35	3.87	2.53	1.51	1.39
Denmark .....	—	1.14	3.80	2.44	1.59	.39	1.28	1.15	1.93	1.91
France .....	—	4.55	6.09	4.84	2.23	.66	1.29	.52	.34	1.11
Germany .....	—	—	.50	1.74	2.83	.51	.92	.92	1.27	2.65
Ireland .....	—	—	.11	<sup>a</sup>	.01	.01	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
Netherlands .....	—	.87	.71	.92	.91	2.19	5.02	3.81	4.28	8.10
Norway .....	—	1.93	1.47	.87	.64	.93	.92	.59	.76	1.26
Sweden .....	—	.56	1.05	.63	.44	.75	.83	.65	.14	.41
Switzerland .....	—	.06	1.27	.56	.73	1.65	.96	.62	.56	.24
French areas not specified .....	—	1.97	—	—	—	.05	.05	<sup>a</sup>	.01	—
<b>Southern Europe</b>										
Italy .....	—	.79	2.95	1.75	2.37	1.69	1.78	1.53	.94	1.01
Portugal .....	—	—	.03	.05	.02	<sup>a</sup>	.01	.02	<sup>a</sup>	.01
Spain .....	—	.49	.59	.29	.70	.35	.45	.89	.69	.76
Turkey .....	—	—	.04	.01	<sup>a</sup>	<sup>a</sup>	—	—	—	—
Greece .....	—	—	—	—	—	—	—	<sup>a</sup>	<sup>a</sup>	—

Country of Destination		1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
<b>East Europe and USSR</b>											
	USSR .....	—	—	—	—	—	.01	—	—	—	—
	Czechoslovakia .....	—	—	1.11	.33	.22	"	—	—	—	—
	Finland .....	—	—	.02	—	"	"	"	—	"	—
	Poland .....	—	.62	.74	2.25	.18	.06	—	—	—	—
	Rumania .....	—	—	—	—	—	"	—	—	—	—
	Other European countries .....	—	—	.19	—	—	.06	—	—	—	—
<b>Middle East</b>											
	Egypt .....	—	—	.10	—	"	.01	.08	"	.16	.01
	Iran .....	—	—	.05	—	—	"	—	—	"	.04
	Israel .....	—	—	—	—	.10	.01	.33	.44	.32	.19
	Saudi Arabia .....	—	—	.05	.05	.04	—	"	—	.02	"
	Syria and Lebanon .....	—	—	—	.11	.09	.15	.14	.13	.05	.10
	Arabia (Iraq) .....	—	—	—	—	—	"	—	.02	—	"
	Palestine .....	—	—	.63	.05	.30	.52	.15	.48	.02	—
<b>Other Asia</b>											
	Burma .....	—	—	—	—	.01	"	—	—	—	.01
	Ceylon .....	—	—	—	—	"	"	—	—	—	—
	China .....	65.93	7.77	.54	.64	.33	.29	.14	.20	.13	.33
	Hongkong .....	—	6.06	1.07	.92	1.86	.73	.39	.34	.42	.43
	India .....	—	.14	.92	.56	.70	.24	.30	.18	.10	.14
	Indonesia .....	—	1.82	1.84	1.62	.95	.06	.33	.14	.08	.04
	Japan .....	—	—	.85	4.89	4.47	6.53	6.90	10.92	11.96	12.45
	Indo-China .....	—	—	—	—	—	—	.15	.09	.07	.09
	Malaya and Singapore .....	—	1.05	2.65	.26	.23	.05	.10	.21	.12	.15
	Thailand .....	—	.21	—	.26	.10	.13	.05	.17	.04	.04
	French East Indies .....	—	"	.14	.33	.18	"	—	.01	—	—
	Korea .....	—	.01	"	.55	.08	.70	"	.13	.37	.61

Country of Destination	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
British East Indies .....	—	—	.01	.03	.02	<sup>a</sup>	—	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
Pakistan .....	—	—	—	—	—	—	<sup>a</sup>	—	—	—
Okinawa .....	—	—	—	—	—	—	—	—	—	.02
Areas not specified .....	—	<sup>a</sup>	.16	.04	—	.05	—	—	—	—
Oceania										
Australia .....	—	<sup>a</sup>	.15	.29	.86	.07	.05	.07	.03	.05
New Zealand .....	—	—	.01	<sup>a</sup>	.03	.01	.05	<sup>a</sup>	.02	.01
Japanese Oceania .....	—	—	—	—	—	.01	—	—	—	—
British Oceania .....	—	—	<sup>a</sup>	—	—	—	—	—	—	—
British New Guinea .....	—	—	.01	.07	—	—	—	—	<sup>a</sup>	—
Other Africa										
Union of South Africa .....	—	—	—	—	—	.30	.47	.73	.29	.34
Portuguese Africa .....	—	—	—	.02	.01	<sup>a</sup>	<sup>a</sup>	.01	<sup>a</sup>	—
British Africa .....	—	.01	1.42	.51	.50	.07	.45	<sup>a</sup>	<sup>a</sup>	.01
French Africa .....	—	.01	.42	.19	.12	<sup>a</sup>	.03	.11	.04	.02
Morocco .....	—	—	—	—	—	.01	—	—	—	—
Miscellaneous										
British cty. not specified .....	—	—	—	<sup>a</sup>	—	—	.01	<sup>a</sup>	—	—
British West Indies .....	—	—	<sup>a</sup>	.02	—	<sup>a</sup>	.01	—	—	—
Other areas not specified .....	—	—	.75	<sup>a</sup>	.04	.03	.01	.02	.03	.12
Other U.S. Insular Possessions										
Guam .....	—	<sup>a</sup>	.11	.14	.16	.08	1.23	.18	.11	.13
Hawaii .....	—	.84	.23	.27	.17	.19	.17	.31	.20	.23
Other cty. not specified .....	—	—	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	—	—	—	—	—

\* SOURCES OF BASIC DATA: See Table 1.

<sup>a</sup> Less than .005.

TABLE 3  
 INDICES OF CONCENTRATION OF TRADE FOR THE  
 PHILIPPINES 1945-1954 \*

	<i>Import Index</i>	<i>Export Index</i>
1945 .....	87.6	74.2
1946 .....	87.1	61.2
1947 .....	86.2	58.4
1948 .....	80.5	65.9
1949 .....	80.2	72.1
1950 .....	74.9	73.3
1951 .....	72.1	66.0
1952 .....	73.3	68.4
1953 .....	77.2	69.6
1954 .....	68.3	62.5

\* Sources of Basic Data: Tables 1 and 2.

Several characteristics immediately attract attention. First, the import index shows a general declining trend over the whole period. The export index shows a decline from 1945 to 1947, a rise from then until 1950 and a general decline over the second half of the decade under study. (The 1954 index however, remains above the 1946 and 1947 levels). Secondly, despite these indications of a declining trend, the index values for both imports and exports are considerably above the hypothetical dividing line of 40; the Philippines, therefore, can be characterized as a country with an extremely high concentration of foreign trade during the period under study. Thirdly, unlike the generality of Dr. Hirschman's findings for the pre-World War II years, the import index remains consistently above the export index, indicating a greater geographic concentration (or a greater degree of oligopoly) in the Philippine import trade as compared to the export trade.

Tables 1 and 2 can be referred to for an explanation of the behavior of the indices in Table 3. The high level of the import index is due to the preponderant role played by the United States in the postwar years. This was especially true in the early years of the decade under study, when most sup-



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plying countries were still suffering from the after-effects of war, and the United States was the only major supplier capable of filling Philippine import needs. The subsequent declining trend reflects the recovery of various other supplying countries, especially Japan, but including also several European countries. The only reversal to the declining trend occurred in 1951-1953 with another spurt in the share accounted for by the United States. The 1954 index was the lowest for the decade under observation. Even so, it was still at a very high level, reflecting the major share accounted for by the United States, which no other country even remotely approached.

The export index is a somewhat more complicated matter, and its movements answer to changes not only in the geographic distribution but also in the commodity pattern of the export trade. In fact, within certain limits (notably the preferential trade relations between the Philippines and the United States), changes in geographic distribution seem to be functionally related to changes in the commodity pattern.

The high level of the export index in 1945 reflects the extremely low volume of Philippine exports that year and their sale in only two outlets, China and the United States. More normal conditions in the next two years, and the fact that the Philippines' major export item then, copra, was a salable item not only in the United States but also elsewhere in the world, contributed to bring down the index in those years. This trend, which on a *a priori* grounds might have been expected to continue, was reversed in the next three years. The most probable reason for this reversal was the progressive recovery of the Philippine sugar industry, whose market was almost exclusively the United States (only negligible amounts were sent elsewhere in 1950, 1951 and 1954), thus exerting upward pressure on the index. Exports of canned pineapples, whose market was also almost exclusively the United States, had the same effect on the index.

The decline in the index after 1950 can be traced to the rise of Japan, which took most of the iron ore exports, a major part (from 1951) of the exports of logs, lumber and tim-

ber, and a considerable portion of raw abaca exports; and the increasing proportion of copra exports taken by countries other than the United States, especially the Benelux countries and Germany.

It seems clear from the above that a discussion of the behavior of the export index cannot be complete without some reference to the commodity pattern of exports.

The possibility of technical biases in the computation of the indices should be considered. With regard to foreign trade data, the principal sources of bias would be (a) large residual categories and (b) the existence of a considerable transshipping trade with any of a country's trading partners.

The data which were used in the computation of the present indices are extremely detailed (see Tables 1 and 2) and are probably freer from residual categories ("Other European Countries", "Areas not Specified", etc.) than any Philippine data which have been used in past computations. The relevant point to be watched is, of course, not the number of such categories, but the magnitude of the figures comprehended therein. In case such figures are large, to treat them as a single number would be to introduce an upward bias in the index. Dr. Hirschman suggests a method, albeit arbitrary, of counterbalancing such a bias, namely, to divide the figures for the residual categories into as many items of 0.5 percent (and remainders thereof) as each one is capable of being divided into. The assumption behind this is that the residual category comprehends several countries; the arbitrary division tries to quantify this assumption in an effort to overcome the presumed bias.<sup>8</sup>

This procedure, however, was not followed in the present computations. First, the majority of the residual categories are smaller than 0.5 percent. Secondly, there is some reason to believe that such residual classifications contain only one or two items in most cases; to adopt Dr. Hirschman's way of compensating for an upward bias might entail in some cases the introduction of a downward bias. Thirdly, the Hirschman adjustment results in only a slight change in the index figure (since no index is computed whenever a residual category ex-

ceeds 10 percent), a change which in the present instance may not even be in the direction of greater accuracy. It has not seemed worthwhile, therefore, to incur the additional trouble of making the suggested adjustments, and the index has been computed on the basis of the figures as they stand.

Somewhat more difficult to evaluate is the distortion in the geographic distribution of trade introduced by ports of transshipment (like Hongkong). This occurs because many of the goods going to or coming from such ports are really destined for or originate in other places. Insofar as such items are subtracted from their proper categories, a downward bias is introduced; insofar, however, as they are added to the country of transshipment, an upward bias results. Where the values registered by ports of transshipment are relatively small, it is perhaps more convenient to assume that the biases cancel out one another. The most obvious transshipment ports in Philippine trade are Hongkong and Singapore and, except for exports to Hongkong in 1946, none of the values they register is of any relative importance. Since the advent of the European Payments Union, transshipping operations have also been engaged in by European countries; it is known, for example, that about one-third or more of Philippine exports to the Netherlands in 1954 were for transshipment to West Germany and other European countries. A slight upward bias was therefore introduced in the 1954 export index by this overstatement of the Dutch trade. However, for the series as a whole, it is probable that no serious distortion resulted from this factor.

In order to have an idea as to the trend of concentration for foreign trade as a whole, it might be convenient to have a single index combining the import and the export indices. The weighted arithmetic mean of both indices, using as weights the ratios of the respective sectors (imports and exports) to total trade, suggests itself most readily as a convenient device.

The procedure may be objected to on the ground that non-homogeneous statistical data are being lumped together in an abstract measure, and in fact Dr. Hirschman, the originator of the index, makes no mention of applying it to total trade. The objection based on statistical homogeneity can be (at least

partly) met by defining the component data as percentages of total trade, instead of percentages of the import and export trade, respectively.<sup>9</sup> Besides, this is no more than is done in the computation of such concepts as national income and gross national product.

The index for total trade, computed as the weighted arithmetic mean of the import and export indices, is shown for the decade under discussion in Table 4.

TABLE 4  
INDEX OF CONCENTRATION OF TOTAL TRADE FOR THE  
PHILIPPINES  
1945-1954 \*

1945	87.3
1946	82.5
1947	76.7
1948	75.4
1949	77.8
1950	74.1
1951	69.2
1952	71.1
1953	73.6
1954	65.6

\* Sources of Basic Data: Table 3; Central Bank of the Philippines, Department of Economic Research.

It will be immediately apparent that the prevailing trend of the series is downward, and that the dominant component has been the import sector. It will also be apparent that the level of the index, as was to be expected from the level of its components, is rather high, indicating considerable trade concentration (oligopoly and oligopsony elements) in the Philippines' foreign trade.

#### IV

The index may be a helpful device for the formulation of policy, and can serve as a running check on the results of various policy measures.

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For example, ever since the fixing of a definite date for Philippine independence, the orderly termination of preferential trade relations with the United States has been an important item to consider in Philippine (and, it may be added, American) trade policy. An inseparable concomitant to this is the development of more trading connections for the Philippines, i.e., a diversification of Philippine trade and a lessening of its concentration.

To discover what progress has been made on this point, it is instructive to compare the index values for the post-war years (Tables 3 and 4) with those for certain pre-war years. Table 5 shows the export and import indices for six pre-war years between 1913 and 1938, as computed by Dr. Hirschman and his associates, and the index for total trade for the same years, computed by the Department of Economic Research of the Central Bank of the Philippines. Strictly speaking, the export and import figures are not fully comparable to those for the post-war years, as the data they were based on were probably somewhat less detailed than those used in the current computations; however, the anti-bias operation described earlier was carried out in the case of the residual categories and this probably compensated for any upward bias arising out of such categories.

TABLE 5  
INDICES OF CONCENTRATION OF TRADE FOR THE PHILIPPINES DURING CERTAIN CALENDAR YEARS

1913-1938 \*

	<i>Import Index</i>	<i>Export Index</i>	<i>Total Trade Index</i>
1913	52.5	43.0	48.0
1925	59.7	73.9	67.6
1929	64.6	76.3	70.8
1932	66.0	87.1	77.8
1937	60.6	82.2	73.7
1938	69.4	78.0	73.9

\* Sources: Hirschman, *National Power and the Structure of Foreign Trade*, p. 105; Central Bank of the Philippines, Department of Economic Research.

Comparing Tables 3, 4 and 5, then, certain features stand out. First, the export index is generally above the import index in the pre-war years, which is in line with Dr. Hirschman's findings for most other small trading countries in the same period. Secondly, the level of the export index in the post-war years is lower than that for most pre-war years. The peak of the export index (87.1) seems to have been reached in the depression years of the 1930's, and the general trend since then has been downward. In fact, it does not seem incorrect to interpret the post-war movement of the index as a continuation of the immediate pre-war trend, viewed from a larger perspective. Thirdly, the level of the import index for the post-war years is much higher than that for the pre-war years, despite the marked declining trend in the first post-war decade. In fact, the *lowest* post-war index value (in 1954) is about on a par with the *highest* pre-war index value (in 1938). Fourthly, the index for total trade reached its highest point right after the war years, but by the late '40's its level was down to that of the '30's and by the early '50's, to that of the '20's. Even so, this was still a high level. (See also Chart 1.)

In view of the above, it is possible to comment on the Philippines' desire to diversify its foreign trade. On the export side, there has been a lessening of concentration (oligopsony) over the past twenty years or so, which has been interrupted at times but not reversed. The trend, therefore, has to some extent fulfilled the hopes entertained in this regard. However, the index value still remains high, being considerably higher than the hypothetical benchmark of 40, and more can be done in the way of seeking new outlets for Philippine export products, improving some of these products, and perhaps developing new ones, provided these things do not obstruct the fundamental objective of building up the internal economy.

On the import side, the picture is different. The peak index values were registered in the post-war years (being, in fact, probably the highest index values over the past century and a half), for reasons earlier alluded to. The war years, therefore, radically affected conditions in this sector. The unmistakable declining trend of the post-war decade, while encouraging when regarded by itself, served only to restore the

index down to its highest pre-war level. The latest and lowest post-war index value was still considerably above the modal index values for the pre-war years. It is apparent that the war has delayed the fulfillment of the earlier hopes for greater diversification (i.e., less oligopoly) in the Philippine import trade. The present trend, however, gives some reason for encouragement, and if it persists there is little doubt that these hopes will be realized.

## V

It may well be asked whether computation of the index reveals anything that cannot more easily be seen from a simple inspection of the data on the geographic distribution of trade. For the Philippines in the period under discussion here, it must be recorded that the same general conclusions could have been derived by examining the movement of the percentage accounted for by the United States in total Philippine trade.

However, it is evident that this is a special case which has not always been so and which will probably change with the liquidation of preferential trading relations provided for in the Laurel-Langley agreement. Should the United States' share diminish appreciably and that of other countries increase in the future, it will be necessary to compute the index for all relevant periods in order to make inter-temporal comparisons. The same thing holds true with respect to computations based on data for the nineteenth century, when Philippine foreign trade was more evenly distributed than at present. The index is also useful in the making of inter-spatial comparisons with other countries.

It is evident, therefore, that although the index is, under the present special circumstances, of limited usefulness, its computation is necessary for the making of comparisons with past periods and with other countries, and will be increasingly more so as the pattern of Philippine trade becomes more diversified in the future.



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#### REFERENCES

<sup>1</sup> Miguel Cuaderno, Sr., "The Philippine Economy Today", *Guidesposts to Economic Stability and Progress* (Manila: Central Bank of the Philippines, 1955), pp. 142-152.

<sup>2</sup> *Ibid.*, pp. 144, 149.

<sup>3</sup> Albert O. Hirschman, *National Power and the Structure of Foreign Trade* (Berkeley: University of California Press, 1945), p. 106.

<sup>4</sup> Cuaderno, *loc. cit.* The latter figure has since been revised upward by a small margin; see Table 2.

<sup>5</sup> Republic of the Philippines, Department of Commerce and Industry, Bureau of the Census and Statistics, *Foreign Trade Statistics of the Philippines, 1948 and 1949* (Mimeo.; Manila: Bureau of the Census and Statistics, n.d.), p. 46.

<sup>6</sup> Hirschman, *op. cit.*, pp. 158-159, 99.

It has been demonstrated by Dr. Hirschman that the index proposed here is a function of the coefficient of variation, and meets the requirements set for it. The formula given in the text is the long form, of which the simplified form is

$$C = \frac{100}{A} \sqrt{\sum_{k=1}^n a_k^2}$$

This would obviate having to compute the ratio of each country's exports (or imports) to total exports (or imports) and is mathematically less cumbersome. However, for purposes of economic analysis, it is useful to know what these ratios are, as any unusual behaviour in the index would have to be traced to them; therefore, the long form is used here.

<sup>7</sup> *Ibid.*, pp. 101, 106, 108.

<sup>8</sup> *Ibid.*, p. 100.

<sup>9</sup> The computation of an index based on such data is of course a different thing from the computation of a weighted arithmetic mean of the import and export indices. Stretching a point, the latter can be regarded as the "short method" of the former. The final results will be nearly identical.



## THE GSIS BASIC MORTALITY TABLE

*By*

LUIS R. SALVOSA, SC. D.\*

At present there is not a mortality table used by insurance companies in the Philippines that is based on actual experience of insured lives here. The tables being employed by them are principally based on mortality experience in the United States. Since the life insurance business in the Philippines is growing rapidly, it seems important that a mortality investigation of insured lives here be undertaken.

As the GSIS represents by far the largest single body of insured lives in the country, it appeared to be a logical choice as the source of data and it had the further advantage of being readily available to the author. The observation period chosen was that from January 1, 1947 to December 31, 1953, inclusive, thus utilizing the most recent data then available and also excluding the abnormal period resulting from the last war and its aftermath. Fortunately, the GSIS insurance records were not destroyed during the war as were the records of some of the private insurance companies.

It was the original hope of the author that the results of this investigation might produce a basic table suitable for commercial insurance use. This seemed not an unreasonable hope since the GSIS issues conventional policies and in many respects is operated like a commercial company. However, it became apparent before the study was completed that the differences were perhaps more significant than the similarities. Probably, the compulsory feature of the insurance, and the inability of the insured to lapse or surrender without severance of employment, and the fact that the governmental units share in the insurance premiums are sufficient causes to produce a quite different mortality pattern from that produced by the commercial insurers.

It was deemed most economical of time and effort to use an "exposed to risk" method than a "census" method in the

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\* Actuary, Government Service Insurance System.

investigation. Also, since an "ultimate" table was to be the final result, the first five years of insurance on each life were excluded. Each life insured in the GSIS has an I.B.M. valuation card on which the date of issue, age nearest birthday at date of issue, date of termination, policy plan, sex, etc. are punched. In calculating the crude mortality rates, the exposure formula used was Marshall's (9) shown as For. 1 in the Appendix.

The application of the exposure formula mentioned above will result in the crude rates of death  $q'_{x-\frac{1}{2}} = \theta_x \div E_x$  since the deaths and exposures, on the average, cover the period from age  $(x-\frac{1}{2})$  to  $(x+\frac{1}{2})$ . Because the crude mortality rates on an annual basis were quite irregular, it was found necessary to group by quinquennial age groups. Henderson's formula

$$625 s_y = 51(w_{x-5} + w_x + w_{x+5}) - 14(w_{x-10} + w_{x+10})$$

was then applied separately to the deaths and the exposures to obtain the following central values of  $E_x$  and  $\theta_x$  shown below in conjunction with the new crude quinquennial mortality rates,  $u'_x$ .

x	625 $E_x$	625 $\theta_x$	$10^4 u'_x$
14	—	—	242.721
19	—	—	248.366
24	1,761,377.5	4,588	260.478
29	7,342,575.5	20,490	279.057
34	13,357,898.0	37,198	278.472
39	15,236,020.0	53,941	354.036
44	11,786,627.5	52,719	447.278
49	7,491,476.5	46,944	626.632
54	4,111,263.0	39,568	962.429
59	2,560,202.5	34,295	1,339.542
64	1,228,880.0	24,253	1,973.586
69	340,252.5	8,205	2,411.444
74	42,692.5	1,723	4,035.838
79	—	—	6,846.768
84	—	—	12,217.337

The rate at age 34 was artificially inflated to smooth out the plateau which would otherwise have existed. While the

THE GSIS BASIC MORTALITY TABLE

justification for this somewhat arbitrary procedure may be debatable, it was felt that the desirability, for insurance purposes, of producing a more regular mortality curve outweighed the arguments for retaining the plateau and the closer adherence to the original data. Hence,  $u'_{34}$  was taken as .00304103, calculated from the interpolation equation

$$u'_{34} - 4 u'_{29} + 6 u'_{24} - 4 u'_{19} + u'_{14} = 0.$$

The values of  $u'_{14}$ ,  $u'_{19}$ ,  $u'_{24}$ , and  $u'_{29}$  were determined by applying the equation  $u'_x - 3u'_{x+5} + 3u'_{x+10} - u'_{x+15} = 0$ . The mortality rates  $u'_x = q_{x-\frac{1}{2}}$  at quinquennial ages thus found were then smoothed out first by using T.N.E. Greville's 7-term Adjusted Average Graduated Formula, taking third differences as criterion for smoothness. To find the death rates at individual ages from 14 to 82 years, interpolation was resorted to and Henry S. Beers' Minimized-Fifth Difference Interpolation Formula was used while those at ages from 82 to 100 years the 23-term formula ( $e = 0.25$ )

$$u_{n+r} = j_1 u_{n+r-1} + j_2 u_{n+r-2} + \dots$$

of Whittaker and Robinson was employed. Then finally, to obtain  $q_{x-\frac{1}{2}}$  the whole series from  $u'_{14}$  to  $u'_{93}$  was further graduated by applying again Greville's formula, but this time with 9 terms. The values of  $u'_{93}$  and  $u'_{98}$ , assuming  $u'_{103} = 1$ , were computed from the equation  $u'_x - 3u'_{x+5} + 5u'_{x+10} - u'_{x+15} = 0$ .

In connection with other graduation methods, Spencer's 21-term formula with two summations in fives and one in sevens was tried, but was found unsatisfactory. Pearson's Type III curve, using a table of areas with proper skewness, was also tried in graduating the "exposed to risk" and the deaths. The graduation was excellent, but when the mortality rates were calculated by dividing the graduated  $\theta_x$  by the corresponding graduated  $E_x$ , the resulting rates were unsatisfactory from the view point of closeness of fit.

The completed graduation of mortality rates  $q_{x-\frac{1}{2}}$  was tested for (a) smoothness and (b) closeness of fit. For smoothness, the total of the absolute values of third differences yields 275, giving an average of .00004; while for closeness of fit, the total of expected death is 2578.89 as against 2579,

the total of actual deaths from ages 22 to 81, inclusive. (See attached Table of Smoothness and Closeness of Fit.) The average age at death computed from the graduated table is 46.715 years, which corresponds closely to 46.674 years as computed from the actual data. The value of  $X^2$  (Chi square) for each age was derived by using the formula

$$X^2 = (\theta_x - e'_x)^2 / E_x p_x q_x, \text{ where}$$

$\theta_x$  = actual deaths

$e'_x$  = expected deaths

$E_x p_x q_x$  = square of the standard deviation

The  $X^2$  distribution follows the normal curve of error since the number of degrees of freedom (60) is larger than 40. Hence, the table of areas of the normal curve was employed to determine the probability of having a value of  $X^2$  equal at least to 69.7859. The probability found is 14% which is larger than a minimum level of 5%.

From the graduated values,  $q_{x-\frac{1}{2}}$ , which were found satisfactory as shown above with respect to smoothness and adherence to actual deaths the values of  $q_x$  in the attached GSIS Basic Mortality Table were derived from the expression  $(q_{x-\frac{1}{2}} + q_{x+\frac{1}{2}}) \div 2$ . This basic table is not intended for use by life insurance companies in the Philippines, although it is safe for life annuities. Moreover, it will be noted that the mortality rates below 23 and over 76 were empirical. For comparison, the death rates at quinquennial ages under different mortality tables are given in the attached table.

It will be observed that compared with the Commissioners Basic Table, the mortality rates under the GSIS Basic Mortality Table are higher for ages below 35 and lower for all other ages. A plausible explanation for this difference is the fact that in the Philippines the incidence of tuberculosis is much higher than in the United States and that those who survive the disease constitute a small but hardy group of individuals. Also, according to Dr. Carl H. Fischer, Professor of Actuarial Science in the University of Michigan and Fellow of the Society of Actuaries, the tendency of impaired lives to leave the serv-

## THE GSIS BASIC MORTALITY TABLE

ice and let their policies lapse or surrender them for cash values may account for the low level of mortality rates among the employees of the Philippine government since their deaths, which occur sooner or later, do not appear in the records of the Government Service Insurance System. This seems to be corroborated by the fact that for the ultimate table the total number of deaths was 2581 as against the total number of all other terminations of 31,206 during the entire period of observation.

Therefore, in order to make the GSIS Basic Mortality Table useful for life insurance purposes in the Philippines, the writer has artificially inflated or loaded the rates therein to provide margins for higher mortality as was done in the case of the Commissioners Basic Table from which was derived the Commissioners 1941 Standard Ordinary Mortality Table.

References: The Record, Nos. 68 and 75

The Calculus of Observations  
by Whittaker and Robinson

Graduation of Mortality and Other Tables  
by Robert Henderson

Transactions of Actuarial Society of America,  
No. 113, Vol. XLVI



## PHILIPPINE STATISTICIAN — MARCH, 1956

## GSIS BASIC MORTALITY TABLE

By Luis R. Salvosa, Actuary

Age $x$	Number Living $l_x$	Number Dying $d_x$	Rate of Mortality $q_x$	Complete Expectation $e_x$
14	1000000	2400	.00240	58.44
15	997600	2434	.00244	57.57
16	995166	2448	.00246	56.71
17	992718	2472	.00249	55.85
18	990246	2486	.00251	54.99
19	987760	2499	.00253	54.13
20	985261	2512	.00255	53.26
21	982749	2516	.00256	52.40
22	980233	2529	.00258	51.53
23	977704	2542	.00260	50.66
24	975162	2555	.00262	49.80
25	972607	2577	.00265	48.92
26	970030	2600	.00268	48.05
27	967430	2622	.00271	47.18
28	964808	2644	.00274	46.31
29	962164	2675	.00278	45.43
30	959489	2706	.00282	44.56
31	956783	2746	.00287	43.68
32	954037	2795	.00293	42.81
33	951242	2835	.00298	41.93
34	948407	2893	.00305	41.06
35	945514	2950	.00312	40.18
36	942564	3016	.00320	39.30
37	939548	3101	.00330	38.43
38	936447	3203	.00342	37.55
39	933244	3322	.00356	36.68
40	929922	3459	.00372	35.81
41	926463	3632	.00392	34.94
42	922831	3821	.00414	34.08
43	919010	4034	.00439	33.22
44	914978	4264	.00466	32.36
45	910712	4526	.00497	31.51
46	906186	4812	.00531	30.67
47	901374	5138	.00570	29.83
48	896236	5512	.00615	29.00
49	890724	5932	.00666	28.17
50	884792	6388	.00722	27.36
51	878404	6887	.00784	26.55
52	871517	7408	.00850	25.76
53	864109	7941	.00919	24.98
54	856168	8476	.00990	24.20

THE GISIS BASIC MORTALITY TABLE

GISIS BASIC MORTALITY TABLE (Cont.)

By L. R. Salvosa, Actuary

Age $x$	Number Living $l_x$	Number Dying $d_x$	Rate of Mortality $q_x$	Complete Expectation $e_x$
55	847692	9019	.01064	23.44
56	838673	9552	.01139	22.69
57	829121	10074	.01215	21.94
58	819047	10574	.01291	21.21
59	808473	11052	.01367	20.48
60	797421	11507	.01443	19.75
61	785914	11977	.01524	19.03
62	773937	12484	.01613	18.32
63	761453	13082	.01718	17.61
64	748371	13778	.01841	16.91
65	734593	14574	.01984	16.22
66	720019	15408	.02140	15.54
67	704611	16227	.02303	14.87
68	688384	16969	.02465	14.21
69	671415	17625	.02625	13.55
70	653790	18221	.02787	12.90
71	635569	18775	.02954	12.26
72	616794	19318	.03132	11.62
73	597476	19860	.03324	10.98
74	577616	20459	.03542	10.34
75	557157	21188	.03802	9.70
76	535974	22163	.04135	9.06
77	513811	23517	.04577	8.43
78	490294	25314	.05163	7.81
79	464980	27527	.05920	7.21
80	437453	29996	.06857	6.63
81	407457	32499	.07976	6.08
82	374958	34777	.09275	5.57
83	340181	36586	.10755	5.09
84	303595	37703	.12419	4.64
85	265892	37937	.14268	4.23
86	227955	37161	.16302	3.85
87	190794	35333	.18519	3.50
88	155461	32521	.20919	3.18
89	122940	28896	.23504	2.89
90	94044	24707	.26272	2.62
91	69337	20263	.29224	2.38
92	49074	15880	.32360	2.16
93	33194	11844	.35680	1.95
94	21350	8366	.39184	1.76
95	12984	5567	.42873	1.57
96	7417	3467	.46746	1.37
97	3950	2133	.53994	1.13
98	1817	1232	.67803	0.86
99	685	516	.88174	0.62
100	69	69	1.00000	0.50

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TABLE.—TEST FOR SMOOTHNESS AND CLOSENESS OF FIT

x	$10^5 q'_x$	$\Delta^3$	$E_x p'_x q'_x$	$\theta_x = E_x q'_x$	$(\theta_x - \theta'_x)^2$	$\frac{(\theta_x - \theta'_x)^2}{E_x p'_x q'_x}$
14	238					
15	242					
16	245					
17	248					
18	250	-1				
19	252	1				
20	254	0				
21	255	-1				
22	257	2	.09	.09	.0081	.0900
23	259	-1	.58	.58	.1764	.3041
24	261	0	2.17	2.18	.6724	.3099
25	264	1	5.32	5.34	2.7556	.5180
26	266	-2	9.58	9.61	40.8321	4.2622
27	269	2	15.32	15.36	.1296	.0085
28	272	-1	22.80	22.84	23.4256	1.0274
29	276	1	31.65	31.74	85.7476	2.7092
30	280	-1	41.59	41.71	45.0241	1.0826
31	285	1	51.00	51.15	51.1225	1.0024
32	290	-1	57.38	57.55	.3025	.0053
33	295	0	63.64	63.82	392.8324	6.1727
34	301	1	68.42	68.63	21.4369	.3133
35	308	0	72.34	72.57	130.6449	1.8060
36	316	0	75.55	75.79	104.2441	1.3798
37	325	0	77.99	78.25	150.0625	1.9241
38	335	0	79.57	79.84	46.7856	.5880
39	348	2	83.69	83.98	8.8804	.1061
40	363	-1	87.37	87.69	75.5161	.8643
41	381	1	91.71	92.06	16.4836	.1797
42	402	0	94.13	94.51	56.1001	.5960
43	426	0	97.13	97.54	239.0116	2.4607
44	452	-1	97.43	97.87	.7569	.0078
45	481	1	79.16	79.54	550.3716	6.9526
46	513	0	65.50	65.84	8.0656	.1231
47	550	2	69.57	69.95	.9025	.0130
48	591	-1	72.00	72.43	208.8490	2.9007
49	639	3	74.89	75.37	.3969	.0053
50	693	-1	63.64	64.09	65.4481	1.0284
51	752	-1	56.46	56.89	26.1121	.4625
52	817	1	62.59	63.11	4.4521	.0711
53	884	-4	67.35	67.95	99.0025	1.4700
54	954	1	71.22	71.91	.8281	.0116



THE GSIS BASIC MORTALITY TABLE

TABLE.—TEST FOR SMOOTHNESS AND CLOSENESS OF FIT (Cont.)

x	$10^5 q'_x$	$\Delta^3$	$E_x p'_x q'_x$	$\theta'_x = E_x q'_x$	$(\theta_x - \theta'_x)^2$	$\frac{(\theta_x - \theta'_x)^2}{E_x p'_x q'_x}$
55	1027	0	64.43	65.10	123.2100	1.9123
56	1101	-2	59.59	60.26	68.2276	1.1450
57	1177	1	64.30	65.07	79.7449	1.2402
58	1253	-2	63.78	64.59	54.9081	.8609
59	1329	0	62.07	62.90	146.4100	2.3588
60	1404	-1	48.82	49.52	.2704	.0055
61	1482	4	38.42	39.00	81.0000	2.1083
62	1565	2	37.96	38.56	41.4736	1.0928
63	1661	8	37.29	37.92	82.4464	2.2110
64	1774	4	35.79	36.43	29.4849	.8238
65	1908	4	28.77	29.33	21.8089	.7580
66	2059	-4	20.37	20.80	46.2400	2.2700
67	2221	-6	18.94	19.37	.8969	.0210
68	2384	-10	17.76	18.19	.0361	.0020
69	2545	-3	15.96	16.38	19.1844	1.2020
70	2705	1	10.37	10.66	40.1956	3.8761
71	2869	5	4.58	4.72	2.9584	.6459
72	3040	9	3.76	3.88	3.5344	.9400
73	3224	0	3.45	3.56	2.4336	.7054
74	3425	6	3.23	3.34	1.7956	.5559
75	3658	15	2.48	2.58	2.4964	1.0066
76	3946	23	1.57	1.64	.4096	.2609
77	4324	35	1.32	1.38	1.9044	1.4427
78	4830	38	1.42	1.50	.2500	.1761
79	5497	33	1.30	1.37	1.8769	1.4438
80	6343	18	1.49	1.59	2.5281	1.6967
81	7371	3	1.37	1.47	.2209	.1612
Total		275		2578.89		71.6791

$X^2$  (Chi square) = 71.6791 Average age at death by the graduated table = 46.715 years

$\sqrt{2X^2} - \sqrt{2(60)-1} = 1.06$  Average age at death computed from the data = 46.674 years

Probability = 14%  $q'_x = q_x - \frac{1}{2}$

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TABLE.—DEATHS PER 1,000

Age	H.T.	A.E.	American Annuitants (Ultimate)	S.A.T. (Males)	C.B.T.	1948 P.I. Census Both Sexes	GSIS Basic Table
20	9.77	7.81		1.33	1.40	3.90	2.55
25	10.48	8.07	4.31	1.56	1.74	5.74	2.65
30	11.31	8.43	4.99	2.07	2.28	6.99	2.82
35	12.59	8.95	6.00	2.98	3.15	7.89	3.12
40	14.64	9.79	7.51	4.36	4.53	8.79	3.72
45	17.86	11.16	9.78	6.36	6.69	10.48	4.97
50	22.96	13.78	13.15	9.29	10.05	13.36	7.22
55	30.98	18.57	18.17	13.55	15.24	17.26	10.64
60	43.57	26.69	25.66	19.75	23.21	20.86	14.43
65	63.21	40.13	36.73	28.76	35.37	25.87	19.84
70	93.45	61.99	53.05	41.76	53.75	35.58	27.87
75	139.45	94.37	76.98	60.46	81.23	53.61	38.02
80	207.60	144.47	111.65	87.16	121.63	84.42	68.57
85	304.67	235.55	161.12	124.84	179.54	132.32	142.68
90	433.33	454.55	230.04	177.14	388.30	201.62	262.72
95	600.00	1000.00	323.06	248.06	399.94	296.62	428.73
100			456.79	362.12	1000.00	421.63	1000.00
105			1000.00	610.44		580.97	

H.T. = Hunter's Tropical Mortality Table

A.E. = American Experience Mortality Table

S.A.T. = 1937 Standard Annuity Table

C.B.T. = Commissioners Basic Mortality Table

GSIS = Government Service Insurance System

APPENDIX: Formulas and Symbols

$$\text{For. 1. } E_{|x|} = \sum_{t=0}^{x'} (s_{|x|} - e_{|x|}) + \sum_{t=1}^{x'-1} (n_{|x|} - o_{|x|} - w_{|x|}) + \frac{1}{2}(n_{|x|} - w_{|x|})$$

All ages shown are insuring ages as recorded on the cards.

$|x|$  = insuring age, i. e. insuring age attained within the calendar year;

$\underline{x}$  = insuring age attained in the calendar year following the initial (or terminal) dates of the observation period;

$E_{|x|}$  = number of lives exposed to risk for the calendar year during which insuring age  $x$  is attained;

$s_{|x|}$  = number of "survivors" at start of observation period who will attain insuring age  $x$  during the first calendar year of the period;

$e_{|x|}$  = number of "existing" lives at the end of the observation period who will attain insuring age  $x$  during the following calendar year;

$n_{|x|}, o_{|x|}, w_{|x|}$  = number of new entrants, deaths, and withdrawals, respectively, who attain insuring age  $x$  during the calendar year in which the respective entry, death, or withdrawal occurs.

$x' = |x|$



**PHILIPPINE STATISTICAL ASSOCIATION**

**Incorporated**

P. O. Box 3223, Manila

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**BOARD OF DIRECTORS**

**For the Year 1956**

**OFFICERS**

<i>President</i> .....	Enrique T. Virata
<i>First Vice-President</i> .....	Exequiel S. Sevilla
<i>Second Vice-President</i> .....	Luis R. Salvosa
<i>Secretary-Treasurer</i> .....	Carlos P. Fernandez

**DIRECTORS**

Bernardino G. Bantegui

Santiago F. de la Cruz

Manuel O. Hizon

Cesar M. Lorenzo

Vicente Mills

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In the Annual Meeting of the Association held December, 1955 Members of the Board were elected in accordance with the requirements of the corporation law; in a subsequent meeting held last January, 1956, the new Board elected the Officers who shall serve during the current year.

## AUDIT OF FUNDS

The following report on the funds of the Association is published for the information of all members.

SYCIP, GORRES, VELAYO & CO.  
Certified Public Accountants  
123 Juan Luna, Manila

Philippine Statistical Association, Incorporated  
M a n i l a

We have examined the accounts of the Philippine Statistical Association, Incorporated, for the year ended December 31, 1955. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying statement of cash receipts and disbursements, with the notes to this statement, presents fairly the transactions of the Philippine Statistical Association, Incorporated, for the year ended December 31, 1955, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

(Sgd.) SYCIP, GORRES, VELAYO & CO.

February 14, 1956



**PHILIPPINE STATISTICAL ASSOCIATION, INC.**  
**STATEMENT OF CASH RECEIPTS AND**  
**DISBURSEMENTS FOR THE YEAR**  
**ENDED DECEMBER 31, 1955**

The Association started the year 1955 with:

Cash on Hand .....	P 100.69	
Philippine Trust Company-Current Account ....	1,748.27	
Philippine Trust Company-Savings Account ...	5,982.47	
Security Bank & Trust Company-Savings Account	<u>7,530.30</u>	P15,361.73

During the year cash was received from:

Individual members for their dues .....	860.00	
Institutional members' contributions for 1955 ..	13,450.00	
Interests on savings deposits .....	190.97	
Individual members for their share of luncheon meeting expenses .....	676.00	
Members for advances on luncheon meetings ..	16.00	
Non-member subscriptions to "The Philippine Statistician" .....	8.00	
Cancellation of a check issued in 1954 representing fee of the Philippine Council of Management .....	<u>250.00</u>	<u>15,450.97</u>

The total funds available therefore amounted to ..... P30,812.70

To carry out the activities of the Association,  
cash was spent for:

Printing of "The Philippine Statistician" .....	6,348.98
Luncheon meeting expenses .....	2,578.45
Clerical help .....	2,220.84
Office Equipment .....	592.67
Stationery and supplies .....	584.14
Conference expenses .....	541.40
Photographs and cuts .....	407.25
Transportation of clerical help .....	228.30
Contribution to Technical and Professional Manpower Census Project .....	200.00
Postage and cables .....	176.88
Advertisement in the Business Writers Association of the Philippines Souvenir Program .....	100.00
Post office box rental .....	16.00
Miscellaneous .....	<u>80.40</u>

Total amount spent during the year ..... 14,075.31

This left cash balances as at December 31, 1955 of:

Petty cash .....	100.00	
Philippine Trust Company-Current Account ...	998.01	
Philippine Trust Company-Savings Account ...	7,995.56	
Security Bank & Trust Company-Savings Account	<u>7,643.82</u>	<u>P16,737.39</u>

## AUDIT OF FUNDS

### Note 1

In addition to the above cash funds, the Association had the following assets as at December 31, 1955:

a) Office Equipment:

	<u>Cost</u>	<u>Accumulated Depre- ciation</u>	<u>Net Book Value</u>
Two filing cabinets .....	P 802.50	P342.50	P460.00
One "Underwood" typewriter ..	500.00	95.82	404.18
One typewriter table and chair	61.00	5.60	55.40
One office table .....	31.67	2.64	29.03
	<u>P1,395.17</u>	<u>P446.56</u>	<u>P 948.61</u>

b) Advances on luncheon meetings for account of members:

Prior year .....		P 8.00	
This year .....		<u>24.00</u>	32.00

c) Members' dues still uncollected:

Members in arrears for both 1954 and 1955 dues		P260.00	
Members in arrears for 1955 dues .....		<u>240.00</u>	500.00

d) Interest on savings account with the Security Bank & Trust Company — not taken up in the Association's books .....

76.63

P1,557.24

### Note 2

Miscellaneous expenses amounting to P20.45 were unpaid as at December 31, 1955 (all paid in January, 1956).



# PHILIPPINE STATISTICAL ASSOCIATION

Incorporated

P. O. Box 3223, Manila

## DIRECTORY OF INDIVIDUAL MEMBERS

RECORDING YEAR OF ADMISSION

March 15, 1956

—A—

- 1955 **ACAYAN, Mrs. Dolores S.**; Instructor in Mathematics, University of the East, Azcarraga, Manila.
- 1952 **AGUIRRE, Tomas B.**; Loans Supervisor, Philippine National Bank, Escolta, Manila.
- 1953 **ALIP, Dr. Eufronio M.**; 1312 Dos Castillas, Sampaloc, Manila.
- 1954 **ALINO, Reinaldo**; Assistant Director, Exchange Control Department, Central Bank of the Philippines, Manila, Tel. No. 3-23-31; 522 Bagumbayan St., Manila.
- 1954 **ALONZO, Domingo C.**; Researcher and Professorial Lecturer of Statistics, The Statistical Center, University of the Philippines, Rizal Hall, Padre Faura, P. O. Box 479, Manila, Tel. No. 5-46-62; 1341-D Leroy, Paco, Manila.
- 1953 **ALZATE, Loreto V.**; Superintendent, Menzi & Co., Inc., Mati Project, 453 Claveria, Davao City; Menzi Mati Project, Mati, Davao.
- 1952 **ANTIPORDA, Alfredo V.**; Assistant to the Director, Foreign Exchange Department, Central Bank of the Philippines, Tel. 3-23-31; 567 Paltoc, Sta. Mesa, Manila.
- 1954 **AROMIN, Policarpio P.**; Administrative Officer, National Employment Service, 1003 Arlegui, Quiapo, Manila, Govt. 2630 — Dial 3-90-96; 1240 Rosarito, Sampaloc, Manila.
- 1951 **\*AYCARDO, Dr. Manuel Ma.**; 178 Porvenir St., Pasay City, Tel. 8-24-84.

—B—

- 1953 **BACANI, Alberto C.**; Head, Records Division, Registrar's Office, University of the East, Azcarraga, Tel. 3-36-81, Manila; No. 18 Illinois Street, Cubao, Quezon City, Tel. 7-44-48.

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\* Founding Member



- 1953 **BALICKA, Miss Sophya M.**; Statistical Adviser, United States of America Operations Mission to the Philippines (ICA), Dewey Boulevard, Manila, Tel. No. 5-57-51; 207 T. Alonzo, Parañaque, Rizal, Tel. No. 8-33-31.
- 1954 **BALTAZAR, Tomas**; Division of Evaluation Research & Statistics, Bureau of Private Schools; Manila.
- 1953 **BANCOD, Ricardo T.**; Assistant Treasurer, The Philippine American Life Insurance Co.; Treasurer, The Philippine American General Insurance Co., Inc., Tel. Nos. (PALIC) 2-79-81, (PAGICInc.) 2-98-01; 969 Highway 54, Philamlife Homes, Quezon City, Tel. No. 6-11-62; P. O. Box 1152, Manila.
- 1953 **BANTEGUI, Bernardino G.**; Director, Office of Statistical Coordination and Standards, National Economic Council, Padre Faura, Manila; 18 J. Nieto, Paco, Manila.
- 1952 **BATE, Celso S.**; Import-Export Department, Central Bank of the Philippines, Manila.
- 1953 **BENITEZ, Conrado**; Philippine Women's University, Taft Avenue, Manila.
- 1955 **BENGZON, Arturo**; Senior Economist, ACCFA, 2544 Taft Avenue, Manila, Tel. No. 5-48-42; 259 (103) R. Lagmay St., San Juan, Rizal.
- 1952 **BLARDONY, Sr., Mauro**; Manager, Control & Analysis Dept., Insular Life-FGU Insurance Group; 21 Plaza Moraga, Manila, Tel. No. 3-93-61; 735 Amorsolo St., San Lorenzo Village, Makati, Tel. No. 5-05-98; P. O. Box 128, Manila.
- 1954 **BRAUM, Dr. Dan**; Institute of Public Administration, University of the Philippines, Rizal Hall, Padre Faura, Manila.
- 1952 **BRINGAS, Honesto**; Wage Administration Service, Manila.

—C—

- 1952 **CAPINPIN, Jose M.**; Professor and Head, Department of Agricultural Botany and Genetics, U. P. College of Agriculture, College, Laguna.
- 1952 **CASTILLO, Jose V.**; Division of Agricultural Economics, Department of Agriculture & Natural Resources, Manila; 2409 Hernandez St., Sta. Ana, Manila.

- 1954 **CASTRO, Amado A.**; Assistant Professor of Economics, College of Business Administration, University of the Philippines, Diliman, Quezon City; 439 Valenzuela, San Juan, Rizal, Tel. No. 7-27-62; P. O. Box 1504, Manila.
- 1954 **CLAYTON, Claud F.**; Agricultural Economist, United States of America Operations Mission to the Philippines (ICA); Dewey Boulevard, Manila.
- 1953 **CLEMENTE, Dr. Tito**; Chief, Research and Evaluation Division, Bureau of Public Schools, Manila, Tel. No. 3-268; U. P. Social Hall, U. P., Diliman, Quezon City.
- 1953 **CONCEPCION, Mariano V.**; Statistician, United States of America Operations Mission to the Philippines (ICA); Dewey Boulevard, Manila.
- 1955 **CONCEPCION, Miss Mercedes B.**; Research Assistant, The Statistical Center, Tel. No. 5-46-62 or 07-3165; 589 Zamora St., Pasay City, Tel. No. 8-14-52; P. O. Box 479.
- 1953 **CULABUTAN, Miss Paz B.**; Senior Statistician, Department of Economic Research, Central Bank of the Philippines, Manila; General Trias, Cavite.
- 1952 **CRUZ, Santiago F. de la**; Dean, College of Commerce, University of the East, Azcarraga, Manila, Tel. Nos. 3-73-80 and 3-36-81; 381 P. Guevara Ave., San Juan, Tel. No. 7-36-64; P. O. Box 1245, Manila.
- 1954 **CASTRO, Pio G. DE**, Technical Assistant to the General Manager and Acting Manager, Trade Assistance Department, NAMARCO, Manila.

—D—

- 1951 **\*DALISAY, Dr. Amando**; Director, The Statistical Center, U.P. Rizal Hall, Padre Faura, Tel. 5-46-62; 07-3165, Manila.
- 1953 **DIAZ, Gilberto C.**; Statistician, Exchange Control Department, Central Bank of the Philippines, Manila.
- 1956 **DIAZ, Luis C.**; c/o SyCip, Gorres, Velayo & Co., Trade & Commerce Bldg., Juan Luna, Manila.

—E—

- 1953 **ESPINOSA, Mrs. Mercedes L.**; College of Commerce, University of the East, Manila.

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\* Founding Member

—F—

- 1952 **FERNANDEZ, Carlos P.**; Fernandez Hermanos, Inc.; 109 Juan Luna, Manila
- 1953 **FERNANDEZ, Jr., Jose**; Vice-President, The Philippine Bank of Commerce, Manila.
- 1956 **FLORES, Tomas W.**; Administrative Officer and Technical Assistant, WAPCO, 747 Padilla Street, San Miguel, Manila, Tel. No. 3043 or 3-85-16; 157 J. Ruiz, San Juan, Rizal, Tel. No. 5148.

—G—

- 1953 **GALANG, Major Eulogio G.**; Chief, War Potential & Statistical Service Branch, Research & Development Division, GHQ, AFP, Camp Murphy, Quezon City; 224 Marne St., San Juan, Rizal.
- 1954 **GARCIA, Mrs. Fanny Cortes**; Acting Director, Department of Economic Research, Central Bank of the Philippines, Manila, Tel. No. 3-23-31 Local 209; 1594-B Sandejas, Malate, Manila, Tel. No. 5-48-80.
- 1954 **GARCIA, Manuel L.**; Head, Planning & Statistics, Abaca Corporation of the Philippines, 1310 Perez Street, Paco, Manila, Tel. No. 07-2038; 43 Demetrio Tuazon, Quezon City, Tel. No. 6-62-94.
- 1954 **GARCIA, Salvador del R. (CPA)**; Chief Accountant, Office of the Controller, ICA USOM/Manila, Litton Bldg., Dewey Boulevard, Manila, Tel. No. 5-57-51 Ext. 34; 443 Arquiza Street, Ermita, Manila.
- 1951 **\*GIVENS, Dr. Meredith B.**; Division of Employment, New York State Department of Labor, Rm. 1205, 500-8th Avenue, New York 18, N.Y., U.S.A.
- 1955 **GONZALES, Cipriano S.**; President, C. S. Gonzales & Company, 301-302 Madrigal Bldg., Escolta, Manila, Tel. No. 3-33-95 & 3-89-28; Marilao, Bulacan.
- 1951 **\*GONZALES, Dr. Leon Ma.**; Director, Bureau of the Census & Statistics, 506 Aviles, San Miguel; Tel. 6-73-76 or 04-229; 1417 Perez, Paco, Tel. 5-31-15, P. O. Box 1949, Manila.
- 1952 **GRAU, Cesareo H.**; Vice-President, Philippine American Life Insurance Co., Wilson Building, Juan Luna St., Manila, Tel. No. 2-79-81; No. 16 Tamarind Road, Forbes Park, Makati, Rizal, Tel. No. 5-03-55; P. O. Box 1152, Manila.
- 1955 **GUILLERMO, Rodrigo J.**; Department of Chemistry, University of the Philippines, Diliman, Quezon City.

\* Founding Member

- 1952 **GUTIERREZ, Mrs. Belen Enrile**; Dean, Institute of Accounts, Far Eastern University, Manila, Tel. No. 3-80-11; Wack Wack Road, Mandaluyong, Rizal, Tel. 6-78-87

—H—

- 1953 **HAWLEY, Dr. Amos H.**; University of Michigan, Ann Arbor, Michigan, U.S.A.
- 1954 **HEADY, Jr., Dr. Chester Ferrel**; University of Michigan, Ann Arbor, Michigan, U.S.A.
- 1955 **HERBER, Mrs. Josefina Almalel**; 25 San Juan St., Pasay City.
- 1955 **HERBER, Teodorico**; Asst. Economist, Department of Economic Research, Central Bank of the Philippines, Manila.
- 1954 **HILADO, Alfonso**; 547 A. Mabini, Manila.
- 1951 **\*HIZON, Dr. Manuel O.**; Acting Administrator, Social Security System, 111 Mosorco Building, Port Area, Manila, Tel. No. 3-89-34; 148 Sierra Madre, Quezon City, Tel. No. 6-74-65; P. O. Box 2370.

—I—

- 1954 **IGNACIO, Eduardo, Jr.**; University of Santo Tomas, Manila.
- 1952 **ISIP, A. B.**; Executive Secretary, Philippine Chamber of Industries, Inc., Manila Hotel, Manila.

—K—

- 1953 **KRISHNAMURTHY, T.**; Specialist in Fundamental & Adult Education, United Nations Building, Padre Faura, Manila.
- 1954 **KEARL, C. Del Mar**; Associate Professor, College of Agriculture, Los Baños, College, Laguna.

—L—

- 1954 **LANDAS, Marcelo R.**; Secretary and Administrative Officer, Board on Pensions for Veterans, Lepanto, Manila, Tel. No. 4343; Professor, Business Mathematics, Business Statistics and Mathematics of Investment, College of Commerce; Bacoor, Cavite; P. O. Box 2265.

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\* Founding Member

- 1952 **LARA, Dr. Hilario**; Professor and Dean, Institute of Hygiene, University of the Philippines, 625 Herran St., Manila, Tel. No. 5-38-59; 1020 Leyte Road, U. P. Campus (Cottage 1020), Diliman, Quezon City.
- 1955 **LAZATIN, Mrs. Tala P.**; Assistant Actuary, Government Service Insurance System, Port Area, Manila, Tel. No. 3-44-11; Marikina, Rizal.
- 1951 \***LEGARDA, Benito, Jr.**; Economist, Central Bank of the Philippines, Manila, Tel. No. 3-23-31; 1 Calabash Road, Manila, Tel. No. 6-77-43.
- 1955 **LEONOR, Miss Concepcion**; Professor in Mathematics, University of Santo Tomas, España Street, Manila.
- 1956 **LIEBERMAN, Milton D.**; Statistical Operations Specialist, U. S. A. Operations Mission (ICA), Litton Bldg., Dewey Boulevard, Manila, Tel. No. 5-57-51 Ext. 28; 2095 Carolina Street, Manila.
- 1954 **LIZARDO, Jose M.**; Exchange Control Department, Central Bank of the Philippines, Manila.
- 1952 **LOMOTAN, Cesar J.**; Division Chief, Department of Economic Research, Central Bank of the Philippines, Manila.
- 1956 **LOPEZ, Eugenio S.**; Special Collecting & Disbursing Officer, Philippine General Hospital, Taft Avenue, Manila, Tel. No. 5-53-11 (Property Office); 109 Kamias Road, Diliman, Quezon City.
- 1951 \***LORENZO, Cesar M.**; Executive Vice-President and General Manager, Philippine Phoenix Surety and Insurance, Inc., 221-224 Regina Building, Escolta, Manila, Tel. No. 3-49-46 or 3-49-47; 394 Guevara Avenue, San Juan, Rizal, Tel. No. 6-60-80.

—M—

- 1954 **MAGTIRA, Cirilo C.**; Professor, Mapua Institute of Technology, Doroteo Jose, Manila; 9 Alabama St., Quezon City, Tel. No. 60:167-R.
- 1953 **MANZANO, Dr. Iluminado**; University of the Philippines, Diliman, Quezon City.
- 1953 **MAULIT, Dimas A.**; Chief, Division of Agricultural Economics, Department of Agriculture and Natural Resources, Tel. No. 3-95-06.

\* Founding Member

- 1954 **McDIARMID, Orville**; Regional Economist, Office of Regional Director for Far Eastern Operations, Foreign Operations Administration; Washington 25, D.C., U.S.A.
- 1953 **MCMILLAN, Robert T.**; Acting Special Assistant for Rural Development, ICA, Dewey Boulevard, Manila, Tel. No. 5-57-51.
- 1951 \***MILLS, Vicente**; 378 Buencamino; P. O. Box 1470, Tel. No. 6-75-68, Manila.
- 1955 **MORRISON, Frank S.**; Analytical Statistician (Demography), United States of America Operations Mission to the Philippines (ICA), Dewey Boulevard, Manila, Tel. No. 5-57-51; Apt. 21, North Syquia Apts., 1991 M. H. del Pilar, Tel. No. 5-58-26.

—O—

- 1953 **ONATE, Burton T.**; Professorial Lecturer, U. P. Statistical Center, Manila; College, Laguna.

—P—

- 1952 **PANLASIGUI, Dr. Isidoro**; Dean, College of Education, University of the Philippines, Diliman, Quezon City; U. P. Site, Diliman, Quezon City.
- 1952 **PAREL, Miss Cristina**; University of the Philippines, Diliman, Quezon City.
- 1955 **PEREZ, Antonio G.**; Assistant Insurance Commissioner, Office of the Insurance Commissioner, 4th Floor, Natividad Bldg., Corner Escolta & T. Pinpin, Tel. No. 3-90-15, Manila; 977 Cataluña St., Sampaloc, Manila, Gov't Tel. 4-246; P. O. Box 3589.
- 1952 **PEREZ, Bernardino A.**; Chief Statistician, National Economic Council; Philcusa Bldg., Padre Faura, Manila.
- 1952 **PUYAT, Gil J.**; Senator, Philippine Senate, Tel. 3-92-65; Vice-President & Gen. Manager, Gonzalo Puyat & Sons, Inc., Tel. No. 3-60-81; 60 D. Tuazon, Sta. Mesa Heights, Q. C., Tel. 6-79-10; P. O. Box 404, Manila.

—R—

- 1951 \***RAMOS, Damaceno**; NAMARCO; Binondo, Manila.
- 1951 \***REGALADO, Rosendo B.**; Former Chief, Division of Demography and Social Statistics (Ret.), Bureau of the Census and Statistics; 2231 Rebellin Street, Sta. Ana, Manila, Tel. No. 5-42-69.

\* Founding Member

- 1954 REYES, Miss Alicia I.; Auditor, International Cooperation Administration, Dewey Boulevard, Manila, Tel. No. 5-57-51 Extension 33; 61 A. Mabini, Quezon City, Tel. No. 6-44-20.
- 1953 ROA, Conrado C.; Actuary, Office of the Insurance Commissioner; Natividad Building, T. Pinpin, Manila.
- 1952 ROA, Dr. Emeterio; Vice-President, The Insular Life Assurance Co., Ltd., Insular Life Bldg., Plaza Moraga, Manila.
- 1953 ROA, Emeterio Jr.; Vice-President Actuary, Great Pacific Life Assurance Corp., 166 Rosario, Manila, Tel. No. 2-81-31.
- 1951 \*ROA, Federico; Assistant Actuary, The Insular Life Assurance Co., Ltd., Plaza Moraga, Manila, Tel. No. 3-93-61; P. O. Box 128.
- 1953 ROBERTSON, Dr. Lynn S.; College of Agriculture, Purdue University; Lafayette, Indiana, U.S.A.
- 1954 ROSS, J. P. B.; Thieux Seine Et; Marne, France.

—S—

- 1952 SACAY, Dr. Francisco M.; ACCFA; 2544 Taft Avenue, Manila.
- 1952 SALVOSA, Dr. Luis R.; Actuary, Government Service Insurance System; Port Area, Manila.
- 1951 \*SANTIAGO, Ceferino; College of Commerce, University of the East, Manila.
- 1954 SANTOS, Dr. Mariano De Los V.; President, The University of Manila, 665 Alejandro VI, Sampaloc, Manila, Tel. No. 3-38-03.
- 1953 SARDA, Miss Mira; Exchange Control Department, Central Bank of the Philippines, Manila.
- 1954 SEN, Satya B.; Indian Statistical Institute, 203 Barrackpore Trunk Road, Calcutta 35, India.
- 1951 \*SEVILLA, Exequiel S.; President, National Life Insurance Co. of the Philippines, Regina Building, Escolta, Manila, Tel. No. 3-27-88; P. O. Box 2056, Manila.
- 1952 SILVESTRE, Dr. Jose G.; Chief, Section of Epidemiological Investigations, Division of Preventable Diseases, MHD., Manila Health Department, City Hall, Manila, Tel. No. 3-33-27; (1022 old) 954 Arlegui, Quiapo, Manila.

\* Founding Member

- 1953 **SIMBULAN, Cesar G.**; Assistant Secretary and Manager of the Actuarial Department, Philippine American Life Insurance Company, Wilson Building, Juan Luna, Manila, Tel. No. 2-79-81.
- 1953 **SORONGON, Arturo P.**; Fiscal Economist, United States of America Operations Mission to the Philippines (ICA); Dewey Boulevard, Manila.
- 1956 **STAPP, Peyton**; Chief, ICA Statistical Survey Mission to the Philippine Government, International Cooperation Administration, Dewey Boulevard, Manila.
- 1952 **SUMAGUI, Juan O.**; Senior Statistician, Office of Statistical Coordination and Standard, National Economic Council, Padre Faura Street, Manila.
- 1952 **SYCIP, Washington**; Partner, SyCip, Gorres, Velayo & Co., CPAs, 490 San Luis, Manila, Tel. No. 2-69-16; 3 Bauhinia, Forbes Park, Makati, Tel. No. 5-02-05, P. O. Box 589.

—T—

- 1952 **TABLANTE, Nathaniel B.**; Government Pensionado, Department of Agricultural Economics, Purdue University, West Lafayette, Indiana; College, Laguna, Philippines.
- 1954 **TALAG, Lt. Col. Mariano R.**; HQ. Philippine Navy, Fort San Antonio Abad, Dewey Boulevard, Manila.
- 1954 **TAN, Dr. Vidal A.**; President, University of the Philippines, Diliman, Quezon City, Tel. No. 60 (Q.C.) 557; 2 Balete Drive, Quezon City, Tel. No. 7-25-78.
- 1953 **TEODORO, Pedro E.**; President, Philippine Promotion Bureau, Inc., 438, 440, 442, 448 Regina Building, Escolta, Manila, Tel. Nos. 3-32-44 and 3-49-61 — 66; 1922 Ipil Street, Manila, P. O. Box 1395.
- 1952 **TIOJANCO, Mrs. Rosita**; College of Commerce, University of the East, Manila.

—U—

- 1953 **UICHANCO, Miss Epigenia B.**; Chief, Evaluation and Research Section, City Schools, City Hall, Manila.
- 1952 **UICHANCO, Dr. Leopoldo B.**; Dean and Professor of Entomology, College of Agriculture, University of the Philippines, College, Laguna.



—V—

- 1952 **VALENZUELA, Dr. Victor C.**; Associate Professor, Institute of Hygiene, University of the Philippines; Professorial Lecturer, Statistical Training Center, University of the Philippines, 625 Herran St., Manila, Tel. No. 5-38-59; 155 12th Street, New Manila, Quezon City.
- 1953 **VARSOVIA, Dr. Mariano**; Rehabilitation Finance Corporation, David St., Manila, Tel. Nos. 8-82-42, 2360, & 2407; 322 G. Tuason Street, Sampaloc, Manila.
- 1952 **VIBAL, Hilarion P.**; Editor & Publisher, Insurance & Finance Magazine, 323 Samanillo Building, 413 Escolta, Manila, Tel. No. 3-74-48; 83 Balete Drive, Quezon City, Tel. No. 7-34-58.
- 1951 **\*VIRATA, Dr. Enrique T.**; Executive Vice-President, University of the Philippines, Tel. 60-555-J; U. P. Campus, Diliman, Quezon City.

—Y—

- 1951 **\*YOINGCO, Angel**; Economist, Committee on Appropriations, House of Representatives, Manila.

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\* Founding Member



Republic of the Philippines  
Department of Public Works and Communications

BUREAU OF POSTS  
Manila

SWORN STATEMENT  
(Required by Act 2589)

The undersigned, VICENTE MILLS, Editor of THE PHILIPPINE STATISTICIAN, published quarterly, in English, at 378 Buencamino, San Miguel, Manila, after having been duly sworn in accordance with law, hereby submits the following statement of ownership, management, circulation, etc., which is required by Act 2589, as amended by Commonwealth Act No. 201:

Name	Post-Office Address
Editor: VICENTE MILLS .....	378 Buencamino, San Miguel, Manila
Business Manager: EXEQUIEL S. SEVILLA .....	P. O. Box 3223, Manila
Owner: PHILIPPINE STATISTICAL ASS'N. ....	P. O. Box 3223, Manila
Publisher: PHILIPPINE STATISTICAL ASS'N. ..	P. O. Box 3223, Manila
Printer: CARMELO & BAUERMANN, INC. ....	2057 Azorraga, Manila
Office of Publication: .....	378 Buencamino, San Miguel, Manila

If publication is owned by a corporation, stockholders owning one per cent or more of the total amount of stocks: NONE

Bondholders, mortgagees, or other security holders owning one per cent or more of the total amount of security: NONE

In case of publication other than daily, total number of copies printed and circulated of the last issue dated December, 1955:

1. Sent to paid subscribers .....	549
2. Sent to others than paid subscribers .....	28
Total .....	<u>577</u>

(Sgd.) VICENTE MILLS  
Editor

Subscribed and sworn to before me this 20th day of March, 1956, at Manila, the affiant exhibiting his Residence Certificate No. A-0182195, issued at Manila, on January 29, 1955.

(Sgd.) GERARDO V. CUI  
Notary Public  
Until December 31, 1956

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NOTE: This form is exempt from the payment of documentary stamp tax.

# **PHILIPPINE STATISTICAL ASSOCIATION**

**Incorporated**

**P. O. Box 3223, Manila**

## **INSTITUTIONAL MEMBERS**

### **Associations**

**Philippine Sugar Association  
The Philippine Association, Inc.**

### **Banks**

**Central Bank of the Philippines  
China Banking Corporation  
Philippine Bank of Communications  
Philippine National Bank  
Rehabilitation Finance Corporation**

### **Business and Industry**

**Blue Bar Coconut Co.  
Caltex, Philippines, Inc.  
Elizalde and Co., Inc.  
Erlanger and Gallinger, Inc.  
International Harvester Company of the Philippines  
Koppel (Philippines) Inc.  
Menzi and Co., Inc.  
Philippine Manufacturing Co.  
Philippine Packing Corporation  
San Miguel Brewery, Inc.  
Standard Vacuum Oil Company  
The Shell Company of the Philippines, Ltd.**

### **Education**

**Far Eastern University  
University of the East**

### **Insurance**

**Government Service Insurance System  
National Life Insurance Company of the Philippines  
Pacific Union Insurance Company  
Provident Insurance Company of the Philippines  
The Insular Life Assurance Co., Ltd.  
The Philippine American Life Insurance Company**