

THE 1979 DIARY FAMILY INCOME AND EXPENDITURE SURVEY: EXPERIENCE AND PRELIMINARY RESULTS

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I. BACKGROUND ON THE DFIES

The 1979 Diary Family Income and Expenditure Survey utilized the diary method of data collection to minimize, if not eliminate, errors and biases arising from the traditional recall-record method of soliciting information. Expectedly, the diary survey or DFIES may yield more accurate information to meet the following objectives

General: To provide reliable quantitative information to serve as a sound basis for policy formulation

Specific: (1) To determine realistic levels of personal and additional exemptions and of medical and educational expenses for individual taxpayers;

(2) To determine income and expenditure patterns of households by income class and by source of income.

The National Tax Research Center (NTRC) and the National Census and Statistics Office (NSCO) jointly undertook the survey with consultants from the Statistical Coordination Office of the National Economic and Development Authority (NEDA-SCO). Survey design was developed and planned by representatives from the three agencies while the field survey operations were NSCO's main responsibility.

Terms were defined and adapted to suit the purposes of the survey, and some of these were unique to DFIES. In like manner, the sampling procedure was attuned to the requirements of the survey. Respondents were selected using a two-stage stratified systematic method.

For the first stage, the sampling frame consisted of 2,629 barangays taken from the 4,705 barangays which have been included

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in the Integrated Survey of Households (ISH) and those which are covered by municipal census officers (MCOs). The barangays were stratified into four groups, as follows:

- (1) rural, agricultural;
- (2) rural, nonagricultural;
- (3) urban, Metro Manila; and
- (4) urban, outside Metro Manila.

After defining the Strata, different sampling fractions for each stratum were used. These sampling fractions were determined with the objective of allocating about 500 barangays among the four strata.

In the rural areas, the sampling fraction for agricultural barangays was $1/10$ and for nonagricultural, $1/5$. In the urban sector, it was $1/2$ for Metro Manila and $1/4$ outside Metro Manila. Applying these fractions corresponding to the respective stratum, the sample sizes per stratum were obtained. Sample barangays were selected systematically with a random start for each region.

In every sample barangay, the frame in the second stage consisted of the listing of all households with their 1978 estimated annual gross income. Households with annual gross income of ₱100,000 or over in the sample barangays were all taken as respondents to the survey. All the other households were classified into low, middle and high income classes. Thus, households were categorized according to annual gross income as follows:

- (1) low — less than ₱4,000;
- (2) middle — ₱4,000 but less than ₱20,000;
- (3) high — ₱20,000 but less than ₱100,000; and
- (4) very high — ₱100,000 and over.

For each barangay stratum, a predetermined sample size of the low to high income households was followed. The total of sample households for each sample barangay was the predetermined sample size required for the barangay type (stratum) plus all households with very high income.

The listing of households in each sample barangay was arranged according to gross income in decreasing order. Sample households were chosen systematically within every income stratum. The names of the heads of sample households were listed together with a list of replacements.

TABLE 1
PERCENT DISTRIBUTION OF HOUSEHOLDS BY INCOME LEVELS, 1979

<i>Annual income (in pesos)</i>	<i>Distribution (in percent)</i>
No. of households	7,299,455*
Total	100.00
Less than 2,000	15.65
2,000 — 3,999	20.58
4,000 — 5,999	16.56
6,000 — 7,999	10.01
8,000 — 9,999	8.23
10,000 — 19,999	16.68
20,000 — 29,999	5.17
30,000 — 49,999	4.14
50,000 — 59,999	0.85
60,000 — 79,999	0.79
80,000 — 99,999	0.48
100,000 — 199,999	0.53
200,000 — 499,999	0.19
500,000 — 999,999	0.06
1,000,000 and over	0.01

Source: 1979 DFIES.

*Estimated total number of households in 10 regions.

TABLE 2
AVERAGE INCOME AND EXPENDITURES OF HOUSEHOLDS BY
INCOME LEVEL, 1979
(in pesos)

	<i>Income</i>	<i>Income</i>	<i>Expenditures</i>
TOTAL		10,645	13,003
Less than	2,000	1,140	4,495
2,000	— 3,999	1,816	4,734
4,000	— 5,999	4,739	6,528
6,000	— 7,999	6,681	8,452
8,000	— 9,999	8,639	11,121
10,000	— 19,999	13,396	15,451
20,000	— 29,999	23,287	24,904
30,000	— 49,999	35,224	33,493
50,000	— 59,999	50,994	58,408
60,000	— 69,999	59,642	78,847
70,000	— 79,999	66,045	62,144
80,000	— 89,999	80,249	92,374
90,000	— 99,999	83,451	100,456
100,000	— 149,999	106,218	118,183
150,000	— 199,999	140,539	120,747
200,000	— 249,999	161,093	130,105
250,000	— 499,099	294,438	486,217
500,000	— 999,999	544,110	529,888
1,000,000 and over		1,947,342	1,567,788

Source: 1979 DFIES.

TABLE 3
AVERAGE INCOME AND EXPENDITURE OF HOUSEHOLDS BY
REGION, 1979
(in pesos)

<i>Region</i>	<i>Income</i>	<i>Expenditure</i>
Philippines	10,645	13,003
National Capital region	18,800	21,752
Region I	11,131	13,214
II	6,564	7,885
III	11,325	15,565
IV	11,777	14,366
V	8,316	9,686
VI	6,849	9,407
VII	7,401	10,043
VIII	6,008	6,684
X	9,154	9,701

Source: 1979 DFIES.

TABLE 4
PERCENT DISTRIBUTION OF TOTAL HOUSEHOLD
EXPENDITURES BY ITEM OF EXPENDITURE, 1979

<i>Item</i>	<i>Percent Distribution</i>	<i>Rank</i>
Total	100.00	
Food	31.29	1
Alcoholic beverages	0.69	17
Tobacco, cigarettes	0.85	15
Clothing	3.68	7
Housing	10.13	3
Household furnishing and equipment	1.26	13
Household operations	1.09	14
Fuel, light and water	2.57	8
Personal care	0.56	18
Medical care	2.20	10
Transportation and communication	5.13	4
Recreation	0.79	16
Education	3.95	6
Gifts, contribution, assistance to outsiders	25.33	2
Taxes	1.55	12
Special occasion of family	1.50	11
Personal effects	.24	19
Misc. goods and services	8.92	5
Others	.57	9

Source: 1979 DFIES.

There were three kinds of respondents in every sample household – the head of household, the family head, and any individual earner.

The total of 554 sample barangays included in the survey were divided into six sets. Each set covered a three-month period,¹ except the sixth set which had November and December only. The last month of one set overlapped with the first month of the succeeding set.

Field survey operations commenced on February 1979. Over 1,000 households were expected to respond for the first set covering the survey period from January to March. The diary for the month of January was recorded on a recall method with the assistance of the MCO interviewer.

During the first house visit, the interviewer gathered the following background information on the household:

- (1) names of household members
- (2) relationship to household head
- (3) sex
- (4) age
- (5) marital status
- (6) highest grade completed
- (7) primary or main occupation
- (8) kind of business or industry

The interviewer explained how the diaries were to be accomplished to one responsible member within the household serving as the contact person or cooperator. Each sample household was provided with a copy of the "Guidelines for Respondents" written in the dominant vernacular within the locality. The guidelines contained instructions on how daily transactions of receipts and disbursements were to be recorded and described.

Based on the background information gathered, the interviewer identified who among the household members should be given diary-forms. Each qualified respondent in the household was provided with a separate diary. Diary forms were distributed and collected every week. The interviewers were to clarify unusual entries in the diaries and find out if there was any problem encountered by the respondents.

1. By May 1979, the survey period for each set had been reduced to two months.

The interviewers edited the accomplished diary-forms before submitting them to NCSO's Household Surveys Division. Forms received at NCSO-HSD were monitored to determine which sample barangays and households were responding. MCOs were notified immediately when some diaries were missing. NCSO-HSD transmitted the forms to NTRC for manual processing.

For uniform interpretation of entries in the diaries, each coder in the manual processing unit had a manual of instructions explaining the objectives of the survey, the data requirements, the screening and coding process. All recorded transactions in the diaries were summarized into the DFIES Processing Sheets along with the background information on the household. Completed processing sheets were given to NCSO in batches for machine processing.

An estimate of the characteristics for the a th income class in h th barangay stratum in a region is given by

$$X^1_h = \frac{1}{b_{ha}} \sum \frac{b_{ha}}{P_{hi}} \frac{N_{hia}}{N_{hia}} \sum_j X_{hiaj}$$

where:

- X_{hiaj} — characteristics for the j th household of the a th income class in the i th barangay belonging to the h th stratum
- n_{hia} — number of sample households in the hia th class
- N_{hia} — number of households listed in the hia th class
- P_{hi} — 1975 population of i th barangay
- P_h — 1975 stratum population
- b_h — number of sample barangays of a th income class in the h th stratum

II. DFIES EXPERIENCE

The diary method of data gathering is subject to several pitfalls like the difficulty of eliciting the sustained cooperation of identified respondents, possible loss of diary-forms in transit from the field to NCSO-HSD and others. Based on the Weekly Reports of the MCOs or CAs, some of the more frequent problems encountered in the field are:

- (1) Respondents were not receptive to the idea of the diary

method for various reasons. The most common reason was that they were busy to take time out recording daily transactions.

- (2) The interviewers had transportation problems and their allowance was not enough.
- (3) Respondents were not available during the interviewer's visits. Some respondents changed residence during harvest time.
- (4) Respondents did not know how to fill up diary forms properly in spite of explanations given by interviewers.
- (5) Residences of respondents were in some instances quite far from each other, and weekly visits proved to be cumbersome.

Although numerous problems were met in the field survey, the response rate was encouraging in most regions. As expected, Metro Manila had the highest nonresponse.

During the manual processing of accomplished diary-forms, a number of common difficulties were again encountered. Most of the problems must have stemmed from basic causes. One was the lack of understanding of the importance and concepts of the survey among the interviewers and the respondents. It was quite often that respondents recorded their disbursements lumping various expenditures into one transaction. The second cause was that the interviewers were saddled with many other things to do, leaving not enough time to clarify and edit diary-forms before submission to NSCO-HSD.

The systems design was prepared way ahead of the completion of the field operations. Nevertheless, machine processing experienced numerous difficulties. Such difficulties could be traced to the following reasons:

- (1) the volume of records handled;
- (2) the inclusion of more than one respondent per sample household;
- (3) the newness of some concepts;
- (4) error in some data inputs. Computer programs could not be properly tested since much time was devoted to the cleaning of the files, and there were many other projects being handled by the same programmers.

These difficulties did not hinder the working group (from NTRC, NCSO-HSD and EDP) from producing the priority tables which were based on the data requirements of NCSO and NTRC. To the extent possible, specifications from the National Accounts Staff of NEDA-SCO were included.

III. CONCLUDING REMARKS

Considering the constraints and resources under which DFIES was undertaken, survey results show some indications that the diary method of data gathering may be utilized in the Philippines. One area needing improvement is the employment of interviewers who would visit respondents more than once a week. MCOs could not be expected to allot more time to this kind of undertaking since they have other surveys to handle.

Another means of improving results for this survey is to allow more time for interviewers, coders and EDP personnel to understand the concepts used. The need of the NTRC for information on the nuclear family and individual earner necessitated some concepts not ordinarily used in the usual income and expenditure survey.

A third item needing reexamination is the choice of respondents. The selection should recognize that respondents to a diary survey require closer supervision from the interviewers.

The sampling and estimation procedure needs a second look. Using the previous year's income as basis for blowing up the characteristic derived from a household for the current year seemingly distorts the resulting income distribution. This was evidenced by one sample household which was listed under middle income class in 1978. Perhaps those knowledgeable in sampling might be interested in studying further such cases.