

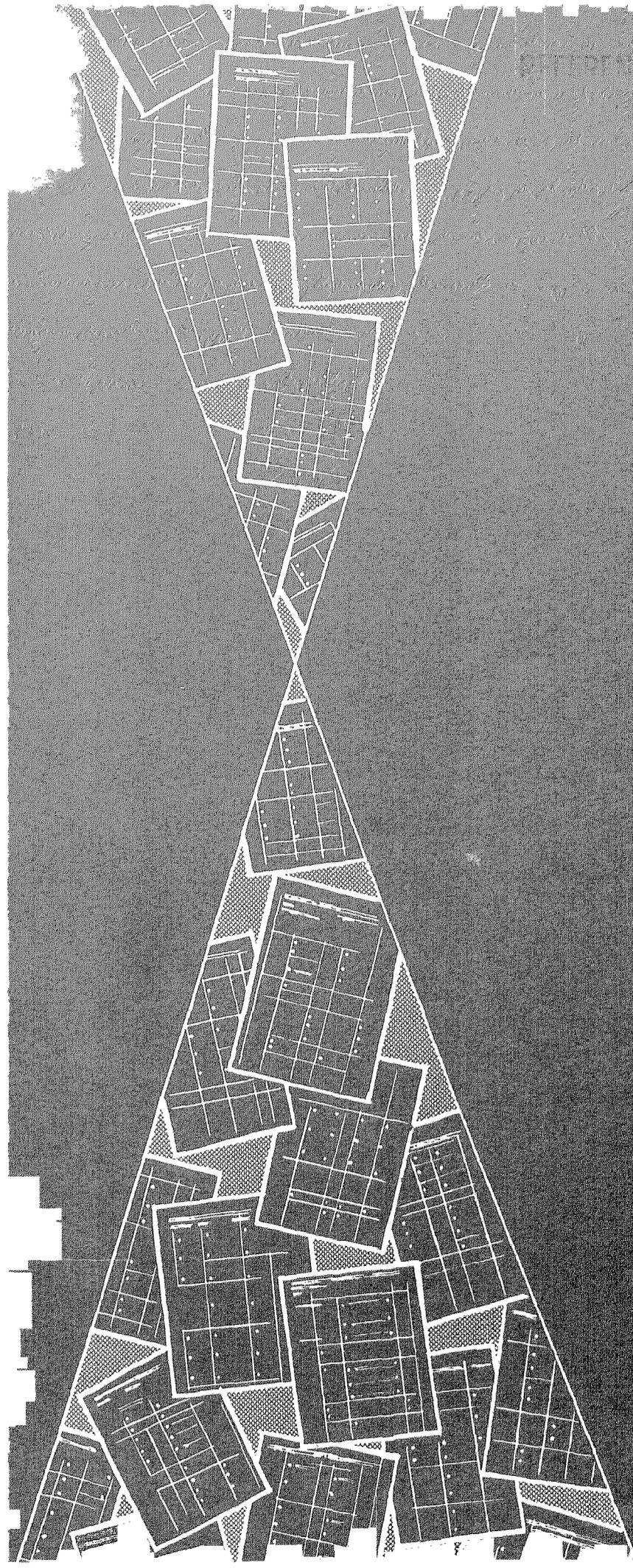
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**CENSUSES OF
POPULATION
AND
HOUSING
IN
PUERTO RICO
1960**

**PROCESSING
THE DATA**

U.S. DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS



REPORTS ON METHODOLOGY OF THE 18TH DECENNIAL
CENSUS WHICH HAVE APPEARED TO DATE

United States Censuses of Population and Housing, 1960: Principal
Data-Collection Forms and Procedures. (1961)

Survey of Components of Change and Residential Finance of the United
States Census of Housing, 1960: Principal Data-Collection Forms
and Procedures. (1962)

United States Census of Agriculture, 1959, and Related Surveys:
Principal Data-Collection Forms and Procedures. (1962)

United States Censuses of Population and Housing, 1960: Processing
the Data. (1962)

United States Censuses of Population and Housing, 1960: Enumeration
Time and Cost Study. (1963)

Procedural Report on the 1960 Censuses of Population and Housing
Working Paper No. 16. (1963)

Censuses of Population and Housing in Puerto Rico, 1960: Processing
the Data. (1963)

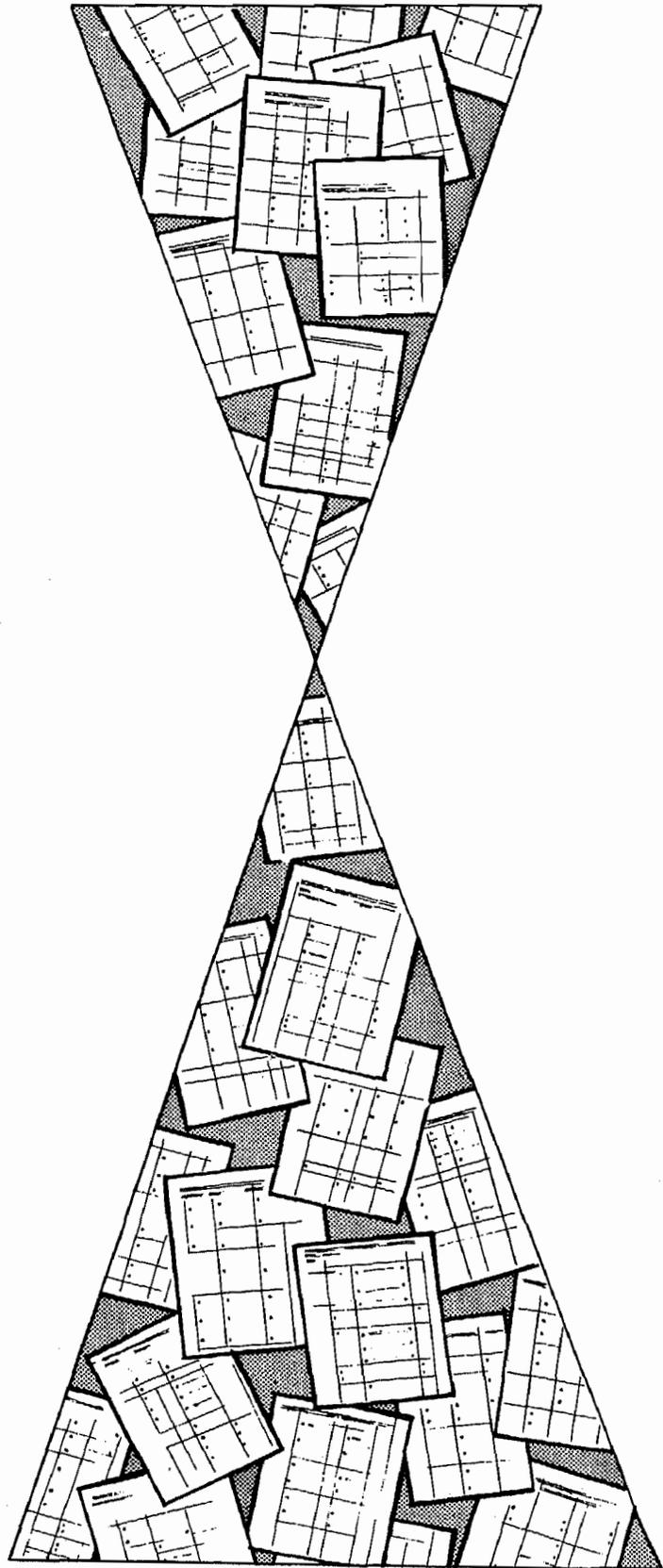
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U.S. DEPARTMENT OF COMMERCE
Luther H. Hodges, *Secretary*

BUREAU OF THE CENSUS
Richard M. Scammon, *Director (From May 1, 1961)*
Robert W. Burgess, *Director (To March 3, 1961)*





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PREFACE

This publication describes the operations involved in processing the data obtained by the 1960 Censuses of Population and Housing of Puerto Rico. It is an expansion of a brief chapter on the subject which appeared in United States Censuses of Population and Housing, 1960: Processing the Data.

This is one of a series of reports on the methodology of the Eighteenth Decennial Census of the United States prepared under the guidance of Phyllis G. Carter, Census Historian, Statistical Reports Division. Those which have appeared to date are listed on the inside front cover. Other publications which are planned include a complete procedural history of the Eighteenth Decennial Census of the United States and detailed reports on such specialized aspects of the census as quality control, sampling, and the evaluation program.

This report was written by Rafael A. Nieves, Patience Lauriat, and Morton A. Meyer of the Decennial Operations Division of the Bureau of the Census. Mr. Nieves was Chief of the Census Operations Office which was established in San Juan, Puerto Rico, to process the 1960 Censuses of Population and Housing of Puerto Rico. It was edited and prepared for publication by the Statistical Reports Division. The staff of the Decennial Operations Division and other divisions of the Bureau collaborated at various stages in its preparation.

CONTENTS

	Page
Introduction.....	1
The census schedules.....	1
The publication plan.....	2
The census enumeration.....	2
Data-processing procedures.....	3
The processing plan.....	3
Distribution and control of work.....	3
Receipt and check-in of questionnaires.....	3
Geographic identification coding.....	3
Block check.....	4
Transcribing information from supplemental enumeration forms.....	4
Coding.....	5
Keypunching.....	6
Quality control.....	7
Other pretabulation operations.....	8
Inflating the sample.....	9
Tabulation.....	10
Table preparation.....	13
Administration and organization.....	14
Establishment of the Operations Office.....	14
Office supplies and equipment.....	14
Personnel.....	14
Fiscal management.....	14
Bibliography.....	15

APPENDIX

Form 60PH-1PR, Questionnaire used for 100-percent data except in large cities (in Spanish).....	16
Form 60PH-2PR, Questionnaire used for 100-percent data in large cities (in English)...	17
Form 60PH-2PR, Questionnaire used for 100-percent data in large cities (in Spanish)...	18
Form 60PH-3PR, Questionnaire used for sample data (in English).....	19
Form 60PH-3PR, Questionnaire used for sample data (in Spanish).....	24
Form 60PH-5PR, Cuestionario preliminar (advance census report used for 100-percent data except in large cities).....	29
Form 60-11-281-PR, Lista preliminar de transferencia, divisiones civiles menores (MCD sheet).....	33
Forms 60-50-1, 2, and 3, Punchcards.....	34
Tarjeta de codigos (code card).....	35
Form 60-50-21, Ratio estimate control record.....	36
Instructions for sample card ratio estimate procedures.....	37

CENSUSES OF POPULATION AND HOUSING IN PUERTO RICO, 1960: PROCESSING THE DATA

INTRODUCTION

At 10-year intervals, the Government of the United States through the Bureau of the Census takes population and housing censuses of the United States and its outlying areas. The first population census of the United States in which Puerto Rico was included was taken in 1899. The first housing census of the United States was taken in 1940 together with the population census, and included Puerto Rico. The 1960 Censuses of Population and Housing of Puerto Rico were carried out as a joint effort of the Bureau of the Census of the United States and the Planning Board of the Government of the Commonwealth of Puerto Rico, with personnel and facilities in Puerto Rico being used for most of the work.

A series of formal agreements between the Puerto Rico Planning Board and the U. S. Bureau of the Census established that the data from the 1960 Population and Housing Censuses of Puerto Rico would be processed in Puerto Rico. Included in these agreements was the provision that the census data published for Puerto Rico would in general be comparable to those published for the United States, though the census content was to be adapted somewhat to meet the special needs and circumstances of the area. The 1960 Censuses of Puerto Rico were processed on punchcard tabulating equipment, rather than on the electronic equipment used in the United States. Consequently, the preparation of the questionnaires and other forms, flow charts, tabulation specifications, and instructions for the processing procedures had to be geared to data processing with punchcard equipment. Essentially the same pattern was followed as that used for processing the 1950 Censuses of Population and Housing.

THE CENSUS SCHEDULES

In the enumeration of population and housing in Puerto Rico, as in the United States, every fourth housing unit (and every fourth person in group quarters such as institutions and boarding houses) was designated a sample unit for which the enumerator asked a series of supplementary questions in addition to the census items which were obtained on a 100-percent basis. The enumeration of the 75 percent of the population and housing for which only the 100-percent questions were asked was carried out using a short household questionnaire referred to as the 100-percent questionnaire. Another household questionnaire was used for the enumeration of the 100-percent items and also the sample items for the remaining 25 percent of the population and housing. This questionnaire, since it carried the questions asked only of households in the sample, was referred to as the sample questionnaire though in fact it contained the 100-percent questions as well as the sample questions. Under special circumstances, other varieties of forms were also used

for the collection of data, but the information was transcribed from them to the standard questionnaires prior to processing.

Many of the questions on both the 100-percent and the sample questionnaires were designed so the enumerator could record the response by entering a check mark in the appropriate box. This not only simplified the work of the enumerator but also made it possible to precode all the possible answers to these questions in advance and thus reduce the amount of coding to be done by the clerical staff in the data-processing office.

100-Percent Questionnaires

There were two variations of the 100-percent questionnaires. The one used in most of Puerto Rico was form 60PR-1PR. The other, form 60PH-2PR (see appendix), used only in the cities of San Juan, Mayaguez, and Ponce, was designed to permit data to be published by city block. The "block city" questionnaire provided for the inclusion of the housing questions on rent or value and description of property for every housing unit (outside the block cities these items were asked only for sample housing units) and provided a space for the enumerator to enter the block number.

There were seven questions on population on the 100-percent questionnaires. These questions were on name, relationship to head of the household, sex, month and year of birth, marital status, place of birth, and citizenship.

There were 11 housing questions that were common to both types of 100-percent questionnaires. These referred to the number of persons in the unit, access to the unit, kitchen or cooking equipment, condition of the housing unit, water supply, toilet facilities, bathtub or shower, number of bedrooms, occupancy, tenure, and vacancy status. The 100-percent questionnaire used in the three large cities contained the additional questions on rent, value of property, and description of property. The questionnaire also included a question on the address of the unit and one to establish whether or not the unit was a sample unit.

The 100-percent questionnaires were bound into enumeration books.

Sample Questionnaires

The "sample" questionnaires, form 60PH-3PR (see appendix), contained all the questions on the 100-percent questionnaires, including the housing questions that appeared only on the block city questionnaire, plus the questions that were asked for only 25 percent of the population and housing units.

The sample population questions were on social and economic characteristics of the population such as educational level, occupation, income, etc., and on migration and veteran status (see form 60PH-3PR, in appendix).

The sample housing questions were on type of construction, electricity, sewage system, and household equipment such as washing machines, refrigerators, television sets, etc. (see form 60PH-3PR).

Each sample questionnaire was a 15-page booklet which provided for recording the responses to the housing questions and for recording population information for six persons. For households¹ containing seven or more persons, the population portions of additional booklets were used.

THE PUBLICATION PLAN

Since the main purpose of the data processing was the production of statistical tables giving the results of the censuses, a basic requirement for planning the data-processing operations was having the specifications for the tables to be published and a determination of their priorities for publication.

The final table specifications prepared by the population and housing subject specialists of the Bureau called for four separate population reports, three housing reports, and a census tract report containing both population and housing data for Puerto Rico, to be published as an integral part of the United States census reports.

Reports of final population statistics were published first as separate chapters A, B, C, and D of Volume I, Characteristics of the Population, and were designated as series PC(1)-53A, number of inhabitants (11 tables); series PC(1)-53B, general population characteristics (20 tables); series PC(1)-53C, general social and economic characteristics (42 tables); and series PC(1)-53D, detailed characteristics (51 tables). (These four chapters were later assembled and issued as the cloth-bound Volume I, part 53, for Puerto Rico.) The PC(1)-A and PC(1)-B reports contain 100-percent data only and the PC(1)-C and PC(1)-D reports contain sample data only.

Final housing information was given in report HC(1)-53, on housing characteristics for Puerto Rico and small areas (14 tables); HC(2)-202 for the San Juan standard metropolitan statistical area (SMSA) and HC(2)-201 for the

¹A household was defined as all the persons who occupied a housing unit.

Ponce SMSA, on metropolitan housing (9 tables); and separate reports on housing characteristics by city blocks (2 tables) for each of the cities of San Juan, HC(3)-419; Ponce, HC(3)-402; and Mayaguez, HC(3)-421. (The HC(1) report appears also in part 9 of Volume I, States and Small Areas; the HC(2) reports are included also in part 7 of Volume II, Metropolitan Housing.) The HC(1) report contains both 100-percent and sample data. The HC(2) reports contain sample data only. The HC(3) reports contain 100-percent data only.

Separate reports containing both housing and population data by census tracts² (3 tables) were prepared for San Juan, PHC(1)-180; Ponce, PHC(1)-179; and Mayaguez, PHC(1)-178. These reports contain both 100-percent and sample data.

THE CENSUS ENUMERATION

Beginning on April 1, 1960, each housing unit in Puerto Rico was visited by a census enumerator.

There were 2,819 enumeration districts (ED's) established originally and assigned to enumerators for the 1960 Census of Puerto Rico. However, in both the field operation and the processing operations, it was sometimes necessary to "split" an ED into two or more parts. This was done during enumeration primarily to redistribute and equalize the enumerators' workload. It was also done during the processing because of errors in block numbering found in the questionnaires for block cities. The total number of ED's including splits was 2,966, of which 42 had no population.

For each of these ED's the enumerator used one or more of enumeration books containing 100-percent questionnaires, depending upon the number of housing units in the area, and for each household he used one or more questionnaires in the enumeration book depending on the number of persons comprising the household he was enumerating. He also used one or more sample questionnaires for every fourth housing unit in the ED, depending on the number of persons comprising that household.

²Census tracts are geographic areas delineated for statistical purposes within large cities and that part of the surrounding territory which is a part of the metropolitan area. The areas tracted in Puerto Rico for the 1960 censuses were the SMSA's of San Juan, Mayaguez, and Ponce. The Municipio of Carolina, which is adjacent to San Juan and which is tracted, is considered a part of the San Juan tracted area even though outside the San Juan SMSA.

DATA-PROCESSING PROCEDURES

THE PROCESSING PLAN

It had been estimated originally that 2,300,000 persons and approximately 530,000 housing units would be enumerated in Puerto Rico, 25 percent of which would fall in the sample.

The availability of these and other more detailed estimates of the population and housing were necessary for the development of the census processing plan.

Once the framework of the census enumeration was known, as well as the type of questionnaires to be used (since they were the source documents for the data processing) and the specifications for the tables to be published (the end product of the data processing), it was then possible to develop a set of procedures, forms, and other pertinent material for processing the data according to a plan designed to produce the required statistics in the most efficient and economical manner. Instructions and forms were prepared in both English and Spanish.

The development of the overall processing plan called for the preparation of procedures and instructions for use in the following steps in the data processing:

- Receipt, check-in, distribution, and control of the questionnaires.
- Geographic identification coding.
- Matching and transcribing information from supplemental forms.
- Block check (inspection of the enumeration and numbering of blocks).
- "General" coding.
- Industry and occupation coding.
- Key punching (preparing punchcards).
- Quality control:
 - Verification of general coding.
 - Verification of industry and occupation coding.
 - Verification of card punching.
- Mechanical recoding.
- Ratio estimating.
- Tabulation.
- Editing, adding, balancing, and inflation of sample data, as well as posting figures from the machine tabulations to table worksheets.
- Verification, calculation, and review of tables.

DISTRIBUTION AND CONTROL OF WORK

The flow of work from one operation to another was subjected to a systematic control designed to maintain uninterrupted continuity in the work and enable the supervisors to ascertain the status of the operations at any given moment. A reporting system which included the use of individual daily production records was developed so that progress of the operations could be reviewed periodically and estimates of expected production as well as of staffing or time schedules could be made.

In addition, the cover page of the enumeration book was designed in such a way that space was provided for the clerks engaged in the different phases of the data processing to enter the kind of work they had just completed, their name, and the date of completion. A similar label was pasted on the portfolios used for handling the sample questionnaires.

RECEIPT AND CHECK-IN OF QUESTIONNAIRES

The first data-processing operation was receiving and inspecting the questionnaires sent to the Operations Office by the field offices. Each enumerator had carried the books of questionnaires in a specially designed plastic portfolio. These portfolios containing the questionnaires and other material used by the enumerator were sent to the Operations Office where they were checked to make sure that the contents were complete.

The Procedure

A control was established to make certain either that a portfolio with the corresponding completed questionnaires was received for every ED, or that an explanation had previously been submitted to the Operations Office to account for exceptions. Examples of such exceptions were ED's which did not have any population and ED's which had been combined with others.

The procedure for the receipt and check-in was based on the use of form F-281PR, the Minor Civil Division (MCD) Sheet (see example in appendix) which provided a listing of the ED's in each of the 76 municipios in Puerto Rico. This form identified the minor civil divisions or smaller geographic areas, in alphabetical order, and within each area the ED's into which it had been divided were listed.

Discrepancies between the materials received from the enumerators and the MCD Sheet listings were resolved either by reference to maps or by referring the problem, together with an explanation of the error, back to the field office for review and correction.

Results of the Operation

The receipt and check-in of the questionnaires for the 2,966 ED's in Puerto Rico required 612 man-days and cost \$6,527. Of an approximate total of 150,000 sample questionnaires, only 25, or less than 0.2 percent, were not accounted for.

By May 13, 1960, the Operations Office had received from the field offices the portfolios containing the questionnaires for all the 76 municipios. The receipt and check-in process was then well underway, and the next phase in the operations could be started with the material that was ready.

GEOGRAPHIC IDENTIFICATION/CODING

Since the census publications were to provide the data pertaining to the characteristics of the population and housing within the many specific geographic areas of Puerto Rico, the geographic identification of the data was a carefully planned phase of the processing operations designed to fit into the overall plan of publication.

The basic approach to the geographic identification was the development of a code scheme for identifying each individual ED by geographic area so as to differentiate the various areas for which data were to be published. In Puerto Rico these areas were: (1) the political subdivisions which are the municipios and cities; (2) the towns,

villages, barrios, subbarrios; and (3) the standard metropolitan statistical areas (SMSA's), urbanized areas, and census tracts. It was also necessary to distinguish urban areas from rural areas.

Geographic identification coding was based on the MCD Sheet on which each ED had been listed in geographic sequence. A 14-digit code was assigned to each ED, as follows: The 1st digit was used to identify Puerto Rico as one of the outlying areas. The 2nd and 3rd digits were used to identify the municipio. The 4th, 5th, and 6th digits were used to identify the barrios or subbarrios within each one of the municipios. The 7th through the 10th digits were used to identify the ED's located in an SMSA and census tract or outside the SMSA. The 11th through the 14th digits were used to identify each ED and to indicate a split ED.

After completion of the identification coding, the codes were transferred to a master set of punchcards which were used to provide the geographic identification for each of the data cards punched for the census.

The geographic identification operations took only four man-days for coding, verification of coding, and the key-punching of the identification information.

BLOCK CHECK

Since this was the first time a Puerto Rico census program called for preparation of statistics for city blocks, the work done by the enumerators with respect to the assignment of the block numbers to the census questionnaires required an unusually detailed and thorough examination.

The procedures for checking the correctness of the block enumeration required that the enumerators' block number entries on the questionnaires and listing books be checked against the ED maps to determine whether there were any missing block numbers, extra block numbers, or erroneous block number assignments. Where discrepancies were noted which could not be resolved, a field check was made so that the block numbers could be correctly assigned.

Because the ED maps for some of the areas requiring block enumeration had not been delivered to the field in time to instruct the crew leaders in all of the technical requirements of this phase of the enumeration, there had been some improvisation. For example, it was found during the block check operation that in some areas enumerators had ignored the block numbers on the ED maps and assigned their own numbering system. This complicated the review operation and resulted in a considerable number of changes. A total of 795 ED's were included in the block check programs, or about 23 percent of the total ED's for Puerto Rico.

The block check was a slow and time-consuming operation because of the many documents which had to be carefully reviewed during the process and the precision required in correcting discrepancies between the numbering of blocks during enumeration and the block numbers on the maps. It was found that for the most part the assignment of block numbers during the enumeration had been properly done. It took approximately 90 man-days to complete the block check operation.

TRANSCRIBING INFORMATION FROM SUPPLEMENTAL ENUMERATION FORMS

A number of supplemental forms were used before and during the Puerto Rico census enumeration in order to simplify the work of the enumerator and also to enumerate (1) persons away from home on the census date or not found at home after repeated visits, (2) persons living in military installations, and (3) persons who were members of the crews of vessels docked at the various ports of the island on the census date. All of the information reported on these supplemental forms was transcribed to the appropriate questionnaires.

Advance Census Reports

Questionnaires called Advance Census Reports were distributed to households by mailmen in advance of the census, to be filled in and given to the enumerator when he visited the household during the enumeration. Form 60PH-6PR (see appendix) was mailed to households in the three "block cities" and form 60PH-5PR to households elsewhere on the island. Usually, the enumerator transcribed the information from these Advance Census Reports to the regular census questionnaires. However, some people, for example, persons who expected to be away from home during the enumeration, mailed their Advance Census Reports to the census field office in their district; for most of these, transcription was done in the field offices. Some Advance Census Reports were not received by the field offices until after the corresponding enumeration books had been sent to the Operations Office. These forms were sent to the Operations Office for subsequent transcription.

Individual Census Reports

The Individual Census Reports (form 60PH-10PR) were supplied to the enumerator and were completed by him whenever he encountered a visitor in a private home who was fairly certain that no one at his home address would supply the information for him. These forms were sent to the census field office of the area in which the visitor lived, where the information was to be transcribed to the appropriate enumeration book, provided that a search of the enumeration book indicated that he had not been enumerated. While it was originally intended that the name search and any required transcription be done in the field offices, this phase of the work was actually carried out in the Operations Office.

Reports for Military and Maritime Personnel

Persons residing in military installations in Puerto Rico and crews of vessels docked in ports of the island were enumerated on a questionnaire called the Report for Military and Maritime Personnel, form 60PH-13PR. After the enumeration, these questionnaires also were sent to the Operations Office for transcription. For 75 percent of the forms, the information reported was transcribed to the 100-percent questionnaires, and for the remaining 25 percent, to the sample questionnaire. The crews of vessels were allocated to the ED's which included the port areas at which the vessels were docked on the census date, April 1, 1960.

CODING

After completion of the block check and supplemental forms operations, it was possible to begin editing and coding of schedule content. As mentioned earlier, the major portion of the questions on both the basic and the sample questionnaires provided for precoded answers, i.e., the possible responses were listed on the questionnaire and the enumerator simply marked a coded check box to indicate the reply of the respondent. An example of this is the item on relationship to the head of the household, shown below. Marking any one of the first three entries automatically supplied the proper code. (Subsequent entries for this item were coded by the clerks since various answers were possible.)

- Head 1
- Wife of head 2
- Son or daughter of head 3
- Other (specify)

Precoding was used to the maximum extent possible because of the gains in efficiency it introduced. Codes were assigned manually to all items which could not be adapted to precoding.

The purpose of the codes, whether assigned by precoding or by manual coding, was to put the entries made by the enumerators on the questionnaires into a form which could be transferred into punched entries on a punchcard.

The manual coding instructions also called for examining certain population and housing entries and correcting them if they were inconsistent with respect to other entries shown. An illustration of such an inconsistency would be a wife reported as head of the household with her husband being reported as wife. (A more elaborate edit for errors and inconsistencies was performed, using mechanical equipment, prior to the tabulation operation.) The manual coding operations were divided into two major parts, "general" coding and industry and occupation coding.

General Coding

The manual coding of all questionnaire items requiring the assignment of a code except the industry and occupation items was referred to as general coding. The general items which were coded or examined were the following:

100-Percent Questionnaire

<u>Coded</u>	<u>Examined</u>
P-3 Relationship	P-4 Sex
P-7 Place of birth	P-6 Marital status
	H-3 Number of persons or vacant
	H-12 Tenure
	H-13 Vacancy status
	H-16 Rent

Sample Questionnaire

<u>Coded</u>	<u>Examined</u>
P-3 Relationship	P-4 Sex
P-6 Marital status	P-18 Born before or after 1946
P-7 Place of birth	P-23 When last worked
P-10 Migration	H-3 Number of persons or vacant
P-25 Place of employment	H-12 Tenure

P-29 Individual income	H-13 Vacancy status
P-30 for 1959 and the	H-16 Contract rent
P-31 total of that income—also total family income	H-33 and totaling of gross rent

In addition (on both 100-percent and sample questionnaires), group quarters were coded to differentiate between institutions, such as jails, hospitals, etc., and other types of group quarters such as boarding houses, military installations, etc. The persons enumerated in group quarters were coded to indicate their status as inmates, residents of institutions, lodgers, etc.

The specific codes to be assigned for each of the items to be coded or examined, and a detailed explanation of the coding scheme and its use, were furnished in an instruction manual for coding. To simplify the work of the coders, a separate code card was prepared which provided in a convenient summary form a list of the items to be coded and the codes which could be assigned (see appendix). Some entries, however, could not be coded by the clerks without first being submitted for professional review. For these a problem referral slip, form No. 60-50-5, was designed. When the coder encountered entries which he could not code, he described the problem on this form and referred it to a more highly trained Technical Assistant for decision. Unusual entries and consistent patterns of errors were submitted to the appropriate subject-matter personnel in Washington for study so that proper remedial action could be taken.

Training of the first group of general coders started on May 23, 1960, and as the flow of work into the coding operation increased, additional groups of clerks were hired and trained. A 3-day training and exercise period was found to be sufficient. Questionnaires were assigned to coders on an ED basis. The 100-percent questionnaires for an ED were coded first, after which the sample questionnaires were coded. Each household was coded as a unit, i.e., all coding required for one household was completed before going on to the next. An exception to this rule was made when a coder encountered problem entries which he was unable to code. If there were a substantial number of problems, the entire ED was referred to the Technical Assistant. If there were only a few problems, the coder was instructed to fill out problem referral slips for the uncoded entries and complete the remainder of the ED. All coders' work was verified in order to control the quality of the work (see "Quality Control," below).

A total of 30 persons, including the supervisor and two Technical Assistants, were employed in the general coding operation. Questionnaires were coded at a rate of 1,900 enumerated persons per man-day. The operation required 1,459 man-days, and was completed the week ending October 7, 1960.

Industry and Occupation Coding

Because special training is required to translate into meaningful codes a respondent's replies relating to his occupation and industry, the coding of these items is normally handled as a separate operation. It was so handled in Puerto Rico.

A 3-digit code was assigned for each industry entry and a 3-digit code for each occupational entry. Codes were assigned by reference to an alphabetical index of occupations and industries, and to company name lists

which listed the industry codes which had been assigned to the major industrial establishments in Puerto Rico. These were supplemented by an instruction manual which provided the coders with the rules to be followed in determining the proper code for industry and occupation entries. Problem referral slips were also used by the industry and occupation coders when they encountered entries which required referral to the Technical Assistants.

Since the industry and occupation items appeared only in the sample questionnaires, the sample pamphlets were separated from the 100-percent enumeration books upon completion of the general coding operation, and were placed in a new set of ED portfolios. To edit and code industry and occupation items in these questionnaires, nine clerks were hired and trained. A supervisor was selected from among the best of the general coders. Training was started on June 16, 1960, and required approximately 4 days. A subject-matter specialist was assigned from Washington headquarters of the Bureau to act as the Technical Assistant to solve the more difficult problems of this operation.

The clerks coded industry and occupation entries for about 1,600 enumerated persons in the sample per day. It took approximately 622 man-days to complete the operation. The fact that the coding was done in Puerto Rico made it possible for the Technical Assistant to obtain information directly from local government agencies and private industrial and business enterprises when necessary in order to determine proper classifications for industries and occupations for which the alphabetical index of occupations and industries did not provide specific entries and codes.

Industry and occupation coding was verified using a scientifically formulated system of quality control. (See "Quality Control," below.)

KEYPUNCHING

The keypunching operation involved the transfer of the codes assigned to the various items on the questionnaires to IBM punchcards by punching holes in the appropriate positions on the punchcard. A housing card was prepared for each housing unit; a population card was prepared for each person.

The Procedure

To achieve the objectives of the tabulation program, three different kinds of punchcards were required—one for the population data and two for the housing data (see appendix). The two housing punchcards were later consolidated into one. The reason that two different punchcards were required for the housing information arose from the fact that the arrangement of the housing questions on the 100-percent questionnaire was different from the arrangement on the sample questionnaire. (The difference had been decided upon in order to make each type of questionnaire a more effective instrument of enumeration.) As a result, it was found to be simpler and more economical to punch the 100-percent housing data from the 100-percent questionnaires to a housing card specifically designed for this purpose and then, as a subsequent operation, to reproduce the data (rearranging them as required) into the format used for punching housing data from the sample questionnaires. (After checking for correctness of the

reproduction operation, the original housing deck of cards was destroyed.) The 100-percent population questions were arranged in the same sequence on both the 100-percent and the sample questionnaires, so only one type of punchcard was needed for the population data.

Each keypunch operator was provided with an instruction manual which set forth in detail the manner in which each item on the questionnaire was to be punched, the code symbols used, and the punchcard columns which corresponded to the questionnaire items. The first 14 columns on all three types of punchcards were used only for geographic identification which was duplicated by machine from the ED Master Card (see below). The remaining items on the card were punched directly from the questionnaires.

The Operation

Training of the keypunch operators began the first week of June 1960. The first 3 or 4 days were dedicated to special training for manual dexterity since, in general, the persons hired for this operation had had no keypunching experience. Approximately 10 days were spent on practice punching.

The first assignment made to the keypunch unit after completion of training was that of punching the ED geographic identification into an ED Master Card from the coded Minor Civil Division Sheets. Then punchcards for the 100-percent questionnaires were punched and, finally, after completion of the industry and occupation coding, punchcards for the sample questionnaires were punched. Material for an ED was maintained in a work unit during the punching and verification of punching operations.

The punching of the census information was carried out in four separate punching operations. During peak production all four operations were being conducted as follows:

- a. The 100-percent population information from the 100-percent questionnaires.
- b. The 100-percent housing information from the 100-percent questionnaires.
- c. The 100-percent and sample population information from the sample questionnaires.
- d. The 100-percent and sample housing information from the sample questionnaires.

The separation of the punching into these four operations simplified appreciably the work which had to be done by the keypunch operator since he could concern himself with only one kind of questionnaire and one kind of punchcard. The punching was further simplified by the use of the ED Master Card. By placing the ED Master Card in the reading station of the keypunch machine (type 024), the operator could duplicate automatically the first 14 columns, the geographic identification, on each card. Each punched card in its turn then served as an ED Master Card for automatically reproducing the geographic identification into the next card for the same ED.

In addition, an experienced general coder (called a contact coder because he was in daily contact with the cardpunching operation) was assigned to the operation to answer questions raised by the punchers regarding the correct codes to be punched for improper, illegible, or missing entries for some questionnaire items.

Productive punching was started in mid-June of 1960 and the entire operation, including the verification of the punching, was completed by January 27, 1961. Punching the 100-percent cards (i.e., those containing entries for only 100-percent items, for 75 percent of the population and housing units) began June 15, 1960, and was completed November 1, 1960. Punching the population and housing sample cards (100-percent and sample information) began July 15, 1960, and was completed January 27, 1961. Thirty persons were hired, trained, and participated in part or all of the card punching. This number includes two persons who were supervisors, and the contact coder.

A total of 2,349,544 population cards were punched, 621,000 of which were sample cards. The 100-percent population cards were punched at an average rate of approximately 2,300 enumerated persons per man-day, and the sample population cards were punched at an average rate of 800 enumerated persons in the sample per man-day. A total of 521,959 housing cards were punched, 134,000 of which were sample cards. The 100-percent housing cards were punched at an average rate of approximately 1,700 enumerated housing units per man-day, and the sample housing cards were punched at an average rate of 750 per man-day.

The significant difference in the rates of production between the punching of the 100-percent cards and the punching of the sample cards can be attributed to the many additional columns required for punching the sample information (45 more for a total of 80 columns on the population card; 32 more for a total of 74 columns on the housing card), plus the fact that codes for some of the sample questions were somewhat more difficult to punch. In addition, the sample questionnaire was more difficult for the keypunch operator to handle since it was in booklet form whereas the 100-percent questionnaire was designed in such a way that all the 100-percent items for a housing unit or a person could be obtained from one line.

The entire cardpunching operation required a total of 3,288 man-days.

The punched cards were verified by standard quality control procedures. (See "Quality Control," below.)

QUALITY CONTROL

Quality of the coding and punching operations was maintained through a system of verification designed to establish high and controlled levels of quality. The system located coders and punchers who might require additional instruction or training because their error rates were too high. The system also provided for removal of coders and punchers who failed to meet qualification standards, but all were able to qualify although a few did require additional training.

All errors noted during the verification operations were corrected.

The successful application of the system required that the work of a coder or keypunch operator be verified in the same order in which it had been produced, and that the time lag between coding or punching and verification be held to a minimum so that the personnel could be informed of their errors and the corrective action required be determined as quickly as possible.

Verification of General Coding

The work done by a general coder was verified on a 100-percent basis until it was determined that his error rate was low enough to qualify him for sample verification—i.e., to have only a portion of his work verified. Each general coder had to code the entries for a minimum of three ED's with a total error rate of no more than 4 percent for 100-percent data and no more than 5 percent for sample data before his work could qualify for sample verification. If he did not qualify after having coded entries for 10 ED's, he was given additional training. The error rate was based on the number of items in error per 100 enumerated persons. The coding of both the 100-percent data and the sample data were taken into consideration in determining the acceptability of a general coder's work, and the coder had to qualify in coding both types of data in order to qualify in either. The sample selected for verification of general coding was one in every 40 households in the 100-percent questionnaires and one in every 20 households in the sample questionnaires. That is, for general coding, the samples used established a verification level of 2.5 percent for the basic questionnaires and 5 percent for the sample questionnaires. After having qualified for sample verification, the coder had to continue to maintain an acceptable quality of work. This was assured through a system of process control for the coder and acceptance sampling for the individual ED's. For the coder, this consisted of a comparison of the quality control of his coding, based on a sample from three ED's, with a set of standards to determine if the coder was doing acceptable work or if he should be required to requalify, be retrained, or be removed from the operation. A comparison of the error rate found for the individual ED's with another set of standards was made to determine if the quality of the coding for the individual ED was acceptable or if the ED should be 100-percent verified.

The quality of the work of the verifier was also controlled. A system of preverification was used: After completion of general coding for an ED, but before it was assigned for verification, a preverifier reviewed the coding of a sample of the data and noted errors (but did not correct them). The preverification sample was determined using a table of random numbers to obtain a selection of one in 400 of the households enumerated in the basic enumeration book and one in 200 of the households enumerated on sample questionnaires. The preverification process also provided an independent estimate of the coding error rate as well as a means for determining whether the verifier or preverifier was finding a sufficient number of the existing errors. The determination as to whether both the preverifier and verifier were finding enough of the existing errors was based on the comparison of the amount of work reviewed and the number of errors found by each during a 3-week work period. Special mathematical tests were then applied to the results of this comparison in order to establish which one of the two was finding the most errors. Whenever the results of the tests indicated that either the preverifier or verifier was not finding enough of the errors, he was so informed, was reminded of the importance of the verification operation and, if necessary, was given additional training. Continued failure to meet the established standards resulted in removal from the operation.

Verification of Industry and Occupation Coding

The procedures employed in the verification of industry and occupation coding were identical to those used in the verification of general coding, except that different qualification levels were used because of (1) the limited number of items to be coded, (2) the large number of possible responses to the items, (3) the relatively small percent of persons enumerated in sample questionnaires who were in the labor force (an estimated 30 percent), and (4) the fact that only the sample questionnaires were involved.

Initial work of an industry and occupation coder was verified on a 100-percent basis as in the case of verification of the work of a general coder. However, an industry and occupation coder was not allowed to qualify until after he had coded entries for 10 ED's with acceptable error rate, and he was expected to qualify by the time he had coded entries for 30 ED's. A coder with an error rate of 5 percent or less qualified for sample verification. The error rate was based on the number of items in error per 100 persons enumerated. As in the case of the general coding, failure to maintain an acceptable level of quality required 100-percent verification of the coder's work until he either qualified again for sample verification, was retrained, or was removed from the operation. The coding for individual ED's was subjected to the acceptance sampling procedure.

A system of preverification was also employed for the evaluation of the verifier's work quality. One household in every 200 was selected for preverification. The quality of the work of the preverifier and verifier was tested in the same manner as that of the verification of general coding.

Verification of Card Punching

The work of a card puncher, like that of a coder, was verified on a 100-percent basis until his error rate was low enough to qualify him for sample verification. A card puncher was not allowed to qualify for sample verification, however, until after he had punched 1,500 cards, but was expected to qualify by the completion of 6,000 punched cards. (This same formula was used for each of the card types punched.) After once having qualified for sample verification, the puncher had to continue to produce work which would enable him to maintain an error rate of no more than 4 percent or his work was again verified on a 100-percent basis until he had requalified. Requalification had to be achieved before he had punched 1,200 more cards or the operator was subject to retraining or removal from the operations. The sample plan employed in the cardpunching operation called for verification of 5 percent of the cards punched by the operator. In practice this was achieved by verifying all the cards punched for one household in every 20. Since each card type had been punched separately, verification was handled separately for each card type.

The error rates were stated in terms of the number of punched cards containing one or more errors per 100 cards verified (rather than in terms of the number of incorrect punches). All cards discovered to have errors were, of course, corrected by punching new cards.

To maintain a control on the quality of the verifier's work, a system of reverification on a sample basis was employed. The procedure followed was similar to that used in the preverification phase of the coding operations.

The reverification sample for each card type was determined using a random number to start and selecting one household of every 200 thereafter. A card containing the punched data for a housing unit and all the cards pertaining to the population of a particular household were selected for reverification after the cards had been verified. The reverification process, like the preverification process in the coding operations, provided an independent estimate of the punching error rate as well as a means for determining whether the verifier or reverifier were finding a sufficient number of existing errors.

OTHER PRETABULATION OPERATIONS

With completion of the card punching and verifying, the remaining pretabulation operations began. These consisted of a machine check of the data on the punchcards for the purposes of (1) sorting the cards into groups representing particular combinations of data and gang-punching a unique code (referred to as the recode) in the cards to represent each group, and (2) locating and correcting inconsistencies in the data. Recodes are used because they make for simpler tabulation procedures inasmuch as they combine the information found in different columns on the punchcards, i.e., the information obtained in replies to more than one question. Recodes were established for the following items: employment status, number of persons per room, value-income ratio, gross rent as percent of income, and condition and plumbing of the housing unit.

Employment-Status Recode

The purpose of the employment-status recode was to indicate whether or not the individual concerned was in the labor force and, if so, whether he was employed, unemployed, etc. The recode was determined for each person 14 years old and over, by reference to the entries punched in column 45, "worked last week"; columns 46-47, "hours of work"; column 48, "looking for work or on lay off"; column 49, "had a job"; column 50, "date last worked"; columns 54-56, "occupation"; column 57, "class of worker"; and column 59, "place of work." Based on the combinations of entries found, a code was punched as indicated below:

<u>Employment status of persons</u>	<u>Recode</u>
At work	1
With a job but not at work	2
Unemployed	3
In the armed forces	4
Not in the labor force	5

A complete description of all possible "employment status" characteristics and the recodes assigned is included in instructions. The number of possible combinations is so vast that the 101 Statistical Tabulator lacks capacity to handle all cases. The residue were referred to specially trained coders who determined the proper recode.

Number-of-Persons-Per-Room Recode

The purpose of the number-of-persons-per-room recode was to assign to each housing unit a code which represented the relationship between the number of persons and

the number of rooms in each housing unit. Five classifications were established as follows:

<u>Average no. of persons per room</u>	<u>Recode</u>
0.75 or less	1
0.76 to 1.00	2
1.01 to 1.50	3
1.51 to 2.00	4
2.01 or more	5

Value-Income Ratio and Gross Rent as Percent of Income

The purpose of the value-income ratio recode and the gross-rent-as-percent-of-income recode was to assign to each housing unit a code which represented the relationship between the income in 1959 of the head of the household and either the value of his home if he were the owner or the gross rent if he were the renter. The following classifications were established:

<u>a. Value-income ratio</u>	<u>Recode</u>
Value of house less than 1.50 times 1959 income	1
Value of house 1.51 to 1.99 times 1959 income	2
Value of house 2.00 to 2.49 times 1959 income	3
Value of house 2.50 to 2.99 times 1959 income	4
Value of house 3.00 to 3.99 times 1959 income	5
Value of house 4.00 or more times 1959 income	6
<u>b. Gross rent as percent of income</u>	<u>Recode</u>
Gross annual rent less than 10 percent of 1959 income	1
Gross annual rent 10 to 14 percent of 1959 income	2
Gross annual rent 15 to 19 percent of 1959 income	3
Gross annual rent 20 to 24 percent of 1959 income	4
Gross annual rent 25 to 34 percent of 1959 income	5
Gross annual rent 35 or more percent of 1959 income	6

Condition-and-Plumbing Recode

Data on condition of housing units were combined with data on plumbing facilities to provide a single measure of housing quality, and codes representing specific levels of quality were assigned. A total of 11 different categories were established.

Mechanical Edit of the Remaining Data Fields

The recoding operation made it possible to correct for inconsistencies in data in the fields included in the recoding operation because the recodes assigned assumed all possible combinations of entries for the items involved. For the remaining items, determination of consistency was accomplished by means of a "mechanical edit" of the

punched cards. That is, the data were checked—using an IBM 101 machine—to locate impossible or inconsistent codes, for example, marital status entries of "divorced" for persons under 14 years of age, occupied housing units coded as vacant, etc. The number of mechanical edits that were carried out were voluminous and covered all data fields.

In practice, control panels of the 101 machine were wired for the mechanical edits in such a way that all the cards containing a common type of error would be sorted into a particular machine pocket. These cards were then corrected³ as required. For example, marital status codes of "married," "widowed," "divorced," and "separated" for persons under 14 years of age were always corrected by the assignment of the code for "never married." In other cases, reference to the original questionnaire had to be made in order to determine the appropriate entry.

When the corrected cards had been punched, they also were passed through the machine for mechanical editing, to make certain that no new errors had been introduced in the correction procedure and that the corrections themselves had been properly made. Because of the number of items included in the censuses and the many relationships existing between them, a total of 14 mechanical edit boards, each covering a different set of data, were required to complete the operation.

INFLATING THE SAMPLE

Before the cards punched from sample household could be tabulated, they were weighted, using a ratio-estimation technique; that is, the number of punched cards in the sample file was adjusted so that the tabulations obtained from the sample file would yield, area for area for a pre-determined set of characteristics, the same total counts that the 100-percent cards would produce.⁴ The procedures followed made it possible to assign a uniform weight of four to each card—a distinct advantage in the tabulation operations as it meant that the results of the sample tabulations had only to be multiplied by four to provide equivalent 100-percent totals.

In practice, the adjustment of the sample card file was accomplished by duplicating (more generally referred to as replicating) or eliminating selected sample cards or, occasionally, by the conversion of sample cards to 100-percent cards. Ratio estimates were handled on a "weighting area" basis; a weighting area was usually equivalent to a municipio, with the larger urban areas and municipios being further subdivided.

In total, 105 weighting areas were established. Of the 76 municipios, 69 were designated as separate weighting areas; 4 other municipios were divided into 2 weighting areas each, the urban and rural areas being separated; 1 municipio was divided into 3 weighting areas; and the 3 largest municipios, San Juan, Ponce and Mayaguez, in which the three cities bearing those same names were located, were divided along barrio and subbarrio boundaries into 16, 6, and 3 weighting areas respectively.

For each weighting area, the sample cards were sorted

³Punched cards, of course, are not actually corrected. Instead, new cards containing only correct data are punched and the rejected cards are destroyed.

⁴The sample cards could, of course, have been tabulated by multiplying by 4. However, processing the sample as was done provided more precise statistics, on the average, in the sample tabulations.

into the specified ratio-estimate groups and counts were obtained for each group to permit comparison with a similar set of counts which had earlier been obtained from the 100-percent cards. The ratio-estimate groups established were as follows:

A. Population cards

1. Males
 - a. Heads of households
 - b. Other males 14 years of age and over
 - c. Other males under 14 years of age
2. Females
 - a. Heads of households
 - b. Other females 14 years of age and over
 - c. Other females under 14 years of age

B. Housing cards

1. Owner-occupied housing units
2. Renter-occupied housing units
3. Vacant units

These counts, both 100-percent and sample (plus several balancing totals) were posted to a Ratio Estimate Control Record, and formed the basis for computation of the required weighting of the sample file.

The detailed instructions for the procedures and a reproduction of the Ratio Estimate Control Record are contained in the appendix.

The entire ratio-estimating operation had to be carried out with great care in order to insure accuracy of result as any errors would have automatically caused the tabulations from the sample to disagree among each other as well as to yield differing results from the 100-percent tabulations.

TABULATION

After completion of the mechanical edit and weighting operations, the punched cards were ready for tabulation, that is, the population and housing information punched in the cards could now be summarized to provide a wide range of population and housing information for the Commonwealth of Puerto Rico as a whole and for its various geographic subdivisions.

Tabulation Plan

The tabulation program was designed to produce the statistical data required to meet the needs of the publication program as it had been developed jointly by the professional staffs of the U. S. Bureau of the Census and the Puerto Rico Planning Board. In practice, publication requirements are presented in the form of "table outlines" which indicate both the various characteristics which are desired and the form in which the data are to be published. From these, the specifications for the tabulation processes are developed. These specifications describe how the punched cards were to be classified (grouped) and tabulated (counted).

The publication program for Puerto Rico required the tabulation of a considerable amount of data, and the tabulation program was designed to provide the information

with maximum efficiency and economy. In addition, consideration also had to be given to the priority of publications to ensure meeting publication deadlines and to have available the staff and equipment needed to complete the job. This required an analysis of the entire program in order to estimate workloads (that is, the required number of times the applicable population and housing punched cards would have to be passed through the tabulating equipment), the need for multiple shift operations, the use of summary cards, etc.

Although it had been planned originally to process all the Puerto Rican census in Puerto Rico, it quickly became evident that the volume of tabulation output required made this impossible if publication schedules were to be met. It was, therefore, decided to process the series PC-1(D) and HC(2) tabulations in the Washington headquarters of the Census Bureau, utilizing the Bureau's own tabulating equipment. A duplicate set of sample population cards was reproduced in Puerto Rico and shipped to Washington for this purpose; this made it possible to tabulate in both locations simultaneously.

A different set of tabulations was required for each of the publication series. Of these, the major ones are listed below in order of processing, together with a brief explanation of their purpose, the punched card file required, and the type of equipment utilized.

Tabulation in Puerto Rico

The tabulation process carried out in Puerto Rico as a whole employed a peak of 12 persons, took 10 months to complete, and required approximately 135 card passes, as follows:

100-percent population deck (2,349,544 cards):	31 card passes
100-percent housing deck (521,868 cards):	60 card passes
25-percent sample population deck (587,386):	79 card passes
25-percent sample housing deck (130,469):	65 card passes

The machines used in carrying out these operations were:

<u>Type</u>	<u>Number</u>
024 Key punch	20
056 Verifier	15
083 Sorter	2
077 Collator	1
514 Reproducer	2
101 Electronic Statistical Machine	4
402 Accounting Machine	1
490 Census Processor Sta- tistical Machine	1
604 Calculating Punch (IBM Service Bureau)	1

Report PC(1)-53A, Number of Inhabitants. This report was obtained from the tabulations required for the PC(1)-

53B report (see below). It provides counts of the resident population for each separately identifiable political and statistical area in Puerto Rico (traced areas excepted) and shows their relationship to earlier censuses.

Report PC(1)-53B, Characteristics of the Population. This report presents statistics of the resident population by nativity, age, sex, marital status, and relationship to head of household for political subdivisions and statistical areas (except tracts) in Puerto Rico. Nativity and country of birth, State of birth of the population born in the United States, and citizenship of the foreign-born by age and sex are presented for the Commonwealth.

The data were obtained by means of the following mechanical operations:

<u>Operation</u>	<u>Cards Utilized</u>	<u>Type of Equipment</u>	<u>Purpose</u>
Sorting	Sample and 100-percent population cards using only the 100-percent data portion of the sample card	083	To separate the cards into the smallest geographic areas (urban places and barrios by residence) for which data were to be shown
Tabulation	Same as above	101	To provide counts of the 100-percent characteristics for each such area

Report PC(1)-53C, General Social and Economic Characteristics of the Population. This report provides statistics, based on a 25-percent sample, on the general social and economic characteristics of the resident population for each of the municipios and its urban and rural parts and for each urban place, urbanized area, and SMSA.

The data for this report were obtained by means of the following mechanical operations:

<u>Operation</u>	<u>Cards Utilized</u>	<u>Type of Equipment</u>	<u>Purpose</u>
Ratio estimation	Sample and 100-percent population cards	101 (also manual clerical operations)	To establish the proper number of sample cards
Sorting	Sample population cards	083	To separate the cards for each urban place and municipio by residence
Tabulation	Same as above	101	To provide counts of the 25-percent characteristics for each such area

Population and Housing PHC(1) Reports, for Census Tracts. These reports provide statistics, based on both the 100-percent and the 25-percent sample data, on selected social and economic characteristics of the resident population and characteristics of housing units by census

tracts for the three SMSA's in Puerto Rico: Mayaguez, Ponce, and San Juan.

The data for the three reports were obtained by means of the following mechanical operations:

<u>Operation</u>	<u>Cards Utilized</u>	<u>Type of Equipment</u>	<u>Purpose</u>
Sorting	100-percent and sample population and housing cards	083	To sort the cards by tract number within each of the three tracted areas
Tabulation	Same as above	101	To provide counts of the 100-percent and 25-percent characteristics for each census tract

Report HC(1)-53, Housing, Puerto Rico. This report presents basic statistics on the characteristics of housing units for Puerto Rico as a whole, by inside and outside SMSA's and by urban and rural areas, and for each SMSA, urbanized area, municipio, and place of 1,000 inhabitants or more.

The data were obtained by means of the following mechanical operations:

<u>Operation</u>	<u>Cards Utilized</u>	<u>Type of Equipment</u>	<u>Purpose</u>
Ratio estimating	Sample and 100-percent housing cards, using only the 100-percent data portion of the sample card	101 (also manual clerical operations)	To establish the proper number of sample cards
Sorting	Same as above	083	To separate the cards for each municipio and each place of 1,000 or more population
Tabulation	Sample and 100-percent housing cards	101	To provide data on the characteristics for each such area

Housing Series HC(3) Reports, City Block Statistics. A report for each of the major cities in the island, Mayaguez, Ponce, and San Juan, contained statistics on housing characteristics for each block and totals by census tracts within the specified city.

The data for these reports were obtained by means of the following mechanical operations:

<u>Operation</u>	<u>Cards Utilized</u>	<u>Type of Equipment</u>	<u>Purpose</u>
Sorting	Sample and 100-percent housing cards, using only 100-percent portion of sample cards	083	To sort the cards by block number within each tract for each of the three block cities
Tabulation	Same as above	402	To provide counts of the 100-percent characteristics for each block, including rent and value
Computation of average rent, value, and number of bedrooms	Same as above	604	To provide the required averages for each block

Tabulation in Washington

The tabulation process carried out in Washington, D.C., employed a peak of eight persons, took 6 months to complete, and required approximately 118 cardpasses distributed as follows:

25-percent sample housing deck (77,963 cards for 3 SMSA's):	28 card passes
25-percent sample population deck (587,386 cards):	90 card passes

The machines used in carrying out these operations were:

<u>Type</u>	<u>Number</u>
083 Sorter	2
490 Census Tabulator	3
407 Accounting Machine	1

Reports on Metropolitan Housing. These reports present detailed cross-tabulations of housing information based on the 25-percent sample for two SMSA's: Ponce and San Juan.

The data for these two reports were obtained by means of the following mechanical operations:

<u>Operation</u>	<u>Cards Utilized</u>	<u>Type of Equipment</u>	<u>Purpose</u>
Sorting	Sample housing cards	083	To separate the cards for each SMSA and central city and to group the cards within each area by selected housing characteristics
Tabulation	Same as above	490	To provide tabulations showing relationships between various housing and household characteristics

Report PC(1)-53D, Detailed Characteristics. This report presents detailed cross-tabulations based on the 25-percent sample data on social and economic characteristics of the population for Puerto Rico and selected areas.

The data for the report were obtained by means of the following mechanical operations:

<u>Operation</u>	<u>Cards Utilized</u>	<u>Type of Equipment</u>	<u>Purpose</u>
Sorting	Sample population cards	083	To separate the cards for each SMSA, city of 100,000 or more population, and the balance of the Commonwealth and to group the cards within each area by selected population characteristics
Tabulation	Same as above	490	To provide cross-tabulations showing relationships between various 25-percent characteristics of the population

Tabulation Control

As each tabulation run was produced, it was checked for accuracy, that is, for agreement with previously determined control totals and for absence of internal inconsistencies.⁵ Generally, the machine can be wired to check for inconsistencies in distributions provided that the distributions are either complete (that is, they equal the total number of cards being tabulated) or agree, in total, with other distributions based on the same universe. Where this is not possible, the distributions must be manually checked for correctness.

Obtaining agreement with previously established control totals was always a manual operation, and various types of worksheets were designed for this purpose. As each tabulation was produced, key totals were posted to the reconciliation sheet. If these were not identical to the totals obtained in previous tabulations for the same universe or characteristic, the error was located and corrected. Very small differences, however, were ignored (since no tabulation process can be expected to produce perfect results) and were manually adjusted in the table preparation operations.

TABLE PREPARATION

Table preparation, usually referred to at the Census Bureau as "result work" or "final results," follows tabulation. The end result of this operation is tabulated data arranged in table format ready for typing and printing for publication. (Typing and preparing the tables for publication was not handled in the Puerto Rican Opera-

⁵Standard operating procedures always include the use of "test decks" of punched cards designed to ensure that the control panel of the tabulating machine has been wired according to specifications and that correctly tabulated results will be obtained. These same test decks, since they contain known totals, are also used to guard against machine malfunction. If a test deck tabulation (which is normally run several times a day) fails to come up with this predetermined result, the tabulation process is suspended until the cause of the error is located and corrected.

tions Office. This function was carried out centrally in Washington for all phases of the 1960 population and housing censuses.)

Preparation of Table Format Worksheets

Since it is normally not efficient (and may, in fact, be impossible) to produce a tabulation on conventional equipment in the exact format required for publication, some further manipulation of the data is required. This, for Puerto Rico, involved:

1. Manual addition of detail for small geographic areas in order to obtain totals for the larger geographic areas.
2. Posting the tabulated data to "table format worksheets." In the same operation for the sample tabulations, each number was multiplied by 4 in order to produce from the 25-percent sample the equivalent 100-percent estimates.
3. Adjustment of minor inconsistencies to ensure agreement with control totals and internal agreement within the distributions being shown.
4. Calculation of percentages, medians, ratios, etc., as required.
5. Verification of all data posted to the worksheet and calculations made therefrom.

Detailed instructions were prepared covering each phase of the operations for each tabulation and table worksheet. They indicated the source of the data, the key totals which were to be checked against control counts, the fields and characteristics to be added, the consistency checks to be applied, the computational techniques to be used, etc.

Table preparation operations began in October of 1960 and continued through completion of the sample tabulations for report PC(1)-53C in September of 1961. Approximately 1,180 man-days were used with a peak employment of 14 persons.

ADMINISTRATION AND ORGANIZATION

ESTABLISHMENT OF THE OPERATIONS OFFICE

The Puerto Rico Census Operations Office, a branch of the Decennial Operations Division of the U. S. Bureau of the Census, was opened during the latter part of April 1960. The office remained in operation until September 8, 1961, a period of approximately 18 months.

The office itself was installed on two floors totaling about 13,000 square feet of space in a newly constructed commercial building in the Hato Rey section of the City of San Juan. It was made available to the Census Bureau by the Commonwealth Planning Board. This space was highly satisfactory; however, various modifications had to be made before it could be used for the data-processing operations. The most important of these were: (1) increasing appreciably the available power supply to provide the electrical power required for the IBM machine installation, and (2) installation of adequate lighting to meet the needs of the card punchers and clerical personnel for the performance of their work.

OFFICE SUPPLIES AND EQUIPMENT

Prior to opening the Puerto Rico Operations Office, the staff of the Decennial Operations Division in Washington developed estimates of the kinds and quantity of furniture, equipment, and supplies required for use in Puerto Rico. Studies were made of the cost of shipping these items from surplus stocks in the United States versus the cost of buying or renting them in Puerto Rico. It was determined that it would be cheaper to acquire the furniture and office equipment from surplus stocks of the Census Bureau and other Federal agencies in the United States and pay the transportation to Puerto Rico. The total cost of shipping these items to Puerto Rico was \$2,222. These items were later disposed of by turning them over to other Federal Government agencies located in Puerto Rico.

The tabulating machines used in Puerto Rico were obtained under rental agreements in the United States and shipped to Puerto Rico. Total shipping costs charged to the Census Bureau were \$4,415. Rental charges began with the date of installation of the machine in the Puerto Rico Operations Office.

The first 6-month's supply of general office supplies, forms and stationery items for use in the Puerto Rico Operations Office were also shipped from Washington. After the office started operations, replenishment of office supplies was handled by submission of regular purchase order requisitions from Puerto Rico to the U.S. General Services Administration in New York or through the use of an "Imprest Fund" (see "Fiscal Management," below).

PERSONNEL

The staffing plan was based upon anticipated workload and processing requirements, and recruiting and appoint-

ment of personnel to fill these positions was carried out in accordance with regular Civil Service Commission procedures. The testing of candidates was carried out for the Census Bureau by the Department of Labor of the Government of Puerto Rico, using its standard clerical and mechanical aptitude tests. All persons were hired in order of examination rating and were given temporary appointments for a period not to exceed one year. The average length of employment was about nine months.

An experienced senior staff member of the Decennial Operations Division was detailed from Washington to serve as Chief of the Operations Office. The machine tabulation supervisor was also supplied from the Washington Office of the Bureau. With the exception of the two positions above mentioned, all other positions in the Operations Office were filled by local Puerto Ricans. However, various specialists from Washington were sent to Puerto Rico from time to time to advise on specific aspects of the work. Total employment reached a peak of 87 persons.

The Census Bureau used a special pay plan for employees of the Puerto Rico Operations Office which established salaries at the same levels paid by private industry in Puerto Rico and by the Puerto Rican Government. This pay plan was intended to make it possible for the Commonwealth Planning Board to absorb key personnel into its own statistical office after completion of the census processing. (It later proved not possible to do this.) In general, the pay plan proved satisfactory. Recruiting efforts resulted in plentiful supply of qualified applicants, and attrition rates were low. However, at some of the higher supervisory grades, particularly those requiring machine-processing experience, this pay scale proved to be somewhat low. This resulted in the loss of several key supervisors who received offers of higher paying employment elsewhere as a result of the training and experience gained in census processing.

FISCAL MANAGEMENT

The payrolling of all the personnel of the Operations Office with the exception of the Chief of the Office and the machine tabulation supervisor were handled in Puerto Rico. The payroll was submitted to the Treasury Regional Disbursing Officer in Puerto Rico who in turn prepared the checks for salary payments to the employees.

An "Imprest Fund," or petty cash fund, was also assigned to the Operations Office for the purpose of purchasing locally immediately needed supplies or services.

Budgetary control was maintained in Washington. However, the Chief of the Puerto Rico Operations Office had the responsibility of analyzing budget allocations in the light of processing requirements and notifying Washington if they appeared to be out of balance.

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Reel 1. Puerto Rico, 1960 Censuses of Population and Housing: Forms and Instructions (Part 1). One reel of microfilm, 981 frames.

Reel 2. Puerto Rico, 1960 Censuses of Population and Housing: Forms and Instructions (Part 2); and Puerto Rico, 1959 Census of Agriculture: Forms and Instructions. One reel of microfilm, 1,022 frames.

Budget Bureau No. 41-5998; Approval Expires December 31, 1960

CONFIDENCIAL - El Censo es requerido por la Constitución de los Estados Unidos de América y además autorizado por la Ley 13 C. E. U. 5, 9, 141, 221-4. La Ley requiere que las preguntas sean contestadas en su totalidad y con exactitud, y garantiza que la información suministrada por usted estará sujeta a tratamiento confidencial. El informe censal no puede ser usado para propósitos de contribución, investigación o reglamentación.

FORMA 60PH-2PR DEPARTAMENTO DE COMERCIO DE LOS ESTADOS UNIDOS NEGOCIADO DEL CENSO CENSO DE POBLACION Y VIVIENDAS - 1960 PUERTO RICO

a. D. de E. número c. Unidad de vivienda número

b. Bloque número d. Si este cuestionario es la continuación de otro cuestionario, Marque aquí

PRIMERO - Marque la clave de muestreo y copie la dirección de la vivienda de la hoja de registro en los espacios provistos en la P1(V1) y V2 abajo.

SEGUNDO - Determine si hay más de una unidad de vivienda. *Pregunta* ¿Vive más de una familia en esta casa o apartamento? Si "SÍ" - ¿Estas familias viven y comen juntas, o tienen domicilios o arreglos independientes?

TERCERO - Anote los nombres en la P2 e indique el parentesco en la P3. Antes de anotar los "Otros parientes" o las personas no relacionadas con el jefe, determine si tienen domicilios independientes. *Pregunta* ¿Cuál es el nombre del jefe de esta vivienda? ¿Cuáles son los nombres de todas las otras personas que viven aquí?

CUARTO - Verifique la lista de personas. *Pregunta* ¿Hay alguna otra persona que vive aquí regularmente pero que se encuentra temporalmente fuera de la vivienda? ¿Hay alguna persona que permanece aquí actualmente y que no tiene otro lugar de residencia fijo? Yo he anotado... nombres. ¿Está correcto?

QUINTO - Complete la P4 a P8 para cada persona.

SEXTO - Verifique los visitantes. Complete un Cuestionario de Enumeración Individual si no hay alguna persona que pueda dar información sobre el visitante en la residencia de éste. *Pregunta* ¿Permaneció algún visitante aquí la noche del jueves 31 de marzo?

SÉPTIMO - Complete la V3 a V16 (excepto en alojamientos de grupo.) Substituya la palabra "casa," "apartamento," o "cuartos," por la palabra "unidad," según sea apropiada.

OCTAVO - Verifique la existencia de otras unidades. *Pregunta* ¿Vive alguna otra persona en este edificio o en algún otro lugar en esta propiedad? ¿Hay algún apartamento desocupado o cuarto para alquiler?

NOVENO - Pregunte acerca de la próxima unidad. ¿Nombre del jefe? ¿Número de personas? ¿Cuándo se encuentran en la unidad? Si desocupada: ¿A quién se puede ver para obtener información?

P1(V1). Clave de muestreo B C D AG

V2. Dirección---Calle, avenida, o carretera (Si no tiene nombre, describa la localización)

Casa número Apartamento número Urbanización

Línea número	P2. Nombre--Escriba el apellido paterno primero. Anote las personas en el siguiente orden: El jefe Su esposa Hijos solteros, en orden de edad Hijos casados y sus familias Otros parientes Otras personas, tales como huéspedes, sirvientes, o empleados y sus familias que viven aquí.				P3. ¿Cuál es su parentesco con el jefe de la familia? Jefe Esposa del jefe Hijo o hija del jefe Otro - especifique madre, hermano, yerno, huésped, hijo de crianza, sirvienta, etc. (Marque "X" en la columna apropiada, o especifique otro parentesco o relación)			P4. Sexo Masculino o Femenino (Marque "X" en la columna apropiada)		P5. ¿En qué mes y año nació esta persona? (Si se sabe la edad solamente, use la tabla de conversión de edades para obtener la fecha de nacimiento) (Marque "X" en la columna correspondiente al mes) Y (Anote el año)				P6. Estado civil ¿Esta persona actualmente-- Casada? Viviendo en unión consensual? Viuda? Divorciada? Separada? Soltero? (Marque "X" en la columna apropiada)						P7. ¿Dónde nació esta persona? (Especifique el municipio de Puerto Rico, estado o territorio de los Estados Unidos de América, o país extranjero. Si nació en un hospital, indique la residencia de la madre y no la localización del hospital.)			P8. Si nació en el extranjero-- ¿Es esta persona un ciudadano de los Estados Unidos? Naturalizado Nacido en el extranjero de padres americanos Extranjero (Marque "X" en la columna apropiada)		
	Jefe	Esposa	Hijo o hija	Otro - Especifique	Deje en blanco	Masculino	Femenino	Enero feb. marzo	Abril mayo junio	Julio ago. sept.	Oct. nov. dic.	Año	Casada	Unión con.	Viuda	Divorciada	Sepa- rada	Sol- tera	Lugar de nacimiento	Daje en blanco	Nac- tali- zado	Padres ameri- canos	Extran- jero		
	(1)	(2)	(3)		(1)	(2)	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	(5)	(6)			(1)	(2)	(3)			
1																									
2																									
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8																									

Continúa en otro cuestionario

PARA TODAS LAS UNIDADES DE VIVIENDA, TANTO OCUPADAS COMO DESOCUPADAS

V3. Número de personas que viven en esta unidad (Número)	V4. Acceso a la unidad: Entrada directamente del exterior o a través de un pasillo común-- <input type="checkbox"/> 1 A través de cuartos de otra unidad-- <input type="checkbox"/> 2	V5. Cocina o facilidades de cocina: Dentro de esta estructura: Para uso exclusivo-- <input type="checkbox"/> 1 Para uso de varias unidades-- <input type="checkbox"/> 2 En otra estructura: Para uso exclusivo-- <input type="checkbox"/> 3 Para uso de varias unidades-- <input type="checkbox"/> 4 Al aire libre: Para uso exclusivo-- <input type="checkbox"/> 5 Para uso de varias	V6. Condición Construcción original adecuada: Buena-- <input type="checkbox"/> 1 Deteriorándose-- <input type="checkbox"/> 2 Dilapidada-- <input type="checkbox"/> 3 Construcción original inadecuada-- <input type="checkbox"/> 4	V7. Suministro de agua: ¿Hay agua corriente por tuberías en esta estructura (para esta unidad)? Por tuberías, dentro de la estructura: Caliente y fría-- <input type="checkbox"/> 1 Fría solamente-- <input type="checkbox"/> 2 Por tuberías, fuera de la estructura: En la propiedad-- <input type="checkbox"/> 3 En la carretera-- <input type="checkbox"/> 4 Sin agua corriente	V8. Servicio sanitario: ¿Hay un inodoro en esta estructura (para esta unidad)? Inodoro dentro de la estructura: Para uso exclusivo-- <input type="checkbox"/> 1 Para uso de varias unidades-- <input type="checkbox"/> 2 Inodoro fuera de la estructura: Para uso exclusivo-- <input type="checkbox"/> 3 Para uso de varias unidades-- <input type="checkbox"/> 4 Letrina:	V9. Baño o ducha: ¿Hay un baño o ducha en esta estructura (para esta unidad)? Para uso exclusivo-- <input type="checkbox"/> 1 Para uso de varias unidades-- <input type="checkbox"/> 2 Sin baño o ducha-- <input type="checkbox"/> 3	V10. Dormitorios: ¿Cuántos dormitorios hay en esta unidad? (Número)	V11. Ocupación: Ocupada-- <input type="checkbox"/> 1 Desocupada-- <input type="checkbox"/> 2	SI "OCUPADA"		SI "DESOCUPADA"		SI "PROPIEDAD O ESTÁ SIENDO COMPRADA" O "DESOCUPADA PARA LA VENTA SOLAMENTE"				SI "ALQUILADA" O "DESOCUPADA PARA ALQUILER"	
									V12. Tenencia: ¿Esta unidad es propiedad de alguna persona que vive en ella o es alquilada? Propiedad o esta siendo comprada-- <input type="checkbox"/> 1 Alquilada-- <input type="checkbox"/> 2 No paga	V13. Clasificación de la vacante: Para alquiler-- <input type="checkbox"/> 1 Para la venta solamente-- <input type="checkbox"/> 2 Retenida para uso ocasional-- <input type="checkbox"/> 3 Otra vacante-- <input type="checkbox"/> 4	V14. Descripción de la propiedad: Una unidad, sin local comercial-- <input type="checkbox"/> 1 Una unidad, con local comercial-- <input type="checkbox"/> 2 Dos o más unidades-- <input type="checkbox"/> 3	V15. Valor: Si propiedad es "Una unidad, sin local comercial"-- Aproximadamente, por qué cantidad cree usted que se vendería esta propiedad en el mercado actual? (Si desocupada: ¿Cuál es el precio de venta de esta propiedad?) Menos de \$500-- <input type="checkbox"/> 1 \$ 5,000 a 7,400-- <input type="checkbox"/> 6 \$500 a 900-- <input type="checkbox"/> 2 7,500 a 9,900-- <input type="checkbox"/> 7 1,000 a 1,900-- <input type="checkbox"/> 3 10,000 a 14,900-- <input type="checkbox"/> 8 2,000 a 2,900-- <input type="checkbox"/> 4 15,000 a 19,900-- <input type="checkbox"/> 9 3,000 a 3,900-- <input type="checkbox"/> 5 20,000 a 24,900-- <input type="checkbox"/> 10	V16. Renta: ¿Cuál es la renta mensual (por esta unidad)? \$ (Al dól. más cercano)					

Form 60PH-3PR, Questionnaire Used for Sample Data (in English)

U. S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1960 CENSUS OF POPULATION AND HOUSING

PUERTO RICO

ENUMERATOR--FILL FOR EACH A HOUSING UNIT

a. ED number	Municipio	c. Housing unit number	
b. Block number		d. If continued from another schedule, check here ----- <input type="checkbox"/>	
H1. If a group quarters, check here ----- <input type="checkbox"/>			
H2. Address - Street, avenue, or road (If unnamed, describe location)		House number	Apt. number
		Urbanization	
H34. Is this house on a farm? ----- <input type="checkbox"/> Yes <input type="checkbox"/> No			

CONFIDENTIAL - The Census is required by the United States Constitution and further authorized by 13 U.S.C. 5, 9, 141, 221-4. The law requires that the inquiries be answered completely and accurately, and guarantees that the information furnished will be accorded confidential treatment. The Census report cannot be used for purposes of taxation, investigation, or regulation.

PUERTO RICO, 1960: PROCESSING THE DATA

Form 60PH-3PR, Questionnaire Used for Sample Data (in English)—Continued

FOR ALL HOUSING UNITS, WHETHER OCCUPIED OR VACANT	
<p>H3. Number of persons living in this unit - - - - - Vacant - - - - - <input type="checkbox"/></p> <p>H4. Access to unit</p> <p>Direct from outside or through a common hall - - - - - <input type="checkbox"/> 1</p> <p>Through rooms of another unit - - - - - <input type="checkbox"/> 2</p> <p>H5. Kitchen or cooking facilities</p> <p>Inside this structure:</p> <p>For exclusive use - - - - - <input type="checkbox"/> 1</p> <p>Shared - - - - - <input type="checkbox"/> 2</p> <p>In another structure:</p> <p>For exclusive use - - - - - <input type="checkbox"/> 3</p> <p>Shared - - - - - <input type="checkbox"/> 4</p> <p>Outdoors:</p> <p>For exclusive use - - - - - <input type="checkbox"/> 5</p> <p>Shared - - - - - <input type="checkbox"/> 6</p> <p>None - - - - - <input type="checkbox"/> 7</p>	<p>H7. Water supply - Is there piped running water in this structure (for this unit)?</p> <p>Piped inside structure:</p> <p>Hot and cold - - - - - <input type="checkbox"/> 1</p> <p>Cold only - - - - - <input type="checkbox"/> 2</p> <p>Piped outside structure:</p> <p>On property - - - - - <input type="checkbox"/> 3</p> <p>On road or highway - - - - - <input type="checkbox"/> 4</p> <p>No piped running water - - - - - <input type="checkbox"/> 5</p> <p>H8. Toilet - Is there a flush toilet in this structure (for this unit)?</p> <p>Flush toilet inside structure:</p> <p>For exclusive use - - - - - <input type="checkbox"/> 1</p> <p>Shared - - - - - <input type="checkbox"/> 2</p> <p>Flush toilet outside structure:</p> <p>For exclusive use - - - - - <input type="checkbox"/> 3</p> <p>Shared - - - - - <input type="checkbox"/> 4</p> <p>Privy:</p> <p>For exclusive use - - - - - <input type="checkbox"/> 5</p> <p>Shared - - - - - <input type="checkbox"/> 6</p> <p>No toilet - - - - - <input type="checkbox"/> 7</p>
<p>H6. Condition</p> <p>Adequate original construction:</p> <p>Sound - - - - - <input type="checkbox"/> 1</p> <p>Deteriorating - - - - - <input type="checkbox"/> 2</p> <p>Dilapidated - - - - - <input type="checkbox"/> 3</p> <p>Inadequate original construction - - - - - <input type="checkbox"/> 4</p>	<p>H9. Bathtub or shower - Is there a bathtub or shower in this structure (for this unit)?</p> <p>For exclusive use - - - - - <input type="checkbox"/> 1</p> <p>Shared - - - - - <input type="checkbox"/> 2</p> <p>No tub or shower - - - - - <input type="checkbox"/> 3</p> <p>H20. Electric lighting - Does this unit have electric lighting?</p> <p>Yes - - - - - <input type="checkbox"/> 1</p> <p>No - - - - - <input type="checkbox"/> 2</p>
<p>H17. Number of units in this structure - - - - -</p> <p>H18. Type of construction</p> <p>Masonry walls (poured concrete, concrete blocks, stone, hollow tile, etc.):</p> <p>With concrete slab roof - - - - - <input type="checkbox"/> 1</p> <p>With wood frame roof - - - - - <input type="checkbox"/> 2</p> <p>Wood frame walls:</p> <p>With masonry foundation (poured concrete, concrete blocks, concrete posts, stone, etc.) - - - - - <input type="checkbox"/> 3</p> <p>With wood post foundation - - - - - <input type="checkbox"/> 4</p> <p>Other construction - - - - - <input type="checkbox"/> 5</p>	<p>H21. Source of water - What is the source of water (for this unit)?</p> <p>Public water system - - - - - <input type="checkbox"/> 1</p> <p>Private well - - - - - <input type="checkbox"/> 2</p> <p>Cistern - - - - - <input type="checkbox"/> 3</p> <p>Irrigation canal - - - - - <input type="checkbox"/> 4</p> <p>Spring or other - - - - - <input type="checkbox"/> 5</p> <p>H22. Sewage disposal - Is this unit connected to a public sewer or does it have a septic tank?</p> <p>Public sewer - - - - - <input type="checkbox"/> 1</p> <p>Septic tank or cesspool - - - - - <input type="checkbox"/> 2</p> <p>Other - - - - - <input type="checkbox"/> 3</p> <p>None - - - - - <input type="checkbox"/> 4</p>
<p>H10. Bedrooms - How many bedrooms are in this unit? - - - - - (Number)</p>	<p>H11. Occupancy</p> <p>Occupied - - - - - <input type="checkbox"/> 1</p> <p>Vacant - - - - - <input type="checkbox"/> 2</p>
<p>H19. Rooms - How many rooms are in this unit? Count bedrooms, kitchens, living room, dining room, etc., but not bathrooms. (Number)</p>	

Form 60PH-3PR, Questionnaire Used for Sample Data (in English) -Continued

IF "OCCUPIED"	IF "OWNED OR BEING BOUGHT" OR "VACANT, FOR SALE ONLY"
<p>H12. Tenure - Is this unit owned by someone living in it or is it rented?</p> <p>Owned or being bought ----- <input type="checkbox"/> 1</p> <p>Rented----- <input type="checkbox"/> 2</p> <p>No cash rent ----- <input type="checkbox"/> 3</p>	<p>H14. Description of property</p> <p>One unit, no business----- <input type="checkbox"/> 1</p> <p>One unit, with business ----- <input type="checkbox"/> 2</p> <p>Two or more units----- <input type="checkbox"/> 3</p>
<p>H23. Refrigerator - Is there a refrigerator in this unit?</p> <p>Electric or gas----- <input type="checkbox"/> 1</p> <p>Ice----- <input type="checkbox"/> 2</p> <p>No refrigerator ----- <input type="checkbox"/> 3</p>	<p>H15. Value - If "one unit, no business" property - About how much do you think this property would sell for on today's market? (If vacant-- What is the price asked for this property?)</p> <p>Under \$500----- <input type="checkbox"/> 1</p> <p>\$500 - \$900 ----- <input type="checkbox"/> 2</p> <p>\$1,000 - \$1,900----- <input type="checkbox"/> 3</p> <p>\$2,000 - \$2,900----- <input type="checkbox"/> 4</p> <p>\$3,000 - \$4,900----- <input type="checkbox"/> 5</p> <p>\$5,000 - \$7,400----- <input type="checkbox"/> 6</p> <p>\$7,500 - \$9,900----- <input type="checkbox"/> 7</p> <p>\$10,000 - \$14,900 ----- <input type="checkbox"/> 8</p> <p>\$15,000 - \$19,900 ----- <input type="checkbox"/> 9</p> <p>\$20,000 or more----- <input type="checkbox"/> 0</p>
<p>H24. Cooking fuel - What fuel is used most for cooking?</p> <p>Electricity----- <input type="checkbox"/> 1</p> <p>Utility gas (piped)----- <input type="checkbox"/> 2</p> <p>Bottled, tank, or LP gas----- <input type="checkbox"/> 3</p> <p>Kerosene ----- <input type="checkbox"/> 4</p> <p>Other fuel (charcoal, wood, etc.) ----- <input type="checkbox"/> 5</p> <p>No cooking----- <input type="checkbox"/> 6</p>	<p>H29. Land tenure - Does the owner also own the land or does he rent the land?</p> <p>Owns or is buying land----- <input type="checkbox"/> 1</p> <p>Rents land----- <input type="checkbox"/> 2</p> <p>No cash rent paid for use of land --- <input type="checkbox"/> 3</p>
<p>H25. Clothes washing machine - Is there a clothes washing machine in this unit?</p> <p>Yes ----- <input type="checkbox"/> 1</p> <p>No ----- <input type="checkbox"/> 2</p>	<p>H30. If "Pents land" -- What is the monthly rent for land?</p> <p style="text-align: right;">\$..... (Nearest dollar)</p>
<p>H26. Television - Are there any television sets in this unit?</p> <p>Yes, one set ----- <input type="checkbox"/> 1</p> <p>Yes, two sets or more ----- <input type="checkbox"/> 2</p> <p>No television set ----- <input type="checkbox"/> 3</p>	<p>H31. Mortgage status - Is there a mortgage on this property?</p> <p>Yes----- <input type="checkbox"/> 1</p> <p>No ----- <input type="checkbox"/> 2</p>
<p>H27. Radios - Are there any radio sets in this unit?</p> <p>Yes, one set ----- <input type="checkbox"/> 1</p> <p>Yes, two sets or more ----- <input type="checkbox"/> 2</p> <p>No radio set ----- <input type="checkbox"/> 3</p>	<p>IF "RENTED" OR "VACANT, FOR RENT"</p>
<p>H28. Automobile - How many automobiles are owned or regularly used by people who live in this unit? Include company cars kept at home.</p> <p>One----- <input type="checkbox"/> 1</p> <p>Two or more----- <input type="checkbox"/> 2</p> <p>No automobile ----- <input type="checkbox"/> 3</p>	<p>H16. Rent - What is the monthly rent (for this unit)?</p> <p style="text-align: right;">\$..... (Nearest dollar)</p>
<p>IF "VACANT"</p>	<p>H32. In addition to rent, does renter pay for:</p> <p>Electricity?</p> <p>Yes----- <input type="checkbox"/> <input type="checkbox"/> →</p> <p>No, paid by landlord <input type="checkbox"/> \$.....</p> <p>No, does not use <input type="checkbox"/> (Nearest dollar)</p> <p>Utility gas?</p> <p>Yes----- <input type="checkbox"/> <input type="checkbox"/> →</p> <p>No, paid by landlord <input type="checkbox"/> \$.....</p> <p>No, does not use <input type="checkbox"/> (Nearest dollar)</p> <p>Kerosene, charcoal, tank gas, etc.?</p> <p>Yes----- <input type="checkbox"/> <input type="checkbox"/> →</p> <p>No, paid by landlord <input type="checkbox"/> \$.....</p> <p>No, does not use <input type="checkbox"/> (Nearest dollar)</p> <p>Water?</p> <p>Yes----- <input type="checkbox"/> <input type="checkbox"/> →</p> <p>No, paid by landlord <input type="checkbox"/> \$.....</p> <p>No, obtained free ----- <input type="checkbox"/> (Nearest dollar)</p>
<p>H13. Vacancy status</p> <p>For rent----- <input type="checkbox"/> 1</p> <p>For sale only ----- <input type="checkbox"/> 2</p> <p>Held for occasional use ----- <input type="checkbox"/> 3</p> <p>Other vacant----- <input type="checkbox"/> 4</p>	<p>H33. If "Yes" in H32 and if occupied -- What is the average monthly cost for:</p> <p>Electricity?</p> <p>----- <input type="checkbox"/> → \$.....</p> <p>(Nearest dollar)</p> <p>Utility gas?</p> <p>----- <input type="checkbox"/> → \$.....</p> <p>(Nearest dollar)</p> <p>Kerosene, charcoal, tank gas, etc.?</p> <p>----- <input type="checkbox"/> → \$.....</p> <p>(Nearest dollar)</p> <p>Water?</p> <p>----- <input type="checkbox"/> → \$.....</p> <p>(Nearest dollar)</p>
<p>NOTES:</p> <p> </p> <p> </p> <p> </p> <p> </p> <p> </p>	

Form 60PH-3PR, Questionnaire Used for Sample Data (in English)-Continued

12. Name of this person (Enter last name first) QUESTIONS FOR
(Check appropriate box)

P3. What is his relationship to the head of the household?

Head----- 1
Wife of head----- 2
Son or daughter of head --- 3

Other - (Specify) Code
(Mother, brother, son-in-law, lodger, foster child, maid, etc.)

P4. Sex

Male----- 1
Female----- 2

P5. What is the month and year of his birth?
(If only age is known, use age conversion table to obtain date of birth)

Jan., Feb., Mar.----- 1 }
Apr., May, June----- 2 } AND
July, Aug., Sept.----- 3 } (Year)
Oct., Nov., Dec.----- 4 }

P6. Marital Status
Is he now --

Married----- 1
Consensually married --- 2
Widowed----- 3
Divorced ----- 4
Separated----- 5
Never married ----- 6

P7. Where was he born?
(Enter municipio of Puerto Rico, State or territory of the United States, or foreign country. If born in a hospital, give usual residence of mother, not location of hospital.)

Code
.....
(Name of municipio, State, foreign country, etc.)

P8. If born in a foreign country - Is he a citizen of the United States?

Naturalized----- 1
Born abroad of American parents--- 2
Alien----- 3

P9. In what year did he move into this house (or apartment)?
(Check date of last move.)

1959 or 1960----- 1 }
1958----- 2 }
1957----- 3 } (Ask P10)
April 1955 to Dec. 1956 4 }
Jan. 1954 to March 1955 --- 5 }
1950 to 1953 --- 6 } (Skip to P11)
1940 to 1949 --- 7 }
1939 or earlier--- 8 }
Always lived here 9 }

P10. Where did he live on April 1, 1955?

Born April 1, 1955 or later----- 1 (Skip to next person)
Same house or apartment----- 2
Different house - specify location: Code
.....
(Barrío)
.....
(Municipio, State, foreign country, etc.)

P11. If this is a woman who has ever been married or consensually married--
How many babies has she ever had, not counting stillbirths?
(Include children born alive who have died, but do not include stillbirths.)

..... OR None.
(Number)

P12. Does he know how to read and write?

Yes----- 1
No----- 2

P13. Does he know how to speak English?

Yes----- 1
No----- 2

P14. What is the highest grade (or year) of regular school he has ever attended? (Check one box)

(0) Never attended school--- 0 (Skip to P18)
(0) Kindergarten----- 9
(0) Elementary school----- 1 2 3 4 5 6 7 8
(1) High school----- 1 2 3 4
(2) College----- 1 2 3 4 5 6 or more

P15. Did he finish this grade (or year)?

Yes----- 1
No----- 2

P16. Has he attended regular school (or college) at any time since January 1, 1960?

Yes----- No----- 2 (Skip to P18)

P17. Is it a public school or a private (including parochial) school?

Public----- 3
Private (or parochial)----- 4

P18. Check the appropriate box for this person--

Born before April, 1946--- Born after April, 1946---
(Continue with P19) (Skip to next person)

NOTES:

.....
.....
.....
.....
.....

Form 60PH-3PR, Questionnaire Used for Sample Data (in English)—Continued

THIS PERSON or write in answer)

P19. Did this person work at any time last week? Include part-time work, such as a Saturday job, home needlework, or helping on a farm. Do not count own housework. Yes--- 1 (Ask P20) No--- 2 (Skip to P21)

P20. How many hours did he work last week (at all jobs)? (Hours) (Skip to P24)

P21. Was he looking for work or on layoff from a job? Yes--- 1 (Skip to P23) No--- 2 (Ask P22)

P22. Even though he did not work last week, does he now have a job at which he usually works? Yes--- 1 No--- 2

P23. When did he last work at all, even for a few days? Working now--- 1 1949 or earlier--- 6 (Skip to P31) 1960--- 2 Never worked--- 7 1959--- 3 (Ask P24) 1955 to 1958--- 4 1950 to 1954--- 5

P24. If he worked in 1950 or after -- Describe in P24a to P24d the job or business held last week. If no job or business last week, give information for last job or business.

Now in Armed Forces--- (Skip to P25)

a. For whom did he work? (Name of company, business, organization, or other employer)

b. What kind of business or industry was this? Code (For example: Building construction, retail grocery store, auto repair shop, tobacco farm, etc.)

c. What kind of work was he doing? Code (For example: Truck driver, grocery checker, auto mechanic, farmer, etc.)

d. Class of worker (Mark from information in a to c, or ask if not clear.) Employee of a private company, business, or individual for wages, salary, or commissions--- 1 Government employee (Federal, Commonwealth, or municipal)--- 2 Self-employed in own business, professional practice, or farm--- 3 Working without pay in a family business or farm--- 4

If this person worked last week ("Yes" in P19) -- P25. Where did he work last week? Code (Barrio) (Municipio) Worked at home--- 9

P26. How did he get to work? (Check one box for principal means used last week) Bus--- 1 Walked only--- 5 Public car, taxi--- 2 Worked at home--- 6 Private car--- 3 Other means (Specify) Ferry boat--- 4

P27. Last year, 1959, did he work at all, even for a few days? Yes--- 1 (Ask P28) No--- 2 (Skip to P31)

P28. How many weeks did he work in 1959, either full-time or part-time? (Count paid vacation, paid sick leave, and military service.) 13 or less--- 1 40 to 47--- 4 14 to 26--- 2 48 to 49--- 5 27 to 39--- 3 50 to 52--- 6

P29. How much did he earn in 1959 in wages or salary from all jobs? (Before deductions for taxes, bonds, etc. Include commissions and tips.) \$..... OR None--- (Nearest dollar)

P30. How much did he earn in 1959 working in his own business, professional practice, partnership, or farm? (Net income after business expenses) \$..... OR None--- (Nearest dollar)

P31. Last year, 1959, did he receive any income from: Social Security, pensions, or veteran's payments; Rent, interest, or dividends; Unemployment insurance, or welfare payments; Any other source not already reported? Yes--- 1 (Enter amount for entire year) \$..... (Nearest dollar) No--- 2

P32. If this is a man-- Has he ever served in the Army, Navy, or other Armed Forces of the United States? Yes--- No--- 1 (Mark "Yes" or "No" for each period) Yes No Korean War (June 1950 to Jan. 1955)--- 1 2 World War II (Sept. 1940 to July 1947)--- 1 2 World War I (April 1917 to Nov. 1918)--- 1 2 Any other time, including present service--- 1 2

PUERTO RICO, 1960: PROCESSING THE DATA
Form 60PH-3PR, Questionnaire Used for Sample Data (in Spanish)

DEPARTAMENTO DE COMERCIO DE LOS ESTADOS UNIDOS
NEGOCIADO DEL CENSO

CENSO DE POBLACIÓN Y VIVIENDAS - 1960

PUERTO RICO

ENUMERADOR - COMPLETE PARA CADA UNIDAD DE VIVIENDA "A"

a. D. de E. número	Municipio	c. Unidad de vivienda número	
b. Bloque número		d. Si este cuestionario es la continuación de otro cuestionario, marque aquí----- <input type="checkbox"/>	
V1. Si es alojamiento de grupo, marque este encasillado----- <input type="checkbox"/>			
V2. Dirección - Calle, avenida, o carretera (Si no tiene nombre, describa la localización.)		Casa número	Apto. número
		Urbanización	
V34. ¿ Estó la vivienda situada en una finca?-----Sí <input type="checkbox"/> 1 No <input type="checkbox"/> 2			

CONFIDENCIAL - El Censo es requerido por la Constitución de los Estados Unidos de América y además autorizado por la Ley 13 C.E.U. 5, 9, 141, 221-4. La Ley requiere que las preguntas sean contestadas en su totalidad y con exactitud, y garantiza que la información suministrada por usted estará sujeta a tratamiento confidencial. El informe censal no puede ser usado para propósitos de contribución, investigación, o reglamentación.

Form 60PH-3PR, Questionnaire Used for Sample Data (in Spanish)-Continued

PARA TODAS LAS UNIDADES, TANTO OCUPADAS COMO DESOCUPADAS	
<p>V3. Número de personas que viven en esta unidad:</p> <p>Desocupada ----- <input type="checkbox"/></p>	<p>V7. Suministro de agua -¿Hay agua corriente por tuberías en esta estructura (para esta unidad)?</p> <p>Por tuberías, dentro de la estructura:</p> <p>Caliente y fría----- <input type="checkbox"/> 1</p> <p>Fría solamente----- <input type="checkbox"/> 2</p> <p>Por tuberías, fuera de la estructura:</p> <p>En la propiedad----- <input type="checkbox"/> 3</p> <p>En la carretera----- <input type="checkbox"/> 4</p> <p>Sin agua corriente por tuberías---- <input type="checkbox"/> 5</p>
<p>V4. Acceso a la unidad:</p> <p>Entrada directamente del exterior o a través de un pasillo común----- <input type="checkbox"/> 1</p> <p>A través de cuartos de otra unidad----- <input type="checkbox"/> 2</p>	
<p>V5. Cocina o facilidades de cocina:</p> <p>Dentro de esta estructura:</p> <p>Para uso exclusivo----- <input type="checkbox"/> 1</p> <p>Para uso de varias unidades----- <input type="checkbox"/> 2</p> <p>En otra estructura:</p> <p>Para uso exclusivo----- <input type="checkbox"/> 3</p> <p>Para uso de varias unidades----- <input type="checkbox"/> 4</p> <p>Al aire libre:</p> <p>Para uso exclusivo----- <input type="checkbox"/> 5</p> <p>Para uso de varias unidades----- <input type="checkbox"/> 6</p> <p>Sin cocina o facilidades de cocina----- <input type="checkbox"/> 7</p>	<p>V8. Servicio sanitario -¿Hay un inodoro en esta estructura (para esta unidad)?</p> <p>Inodoro dentro de la estructura:</p> <p>Para uso exclusivo----- <input type="checkbox"/> 1</p> <p>Para uso de varias unidades----- <input type="checkbox"/> 2</p> <p>Inodoro fuera de la estructura:</p> <p>Para uso exclusivo----- <input type="checkbox"/> 3</p> <p>Para uso de varias unidades----- <input type="checkbox"/> 4</p> <p>Letrina:</p> <p>Para uso exclusivo----- <input type="checkbox"/> 5</p> <p>Para uso de varias unidades----- <input type="checkbox"/> 6</p> <p>No tiene servicio sanitario----- <input type="checkbox"/> 7</p>
<p>V6. Condición:</p> <p>Construcción original adecuada:</p> <p>Buena----- <input type="checkbox"/> 1</p> <p>Deteriorándose----- <input type="checkbox"/> 2</p> <p>Dilapidada----- <input type="checkbox"/> 3</p> <p>Construcción original inadecuada----- <input type="checkbox"/> 4</p>	
<p>V17. Número de unidades en esta estructura:</p>	<p>V9. Baño o ducha -¿Hay un baño o ducha en esta estructura (para esta unidad)?</p> <p>Para uso exclusivo----- <input type="checkbox"/> 1</p> <p>Para uso de varias unidades----- <input type="checkbox"/> 2</p> <p>Sin baño o ducha----- <input type="checkbox"/> 3</p>
<p>V18. Tipo de construcción:</p> <p>Paredes de concreto (Concreto, bloques de concreto, piedra, losetas, etc.):</p> <p>Con techo de concreto----- <input type="checkbox"/> 1</p> <p>Con armazón de madera en el techo-- <input type="checkbox"/> 2</p> <p>Paredes de madera:</p> <p>Con cimientos de concreto (concreto, bloques de concreto, pilares de concreto, piedra, etc.)----- <input type="checkbox"/> 3</p> <p>Con cimientos de pilares de madera--- <input type="checkbox"/> 4</p> <p>Otra construcción----- <input type="checkbox"/> 5</p>	<p>V20. Alumbrado eléctrico -¿Esta unidad tiene alumbrado eléctrico?</p> <p>Sí----- <input type="checkbox"/> 1</p> <p>No----- <input type="checkbox"/> 2</p>
<p>V10. Dormitorios -¿Cuántos dormitorios hay en esta unidad?----- (Número)</p>	<p>V21. Origen del agua -¿De dónde se obtiene el agua (para esta unidad)?</p> <p>Acueducto público----- <input type="checkbox"/> 1</p> <p>Pozo privado----- <input type="checkbox"/> 2</p> <p>Cisterna----- <input type="checkbox"/> 3</p> <p>Canal de riego----- <input type="checkbox"/> 4</p> <p>Manantial u otro----- <input type="checkbox"/> 5</p> <p>V22. Disposición de aguas negras -¿ Esta unidad está conectada con el alcantarillado público o tiene un tanque séptico?</p> <p>Alcantarillado público----- <input type="checkbox"/> 1</p> <p>Tanque séptico o sumidero <input type="checkbox"/> 2</p> <p>Otro----- <input type="checkbox"/> 3</p> <p>Ninguno----- <input type="checkbox"/> 4</p>
<p>V19. Cuartos -¿Cuántos cuartos hay en esta unidad?</p> <p>Cuenta dormitorios, cocina, sala, comedor, etc., pero no cuenta cuartos de baño----- (Número)</p>	
<p>V11. Ocupación:</p> <p>Ocupada----- <input type="checkbox"/> 1</p> <p>Desocupada----- <input type="checkbox"/> 2</p>	
<p>OBSERVACIONES:</p>	

SI "OCUPADA"	SI "PROPIEDAD O ESTÁ SIENDO COMPRADA" O "DESOCUPADA, PARA LA VENTA SOLAMENTE"		
<p>V12. Tenencia - ¿Esta <i>unidad</i> es propiedad de alguna persona que vive en ella o es alquilada?</p> <p>Propiedad o está siendo comprada ---- <input type="checkbox"/> 1</p> <p>Alquilada----- <input type="checkbox"/> 2</p> <p>No paga renta en efectivo----- <input type="checkbox"/> 3</p>	<p>V14. Descripción de la propiedad:</p> <p>Una unidad, sin local comercial ---- <input type="checkbox"/> 1</p> <p>Una unidad, con local comercial --- <input type="checkbox"/> 2</p> <p>Dos o más unidades----- <input type="checkbox"/> 3</p>		
<p>V23. Nevera o refrigerador - ¿Hay una nevera o refrigerador en esta <i>unidad</i>?</p> <p>Eléctrica o de gas - <input type="checkbox"/> 1</p> <p>De hielo----- <input type="checkbox"/> 2</p> <p>Ninguna----- <input type="checkbox"/> 3</p>	<p>V15. Valor - Si propiedad es "una unidad, sin local comercial" ¿Aproximadamente, por qué cantidad cree usted que se vendería esta propiedad en el mercado actual? (Si "desocupada": - ¿Cuál es el precio de venta de esta propiedad?)</p> <p>Menos de \$500----- <input type="checkbox"/> 1</p> <p>\$500 a 900----- <input type="checkbox"/> 2</p> <p>\$1,000 a 1,900----- <input type="checkbox"/> 3</p> <p>\$2,000 a 2,900----- <input type="checkbox"/> 4</p> <p>\$3,000 a 4,900----- <input type="checkbox"/> 5</p> <p>\$5,000 a 7,400----- <input type="checkbox"/> 6</p> <p>\$7,500 a 9,900----- <input type="checkbox"/> 7</p> <p>\$10,000 a 14,900--- <input type="checkbox"/> 8</p> <p>\$15,000 a 19,900--- <input type="checkbox"/> 9</p> <p>\$20,000 o más----- <input type="checkbox"/> 0</p>		
<p>V24. Combustible para cocina - ¿Qué combustible utiliza principalmente para cocinar?</p> <p>Electricidad----- <input type="checkbox"/> 1</p> <p>Gas fluído (por tuberías) ----- <input type="checkbox"/> 2</p> <p>Gas en tanques----- <input type="checkbox"/> 3</p> <p>Petróleo (gas por galones) ----- <input type="checkbox"/> 4</p> <p>Otro combustible (carbón, madera, etc.) <input type="checkbox"/> 5</p> <p>No cocina----- <input type="checkbox"/> 6</p>	<p>V29. Tenencia del solar - ¿El dueño de la <i>unidad</i> también posee el solar o lo alquila?</p> <p>Posee o está comprando el solar --- <input type="checkbox"/> 1</p> <p>Alquila el solar----- <input type="checkbox"/> 2</p> <p>No paga renta en efectivo por el uso del solar----- <input type="checkbox"/> 3</p>		
<p>V25. Máquina de lavar ropo - ¿Hay una máquina de lavar ropa en esta <i>unidad</i>?</p> <p>Sí----- <input type="checkbox"/> 1</p> <p>No----- <input type="checkbox"/> 2</p>	<p>V30. Si "Alquila el solar" ¿Cuál es el alquiler mensual del solar?----- \$ (Al dólar más cercano)</p>		
<p>V26. Televisión - ¿Hay algún televisor en esta <i>unidad</i>?</p> <p>Sí, uno----- <input type="checkbox"/> 1</p> <p>Sí, dos o más----- <input type="checkbox"/> 2</p> <p>No----- <input type="checkbox"/> 3</p>	<p>V31. Estado hipotecario - ¿Está hipotecada esta propiedad?</p> <p>Sí----- <input type="checkbox"/> 1</p> <p>No----- <input type="checkbox"/> 2</p>		
<p>V27. Radio - ¿Hay alguna radio en esta <i>unidad</i>?</p> <p>Sí, una----- <input type="checkbox"/> 1</p> <p>Sí, dos o más --- <input type="checkbox"/> 2</p> <p>No----- <input type="checkbox"/> 3</p>	<p>SI "ALQUILADA" O "DESOCUPADA, PARA ALQUILER"</p>		
<p>V28. Automóvil - ¿Cuántos automóviles son propiedad o usados regularmente por las personas que viven en esta <i>unidad</i>?</p> <p>Incluya automóviles propiedad de la compañía en que trabaja y que se guardan en la casa.</p> <p>Uno----- <input type="checkbox"/> 1</p> <p>Dos o más----- <input type="checkbox"/> 2</p> <p>Ningún automóvil-- <input type="checkbox"/> 3</p>	<p>V16. Renta - ¿Cuál es la renta mensual (de esta <i>unidad</i>)? ----- \$ (Al dólar más cercano)</p>		
<p>SI "DESOCUPADA"</p>	<table border="1"> <tr> <td data-bbox="906 1402 1214 1602"> <p>V32. ¿Además de la renta, paga el inquilino por:</p> <p>Electricidad?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, la paga el casero--- <input type="checkbox"/></p> <p>No, no la usa----- <input type="checkbox"/></p> <p>Servicio de gas?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, no lo usa----- <input type="checkbox"/></p> <p>Petróleo (gas por galones) carbón, gas en tonques, etc.):</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, no lo usa----- <input type="checkbox"/></p> <p>Agua?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, se obtiene el agua gratis----- <input type="checkbox"/></p> </td> <td data-bbox="1214 1402 1494 2026"> <p>V33. Si "Sí" en la V32 y si ocupada ¿Cuál es el gasto promedio mensual por:</p> <p>Electricidad?</p> <p>\$ (Al dólar más cercano)</p> <p>Servicio de gas?</p> <p>\$ (Al dólar más cercano)</p> <p>Petróleo?</p> <p>\$ (Al dólar más cercano)</p> <p>Agua?</p> <p>\$ (Al dólar más cercano)</p> </td> </tr> </table>	<p>V32. ¿Además de la renta, paga el inquilino por:</p> <p>Electricidad?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, la paga el casero--- <input type="checkbox"/></p> <p>No, no la usa----- <input type="checkbox"/></p> <p>Servicio de gas?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, no lo usa----- <input type="checkbox"/></p> <p>Petróleo (gas por galones) carbón, gas en tonques, etc.):</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, no lo usa----- <input type="checkbox"/></p> <p>Agua?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, se obtiene el agua gratis----- <input type="checkbox"/></p>	<p>V33. Si "Sí" en la V32 y si ocupada ¿Cuál es el gasto promedio mensual por:</p> <p>Electricidad?</p> <p>\$ (Al dólar más cercano)</p> <p>Servicio de gas?</p> <p>\$ (Al dólar más cercano)</p> <p>Petróleo?</p> <p>\$ (Al dólar más cercano)</p> <p>Agua?</p> <p>\$ (Al dólar más cercano)</p>
<p>V32. ¿Además de la renta, paga el inquilino por:</p> <p>Electricidad?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, la paga el casero--- <input type="checkbox"/></p> <p>No, no la usa----- <input type="checkbox"/></p> <p>Servicio de gas?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, no lo usa----- <input type="checkbox"/></p> <p>Petróleo (gas por galones) carbón, gas en tonques, etc.):</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, no lo usa----- <input type="checkbox"/></p> <p>Agua?</p> <p>Sí----- <input type="checkbox"/> →</p> <p>No, lo paga el casero--- <input type="checkbox"/></p> <p>No, se obtiene el agua gratis----- <input type="checkbox"/></p>	<p>V33. Si "Sí" en la V32 y si ocupada ¿Cuál es el gasto promedio mensual por:</p> <p>Electricidad?</p> <p>\$ (Al dólar más cercano)</p> <p>Servicio de gas?</p> <p>\$ (Al dólar más cercano)</p> <p>Petróleo?</p> <p>\$ (Al dólar más cercano)</p> <p>Agua?</p> <p>\$ (Al dólar más cercano)</p>		
<p>V13. Clasificación de la vacante:</p> <p>Para alquiler----- <input type="checkbox"/> 1</p> <p>Para la venta solamente----- <input type="checkbox"/> 2</p> <p>Retenida para uso ocasional----- <input type="checkbox"/> 3</p> <p>Otra vacante----- <input type="checkbox"/> 4</p>			
<p>OBSERVACIONES _____</p>			

ESTA PERSONA ← apropiado o escriba la contestación

P19. ¿Hizo algún trabajo durante la semana pasada?
 Incluya trabajo por jornada parcial, como sábados, trabajo de aguja a domicilio o trabajo en una finca. No incluya oficios domésticos en el propio hogar.
 Sí----- 1 (Pregunte la P20) No----- 2 (Pase a la P21)

P20. ¿Cuántas horas trabajó la semana pasada (en todos los trabajos)?
 (Horas)
 (Pase a la P24)

P21. ¿Buscó trabajo o había sido suspendido del trabajo?
 Sí----- 1 (Pase a la P23) No----- 2 (Pregunte la P22)

P22. ¿Aún cuando no trabajó la semana pasada tiene actualmente un empleo o negocio en el cual trabaja regularmente?
 Sí----- 1 No----- 2

P23. ¿Cuándo trabajó por última vez, aunque fuese por pocos días?
 Trabajando----- 1
 1960----- 2
 1959----- 3 (Pregunte la P24)
 1955 a 1958----- 4
 1950 a 1954----- 5
 1949 o antes----- 6 (Pase a la P31)
 Nunca ha trabajado----- 7

P24. Si trabajó en el 1950 o después -
 Describa en las preguntas P24a a 24d el empleo o negocio que tenía la semana pasada. Si no tenía empleo o negocio durante la semana pasada, dé la información acerca del empleo o negocio más reciente.
 Actualmente sirve en las Fuerzas Armadas----- (Pase a la P25)
a. ¿Para quién trabajó?

 (Nombre de la compañía, negocio, organización u otro patrono)
b. ¿Qué clase de negocio o industria es? Clave

 (Por ejemplo: Empresa constructora, tienda de comestibles al detal, taller de reparación de automóviles, finca de tabaco, etc.)
c. ¿Qué clase de trabajo hacía? Clave

 (Por ejemplo: Conductor de camión, cajero, mecánico de automóviles, agricultor, etc.)
d. Clase de trabajador: (Marque de acuerdo con la información en las secciones a a c, o pregunte si no puede determinar con claridad.)
 Empleado de una compañía, negocio o patrono privado por jornales, sueldos o comisiones----- 1
 Empleado gubernamental (gobierno federal, estatal, o municipal)----- 2
 Por cuenta propia en su negocio, práctica profesional, o finca----- 3
 Sin paga, en un negocio o finca de un familiar----- 4

P25. ¿En qué barrio y municipio trabajó durante la semana pasada? Clave
 (Barrio)
 (Municipio)
 En su hogar----- 9

P26. ¿Qué medio de transporte usó para ir al trabajo?
 (Marque el medio de transporte usado principalmente para trasladarse al trabajo durante la semana pasada)
 Guagua----- 1 A pie solamente----- 5
 Carro público, taxi----- 2 Trabajó en subhogar 6
 Carro privado 3 Otro medio - especifique:,
 Lancha----- 4

P27. ¿Durante el año pasado, 1959, hizo algún trabajo aunque fuera solamente por unos días?
 Sí----- 1 (Pregunte la P28) No----- 2 (Pase a la P31)

P28. ¿Cuántas semanas trabajó en 1959, tanto por jornada completa como jornada parcial?
 (Incluya vacaciones con paga, licencia por enfermedad con paga, o servicio militar.)
 13 o menos----- 1 40 a 47----- 4
 14 a 26----- 2 48 a 49----- 5
 27 a 39----- 3 50 a 52----- 6

P29. ¿Cuánto ingreso tuvo durante el 1959 de salarios o sueldos de todos sus trabajos?
 (Antes de descontar para pago de contribuciones, bonos, etc. Incluya comisiones y propinas.)
 \$ o Ninguno-----
 (Al dólar más cercano)

P30. ¿Cuánto dinero ganó durante el 1959 trabajando en su propio negocio, práctica profesional, sociedad o finca?
 (Ingreso neto después de descontar los gastos de operación.)
 \$ o Ninguno-----
 (Al dólar más cercano)

P31. ¿Durante el año pasado, 1959, recibió algún dinero de:
 Seguro social, pensiones o pagos a veteranos?
 Rentas, intereses o dividendos?
 Seguro de desempleo o pagos de bienestar público?
 Cualquiera otra fuente no mencionada arriba?
 Sí-- 1 → Anote el total recibido durante el año pasado de estas fuentes \$ (Al dólar más cercano)
 No-- 2

P32. Si esta persona es un hombre - ¿No sirvió alguna vez en el Ejército, la Marina o cualquiera otra rama de las Fuerzas Armadas de los Estados Unidos?
 Sí-- 1 No-- 2
 (Marque "Sí" o "No" para cada período): Sí No
 Guerra de Corea (junio 1950 a enero 1955)----- 1 2
 Guerra Mundial II (sept. 1940 a julio 1947)----- 1 2
 Guerra Mundial I (abril 1917 a nov. 1918)----- 1 2
 Cualquiera otra época, incluyendo servicio actual----- 1 2

Form 60PH-5PR, Cuestionario Preliminar (Advance Census Report Used for 100-Percent Data Except in Large Cities)



DEPARTAMENTO DE COMERCIO DE LOS ESTADOS UNIDOS

NEGOCIADO DEL CENSO



CUESTIONARIO PRELIMINAR DEL CENSO DE POBLACION Y VIVIENDAS - 1960 PUERTO RICO

Apreciado Jefe de Familia:

Este cuestionario gubernamental es para que usted lo llene antes de que el enumerador le visite para tomar el Censo de Población y Viviendas de 1960. El ejemplo que se incluye le servirá como guía y le ayudará a contestar las preguntas requeridas de cada miembro de su familia.

Si usted ha llenado esta forma y la tiene lista para entregar al enumerador del Censo para el 1^{ro} de abril, Ud. ayudará a acelerar el Censo y a reducir los gastos del mismo. De manera que los resultados sean más exactos, se le pide que consulte a los demás miembros de su familia, si es necesario, para anotar fechas de nacimiento y otros datos. Cualquier visita que pasó la noche del jueves 31 de marzo de 1960 en su casa debe anotarse en la sección C de este cuestionario.

La Constitución del Estado Libre Asociado de Puerto Rico provee para que el Censo de 1960 sea usado en la revisión de los distritos senatoriales y representativos de Puerto Rico. La información que usted provea también ayudará al gobierno, tanto como a la empresa privada, a desarrollar sus planes, que a su vez pueden afectarnos a todos.

En una de cada cuatro viviendas se harán preguntas adicionales. Esa vivienda se escogera al azar, de manera que nadie sepa de antemano si la escogida será la suya o la de su vecino. Cuando el enumerador del censo lo visite, él le dirá si su casa ha sido escogida.

La ley provee para que toda la información suministrada por usted reciba tratamiento confidencial. Su informe censal no puede ser usado para propósitos de contribución, investigación o reglamentación.

Sinceramente,

Robert W. Burgess

Robert W. Burgess, Director
Negociado del Censo

NO ENVIE ESTA FORMA POR CORREO - RETENGALA PARA EL ENUMERADOR DEL CENSO

CONFIDENCIAL. El Censo es requerido por la Constitución de los Estados Unidos de América y además autorizado por la Ley 13 C.E.U. 5, 9, 141, 221-4. La Ley requiere que las preguntas sean contestadas en su totalidad y con exactitud y garantiza que la información suministrada estará sujeta a tratamiento confidencial. El informe censal no puede ser usado para propósitos de contribución, investigación o reglamentación.

<p>SECCIÓN A - En esta sección anote:</p> <ol style="list-style-type: none"> 1. Toda persona que generalmente vive aquí, sea pariente suyo o no; 2. Todas las personas que viven aquí temporariamente y que no tienen residencia fija. 	<p>ESTE SEGURO DE ANOTAR -</p> <ul style="list-style-type: none"> • Todos los miembros de su familia que viven con us • Otros parientes que viven con usted. • Alojados, huéspedes o pupilos que viven aquí. • Sirvientes, empleados y otras personas no relacion • Cualquier otra persona que vive aquí temporaramen <p>ANOTE TAMBIÉN - <i>Las personas que generalmente viven aquí pero que temporariamente, ya sea en negocios, de vacacion,</i></p>
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Línea número	NOMBRES DE TODAS LAS PERSONAS QUE VIVEN AQUÍ PERMANENTEMENTE O QUE VIVEN AQUÍ TEMPORERAMENTE Y QUE NO TIENEN RESIDENCIA FIJA			¿Cuál es el parentesco de cada persona con el jefe de familia? (Por ejemplo: esposa, hijo, hija, nieto, suegra, alojado, esposa del alojado)	Masculino o Femenino (M o F)
	Anoté los nombres en este orden	{ El jefe de familia en la primera línea Esposa del jefe Hijos solteros, en orden de edad Hijos casados y sus familias Otros parientes Otras personas que no están relacionadas al jefe de familia			
	SI SU LISTA INCLUYE MÁS DE 10 NOMBRES, USE UNA HOJA ADICIONAL. (P2)			(P3)	(P4)
	Apellido	Nombre de pila	Inicial		
1				JEFE DE FAMILIA	
2					
3					
4					
5					
6					
7					
8					
9					
10					

SECCIÓN B - DESPUÉS: Haga el favor de contestar las preguntas en esta sección para facilitarle al enumerador del censo a info

<p>1. ¿Vive más de una familia en esta casa? Sí <input type="checkbox"/> No <input type="checkbox"/></p> <p style="text-align: center;">↓</p> <p>¿Si vive más de una familia, duermen y comen con su familia? Sí <input type="checkbox"/> No <input type="checkbox"/></p> <p style="text-align: center;">↓</p> <p>Asegurese de que han sido anotados en la Sección A, arriba.</p>	<p>2. ¿Ha dejado de anotar a alguna persona en la Sección A porque tenía nacido que todavía esta en el hospital o un alojado que tiene otra r Sí <input type="checkbox"/> No <input type="checkbox"/></p> <p style="text-align: center;">↓</p> <p>Si la contestación es "Sí," anote los nombres aquí: </p>
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SECCIÓN C - Anote debajo todas las personas que durmieron aquí la noche del jueves 31 de marzo de 1960, excepto aquellas que estas personas en sus propios hogares.

Nombre del visitante (Si hay más de 2 nombres, use una hoja adicional)	¿Cuál es el parentesco de esta persona con el jefe de la familia de la unidad donde el regulamente vive?	Masculino o Feminino (M o F)	¿Cuanda nació esta persona?	Esta persona esta actualmente. Casada, viviendo en unión consensual, viuda, divorciada, separada, soltera (nunca se ha casado)	¿Dónde nació esta persona?
(2)	(3)	(4)	(5) Mes Año	(6)	(7)

SECCIÓN D - Estas preguntas se refieren al lugar donde vive usted y las demás personas anotadas en la Sección A. Se refieren a su casa o a la parte de la casa, o al apartamento, piso o cuartos en que usted vive.		
V5. ¿Tiene usted cocina u otras facilidades de cocina? (Marque uno)		¿Son sus facilidades de cocina: (Marque uno)
Dentro de la estructura	<input type="checkbox"/>	Para uso exclusivo de su vivienda (las personas anotadas en la Sección A)?..... <input type="checkbox"/> Para uso de varias unidades?..... <input type="checkbox"/>
En otra estructura.....	<input type="checkbox"/>	
Al aire libre.....	<input type="checkbox"/>	
No tiene cocina ni facilidades de cocina	<input type="checkbox"/>	
V7. ¿Hay agua corriente por tuberías en su casa, apartamento o cuartos? (Marque uno)		
Caliente y fría, dentro de la estructura.....	<input type="checkbox"/>	
Fría solamente, dentro de la estructura	<input type="checkbox"/>	
Agua por tubería, fuera de la estructura, en la propiedad	<input type="checkbox"/>	
Agua por tubería, fuera de la estructura, en la calle o carretera.....	<input type="checkbox"/>	
Sin agua corriente por tuberías.....	<input type="checkbox"/>	
V8. ¿Hay un inodoro? (Marque uno)		¿Es el servicio sanitario: (Marque uno) -
Dentro de la estructura	<input type="checkbox"/>	Para uso exclusivo de esta unidad?..... <input type="checkbox"/> Para uso de varias unidades?..... <input type="checkbox"/>
Fuera de la estructura	<input type="checkbox"/>	
Letrina solamente.....	<input type="checkbox"/>	
No tiene servicio sanitario en la propiedad	<input type="checkbox"/>	
V9. ¿Hay baño o ducha en esta estructura? (Marque uno)		
Sí, para uso exclusivo de esta unidad.....	<input type="checkbox"/>	
Sí, para uso de varias unidades	<input type="checkbox"/>	
No hay baño o ducha para el uso de esta unidad	<input type="checkbox"/>	
V10. ¿Cuántos dormitorios hay en su casa o apartamento?..... Número de dormitorios		
H12. ¿Es la casa, parte de la casa o apartamento en que usted vive - (Marque uno)		
Propiedad o está siendo comprada por usted o alguna otra persona en su unidad?..... <input type="checkbox"/>		
Alquilada mediante pago en efectivo?..... <input type="checkbox"/>		
Ocupada sin pagar renta en efectivo?..... <input type="checkbox"/>		
SECCIÓN E - FAVOR DE LLENAR LA SECCIÓN		
1. ¿Vive alguien más en este edificio o en cualquier otro lugar en esta propiedad? Sí..... <input type="checkbox"/> No..... <input type="checkbox"/>		2. Que usted sepa, ¿hay algún apartamento o cuartos desocupados para alquilar en este edificio o en cualquier otro lugar en esta propiedad? Sí..... <input type="checkbox"/> No..... <input type="checkbox"/>
3. Nombre de la persona que llenó esta forma	4. Su dirección (Número de casa, calle, ciudad, etc.)	5. Su número de teléfono
SECCIÓN F - PARA USO DEL ENUMERADOR SOLAMENTE		
1. D. de E. número	3. Información de Vivienda en el CPC	
2. Unidad de vivienda número	a. <input type="checkbox"/> Enumerada como 1 UV b. <input type="checkbox"/> Revisada	
Llene la hoja de adentro para el Censo de Poblacion NO ENVIE ESTA FORMA POR CORREO--RETÉNGALA PARA EL ENUMERADOR		

APPENDIX

Tarjeta de Codigos (Code Card)

CENSOS DE POBLACION Y VIVIENDAS DE 1960
Tarjetas de Codigos - Puerto Rico

Preguntas que Examinará o Codificará

- Pregunta P1 (V1) en el cuestionario básico y V1 en la página de cubierta de los folletos de muestra para ver si la unidad es un Alojamiento de Grupo; anote el código para Tipo de Institución.
Pregunta V3 Examine de acuerdo con las instrucciones para tener la seguridad de que la entrada es apropiada.
Preguntas P2 y P3-Parentesco- Determinación del orden de enumeración. Anote el código apropiado de dos dígitos donde sea requerido.
Pregunta P6-Estado Civil- Anote una "X" donde se requiera; y recodifique entradas de personas casadas cuyos cónyuges están ausentes de la vivienda (cuestionarios de muestra solamente).
Pregunta P7-Lugar de Nacimiento- Anote el código apropiado de tres dígitos donde sea requerido.
Pregunta V16-Renta- Trace una línea a través de centavos, y proceda de acuerdo con las instrucciones.
Pregunta P10-Migración- Anote el código apropiado de tres dígitos donde sea requerido.
Pregunta P18-Nacido antes o Después de 1946- Examine para tener la seguridad de que la persona es menor o mayor de 14 años. Coteje la pregunta P5 - Edad para hacer las correcciones. Si la persona es menor de 14 años, cancele la segunda página de población.

- Pregunta P23-Cuando Trabajó por Ultima Vez- Examine preguntas en blanco; y las entradas de la P24 a la P31 para asegurar que estas están de acuerdo con la entrada en la P23.
Pregunta P25-Sitio de Trabajo- Anote el código apropiado de dos dígitos donde sea requerido.
Preguntas P29-P31- Ingreso
a. Trace una línea a través de centavos.
b. Codifique Ninguno "00".
c. Si ambas la P29 y P30 están en blanco y no se marcó "ninguno", examine la P27 y P28 y proceda de acuerdo con las instrucciones.
d. Anote el código apropiado de dos dígitos cuando sea requerido.
Preguntas P29-P31-Totalizando Ingresos-
a. Total de Ganancias por Trabajo: (P29 y P30). Sume los ingresos informados en las preguntas P29 y P30 y anote el total al dólar más cercano sobre "ninguno" en el encasillado de la pregunta P30.
b. Ingreso Total Individual: Sume el ingreso informado en las preguntas P29, P30 y P31 y anote el total de la persona individual a la parte de abajo esquina derecha del encasillado de la Pregunta P31.
c. Ingreso Total de la Familia: (1) Sume el total de

ingreso de todas las personas relacionadas al jefe de una vivienda y anote el total en la esquina derecha del margen en la parte de abajo de la segunda página de la Población del jefe de la vivienda. (2) Sume el total de Ingreso Individual para todas las personas en una vivienda relacionadas o la persona codificada como jefe de una familia secundaria en esa vivienda y anote este total en el margen en la esquina derecha a la parte de abajo de la segunda página de población del jefe de la familia secundaria.
d. Anote el código apropiado de dos dígitos cuando sea necesario.

- Pregunta V30-Alquiler mensual del solar- Trace una línea a través de entradas de centavos.
Pregunta V16-Renta Mensual de esta Unidad- Trace una línea a través de entradas de centavos. Examine la V12 y V13 y proceda de acuerdo con las instrucciones.
Pregunta V16, V32 y V33- Examine la V32 y V33 y codifique en V33 de acuerdo con las instrucciones. Sume la V16 y la V33 para obtener la Renta Mensual Bruta. Anote el total en el margen inmediatamente debajo de la pregunta V33 en la segunda página de vivienda para esa vivienda.

Table with 2 columns: Pregunta P3 - Parentesco and Código. It lists various family relationships like 'Jefe (con por lo menos una persona relacionada a este vivienda en ese hogar)', 'Esposa', 'Hijo o hija', etc., with corresponding codes from 11 to 58.

Table with 2 columns: Pregunta P7 - Lugar de Nacimiento and Código. It lists birthplaces like 'El mismo Municipio que ese de enumeración', 'Municipio otro que ese de enumeración', 'Estado de los Estados Unidos', etc., with codes from 1 to 3.

Two tables side-by-side: 'LISTA DE MUNICIPIOS' and 'LISTA DE ESTADOS'. The first lists Puerto Rico municipalities with codes, and the second lists US states with codes.

Table with 2 columns: Pregunta P6 Estado Civil and Código. It lists marital statuses like 'Casada (cónyuge presente)', 'En unión consensual (cónyuge presente)', 'Viuda', etc., with codes from 1 to 8.

Table with 2 columns: LISTA DE POSESIONES and Código. It lists types of land ownership like 'Ciudades', 'San Juan', 'Ponce', etc., with codes from 35 to 99.

Table with 2 columns: Pregunta P10 - Migración and Código. It lists migration details like 'Barrio', 'El mismo municipio que ese de enumeración', 'Municipio (otro que ese de enumeración)', etc., with codes from 1 to 666.

Table with 2 columns: PAISES EXTRANJEROS and Código. It lists foreign countries like 'America Samoa', 'Guam', 'Zona del Canal', etc., with codes from 52 to 56.

Table with 2 columns: Pregunta P25 - Sitio Donde la Persona Trabajó la Semana Pasada and Código. It lists work locations like 'Barrio', 'El mismo Municipio a ese de enumeración', 'Municipio (otro que ese de enumeración)', etc., with codes from 1 to 85.

Nota: Si usted no puede determinar el código apropiado usando esta Tarjeta de Códigos, refiérase a su Manual de Instrucciones

RATIO ESTIMATE CONTROL RECORD

Serial Number _____

1960 Census of Puerto Rico

Municipio _____

Barrio _____

Sub Barrio _____

Section No.	Ratio estimate group	Sample card count	Basic card count	Total card count	Line No.	From sample cards select and--			From basic cards select and--		Sampling instructions		Remarks	Number of cards selected	Final card count after adjustment		
						Duplicate the whole selected card	Make basic cards out of selected cards	Destroy selected cards	Duplicate selected cards	Destroy selected cards	SW	TE			Sample card count	Basic card count	Total card count
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
A	Total Population.....																
B	Total Heads.....																
C	Male:																
D	Household Head.....				1												
					2												
E	Non-head under 14....				3												
					4												
F	Non-head 14 and over.				5												
					6												
G	Female:																
H	Household head.....				7												
					8												
I	Non-head under 14....				9												
					10												
J	Non-head 14 and over.				11												
					12												
K	Total Housing Units....																
L	Occupied.....																
M	By owner.....				13												
					14												
N	By renter.....				15												
					16												
O	Vacant.....				17												
					18												

PUERTO RICO, 1960: PROCESSING THE DATA
 Form 60-50-21, Ratio Estimate Control Record

Instructions for Sample Card Ratio Estimate Procedures

SAMPLE CARD RATIO ESTIMATE PROCEDURES
1960 CENSUS OF PUERTO RICOA. Tabulation P & H-1, Runs 1 and 2

1. The purpose of the P & H-1 tabulation is:

- (a) To provide, for both the basic and sample cards, the population and housing counts required to ratio estimate the sample cards to the 100% control totals, and
- (b) To physically sort the cards into the various ratio estimate groups in order to permit the replication or deletion of selected cards within each weighting group.

2. Each card type must have been processed through the mechanical edit boards and all necessary corrections made.

3. Cards are to be tabulated on a weighting area basis as established in Attachment A. Each of the four card types—basic population, sample population, basic housing, sample housing—is to be tabulated separately.

4. The sorted output is to be boxed separately by card type and by weighting area, with each ratio estimate group within the area being maintained in sort sequence - error cards kept separately. Identify each group by both name and Ratio Estimate Control Record Section No.; for example, Section D - Male: Household Head. The serial number of each weighting area is to be included as part of the box identification label. (Note: Error reject cards, if any are found, are to be corrected as described in Section B below.)

5. The tabulation output is to be processed in accordance with the instructions given in Section B following.

B. Reconciliation of Tabulation P & H-1 and Preparation of Ratio Estimate Control Record

1. After completion of the tabulation for a weighting area, sum each column (counter) to obtain totals for the weighting area. If any reproduced error cards are attached, determine the counters in which they should have been tabulated and adjust the run as required. Cross-add these totals to ensure consistency of data as indicated below. Also, indicate on the reproduced error

Instructions for Sample Card Ratio Estimate Procedures--Continued

B Reconciliation of Tabulation P & H-1 and Preparation of Ratio Estimate Control Record - Continued

cards the corrections which have been made to the run. Write on the back of each card the serial number of the weighting area and the counter to which it has been added. Return the duplicate card to the tabulating unit and they will locate and correct the original card accordingly and file it in its proper ratio estimate group.

Basic Population:	Counters	3 and 7	= 2
		4, 5, & 6	= 3
		8, 9, & 10	= 7
Sample Population:	Counters	13 and 17	= 12
		14, 15, & 16	= 13
		18, 19, & 20	= 17
Basic Housing:	Counters	32 and 35	= 31
		33 and 34	= 32
Sample Housing:	Counters	39 and 42	= 38
		40 and 41	= 39

If consistency is not obtained, the source of the error must be located and corrected before proceeding with the next step.

2. Prepare, in triplicate, a Ratio Estimate Control Record (Form 60-50-21) for each weighting area, filling in the required identification and heading items. Then post the adjusted P & H-1 tabulation totals to the corresponding section and column of the Ratio Estimate Control Record as follows.

C. Posting InstructionsColumn 1 of R.E. Control RecordColumn 2 of R.E. Control Record

	<u>From Counter</u>	<u>To Section</u>		<u>From P & H-1 Counter</u>	<u>To R.E. Section</u>
Sample Pop.	12	A	Basic Pop.	2	A
	13	C (shaded)		3	C (shaded)
	14	D		4	D
	15	E		5	E
	16	F		6	F
	17	G (shaded)		7	G (shaded)
	18	H		8	H
	19	I		9	I
	20	J		10	J
	Sample Hsg.	38		K	Basic Hsg.
39		L	32	L	
40		M	33	M	
41		N	34	N	
42		O	35	O	

Instructions for Sample Card Ratio Estimate Procedures—Continued

C. Posting Instructions - Continued

1. Then add sections D and H together and enter this total in section B, Total Heads. Then add columns 1 and 2 together, line by line, and post these totals to column 3.

2. For each weighting area which is also a complete municipio (e.g., Adjuntas), the total population as shown in column 3 of Section A is acceptable as tabulated, provided that it does not differ from the corresponding AC-1 control count by more than $\pm .1\%$ or 10 cards, whichever is larger, provided further that no difference exceeds 100 in total. If greater differences occur, the error must be located and corrected. The AC-1 controls will later be adjusted to agree with the column 16 Ratio Estimate Control Record totals, as these totals will also include the adjustments necessary to make the tabulated count agree with the certified total population count for Puerto Rico. (See Section D below.)

Differences which are not due to errors and which exceed the tolerances given above are to be referred to Washington by telephone for decision.

3. For weighting areas which comprise only a part of a municipio, the column 3 total population for each part which is a complete place or comprises the entire rural balance (e.g., Aguadilla Pueblo and Balance of Municipio) must also be checked against the AC-1 control totals. In addition, all parts are to be added together and the municipio total checked to the AC-1 control counts as outlined in Paragraph 2 above. Tolerances are to be computed separately for each part, with each part being handled in accordance with the procedures established in Paragraph 2 above.

Please note that where a city or balance of a municipio is itself split into 2 or more weighting areas, the component parts must be added together before the check against the AC-1 totals can be made.

4. For housing, also, the totals obtained from the Ratio Estimate Control Record will be accepted as tabulated, provided that the difference between the total number of housing units as shown in Section K, column 3 of the Ratio Estimate Control Record totals, and the AC-1 total number of housing units does not exceed 5 cards or $\pm .1\%$, whichever is larger. (AC-1 counts will later be adjusted to agree with the totals entered in column 16 of the Ratio Estimate Control Record. See Section D below.)

Differences outside these limits, unless due to tabulation failure correctable by means of a rerun, are to be referred to Washington.

5. Weighting areas which comprise only part of a municipio are handled for housing in exactly the same manner as specified for population in Paragraph C.3 immediately above.

6. After all balancing and adjusting operations have been completed, enter the phrase: "Completed by _____" and the date in the upper right-hand corner of the Ratio Estimate Control Record.

Instructions for Sample Card Ratio Estimate Procedures--Continued

C. Posting Instructions - Continued

7. As soon as columns 1, 2, and 3 of the Ratio Estimate Control Records for a complete municipio (all weighting areas) have been posted and verified, two copies are to be forwarded to Washington for determination of the sample selection scheme. One copy, containing the sampling procedures and the final control totals for the municipio (each weighting area) concerned, will be returned to Puerto Rico for final processing.

D. Explanation of Ratio Estimate Control Record

1. The procedures developed for ratio estimating the 1960 Puerto Rico census records were designed to produce consistency between the count of total heads and occupied housing units, adjust the sample cards to the 100% control totals, and enable the tabulations made from the sample to be inflated using a constant weight of 4.

2. Based on the information shown in columns 1 through 3, the Statistical Methods Office will calculate the entries to be made to one or more of columns 5 through 12, and 14 through 16. These entries require the performance of a specific operation to the sorted output of the P & H-1 run following the sampling instructions set forth in columns 10 and 11. The cards which are selected as a result will then be duplicated, etc., in accordance with the entries made to columns 5, 6, 7, 8, or 9. A detailed explanation of the sampling instructions and the procedures which are to be applied to the "selected" cards follows:

<u>R.E. Control Record</u> <u>Entry in Column</u>	<u>Operation Required</u>
Sampling Operation:	
10	SW - Indicates the "Start With" number, i.e., the number of the first card to be selected and the base to which the TE number is to be added to determine the numbers of the remaining selected cards. (Note: Under the procedures developed, this number will always include a 3-digit decimal fraction and may be less than 1.)
11	TE - Indicates "Take Every" and provides the ratio which will result in the selection of the number of cards specified in columns 5, 6, 7, 8, or 9. This number will also always include a 3-digit decimal fraction, however, it can never be less than 1.
12	On occasion, special additional sampling instructions will be needed. These instructions will be entered in column 12.

Instructions for Sample Card Ratio Estimate Procedures--Continued

D. Explanation of Ratio Estimate Control Record - Continued

R.E. Control Record
Entry in Column

Operation Required

Replication Operation:

5	Duplicate the selected cards (both basic and sample information) and file both the originals and the duplicates back in the sample deck. Applies to both population and housing cards.
6.	Duplicate only the basic portion of the selected sample cards. File the duplicate cards in the basic deck. <u>Destroy</u> the sample cards. Applies to population and housing cards.
7	<u>Destroy</u> the selected sample cards. Applies to housing cards only.
8	Duplicate the selected basic cards and file both the originals and the duplicates back in the basic deck. Applies to housing cards only.
9	Destroy the selected basic cards. Applies to both population and housing cards.
13	The actual number of cards selected. (See paragraph G.1 and 2 below.)
14, 15, and 16	The final card count control totals after all ratio estimating operations have been completed. These totals will be entered by the Washington Office. They provide the totals required not only to check the accuracy of the sampling operation, but also to adjust the AC-1's where necessary.

E. Adjustment of the AC-1 Controls

1. Upon receipt of the completed Ratio Estimate Control Record from Washington and before proceeding with the required sampling operations, check the entries in column 16 against the AC-1 Control Record and adjust the AC-1 controls to agree with the totals shown in column 16 of the Ratio Estimate Control Record for each of the following groups. Make the adjustment by drawing a line through the incorrect total shown on the AC-1 and writing in the correct number immediately above it.

Instructions for Sample Card Ratio Estimate Procedures—Continued

E. Adjustment of the AC-1 Controls - Continued

2. Adjust the AC-1 controls for total population, total heads, total non-heads, total persons 14+, total under 14, total males, total females, total housing units, owner occupied units, renter occupied units, and total vacant units to the counts shown in column 16 of the Ratio Estimate Control Record. (Note: The AC-1 classifies vacant units into two groups - vacant for sale or rent, and vacant other. If adjustments are required to make the total number of vacant units agree with the Ratio Estimate Control Record, always make the adjustment to the vacant for sale or rent group.)

3. The Ratio Estimate Control Record totals to which the AC-1's are to be adjusted are obtained as follows:

<u>Description</u>	<u>Control Record Totals (Col. 16)</u>
(1) Total population	Section A
(2) Total heads	Section B
(3) Total non-heads	Sum of Sections E, F, I, and J. Also enter this total in the right-hand margin and the Ratio Estimate Control Record opposite Section E.
(4) Total males	Sum of Sections D, E, and F. Also enter this total in Section C (shaded).
(5) Total females	Sum of Sections H, I, and J. Also enter this total in Section G (shaded).
(6) Total housing units	Section K
(7) Owner occupied units	Section M
(8) Renter occupied units	Section N
(9) Vacant units	Section O

4. For weighting areas which comprise only a part of the municipio, the column 16 totals for each weighting area or group of weighting areas which is a complete place or which comprises the entire rural balance of a municipio must also be checked against the AC-1's, and the AC-1 totals adjusted at this level as well as checking at the municipio level. For example, both the pueblo and municipio of Bayamon must be adjusted to the Ratio Estimate Control Record totals.

Instructions for Sample Card Ratio Estimate Procedures—Continued

F. Determination of the "Selected" Cards

1. Determination of the selected cards for each separate SW and TE instruction requires an adding machine to be used as illustrated by the following example:

- (a) Assume that for a weighting area, the SW and TE numbers appearing in columns 10 and 11, line 1 (line numbers are given in column 4 of the Ratio Estimate Control Record), are 12.035 and 27.414, respectively.
- (b) This means that 12 is the number of the first card to be selected.
- (c) Then, place the number 12.035 in the adding machine, add to it the number 27.414 and obtain a subtotal. This number will be 39.449. The number of the second card to be selected is, therefore, 39; that is, the 39th card of the male, household head weighting group. To this subtotal add 27.414 and obtain a new subtotal. This number will be 66.963. Therefore, card 66 is the third selected card. Continue this process until the number of cards selected is equal to the number entered in columns 5, 6, 7, 8, or 9. (Note that the numbers are never rounded upward, only the integers to the left of the decimal are used.)
- (d) In the particular case described above, if we assume that a number 4 had been entered in column 5, the process would stop with the selection of card number 94 (the fourth selected card).
- (e) Label the adding machine tape produced to indicate the Serial No. of the weighting area and the Section No. and Line No. to which the tape refers.

2. In the exact same manner, prepare an adding machine tape for every line containing entries in columns 10 and 11 and forward the Ratio Estimate Control Record, together with the tapes produced from it, to the tabulating unit for selection of the corresponding cards.

G. Locating and Processing the Selected Cards

1. The Tabulating Unit, upon receipt of a completed Ratio Estimate Control Record and accompanying tapes for a weighting area, will pull from the file the punched card for the weighting area concerned and select, from each ratio estimate group, the punched cards whose numbers are specified on the adding machine tape.

2. For each ratio estimate group enter, in column 13, the number of punched cards actually selected. This number should be identical with the number entered in column 5, 6, 7, 8, or 9. If not, an error has been made and the selection process must be reviewed and the error corrected.

G. Locating and Processing the Selected Cards - Continued

3. Then, for each group of selected cards, duplicate or destroy cards following the instructions specified on the Ratio Estimate Control Record for the particular group of cards involved, including any special instructions appearing in column 12.

4. As soon as all cards for a municipio have been processed, they are available for tabulation and/or continuation of the remaining mechanical editing operations.

Instructions for Sample Card Ratio Estimate Procedures—Continued

Attachment A

WEIGHTING AREAS ESTABLISHED FOR PUERTO RICO

1960 Census of Population and Housing

<u>Serial No.</u>	<u>Municipio, Barrio or Sub-Barrio</u>	<u>Population (Preliminary)</u>
1	Adjuntas	19,721
2	Aguada	23,241
	Aguadilla:	
3	Aguadilla (Pueblo)	15,952
4	Balance of Municipio	31,751
5	Aguas Buenas	17,025
6	Aibonito	18,351
7	Añasco	17,220
	Arecibo:	
8	Arecibo (Pueblo)	28,460
9	Balance of Municipio	41,477
10	Arroyo	13,313
11	Barceloneta	19,339
12	Barranquitas	19,053
	Bayamón:	
13	Bayamón (Pueblo)	15,267
14	Buena Vista through Hato Tejas	30,348
15	Balance of Municipio	26,851
16	Cabo Rojo	24,752
	Caguas:	
17	Caguas (Pueblo)	32,030
18	Balance of Municipio	33,075
19	Camuy	19,732
20	Carolina	41,012
21	Cataño	25,218
	Cayey:	
22	Cayey (Pueblo)	19,755
23	Balance of Municipio	18,229
24	Ceiba	9,020
25	Ciales	18,083
26	Cidra	21,952
27	Coamo	26,122
28	Comerío	18,589
29	Corozal	23,598
30	Culebra	572
31	Dorado	13,444
32	Fajardo	18,350
33	Guánica	13,788
34	Guayama	33,685
35	Guayanilla	17,368
36	Guaynabo	39,755
37	Gurabo	16,515
38	Hatillo	20,209
39	Hormigueros	7,140
40	Humacao	34,417
41	Isabela	28,786

Weighting Areas Established for Puerto Rico - continued

<u>Serial No.</u>	<u>Municipio, Barrio or Sub-Barrio</u>	<u>Population (Preliminary)</u>
42	Jayuya	14,604
43	Juana Díaz	30,041
44	Juncos	21,544
45	Lajas	15,365
46	Lares	26,951
47	Las Mariás	9,262
48	Las Piedras	16,998
49	Loiza	28,205
50	Luquillo	8,601
51	Manatí	29,333
52	Maricao	6,982
53	Maunabo	10,793
	Mayagüez:	
54	Balance of Municipio	33,768
	Mayagüez City:	
55	Candelaria and Carcel (Barrios)	20,759
56	Balance of City	30,049
57	Moca	21,960
58	Morovis	18,107
59	Naguabo	17,237
60	Naranjito	17,345
61	Orocovis	20,406
62	Patillas	17,133
63	Peñuelas	14,862
	Ponce:	
64	Balance of Municipio	31,288
	Ponce City:	
65	Primero and Segundo (Barrios)	29,439
66	Tercero, Cuarto, Quinto, and Sexto (Barrios)	24,399
	Canas Urbano (Barrio):	
67	Baldorioty de Castro, Clausells, and Reparada (Sub-Barrios)	17,643
68	Mechuelo Abajo through Playa (Barrios)	25,717
69	Portugues Urbano and San Anton (Barrios)	17,994
70	Quebradillas	13,152
71	Rincón	8,694
72	Río Grande	17,247
73	Sabana Grande	15,931
74	Salinas	23,148
75	San Germán	27,658

Instructions for Sample Card Ratio Estimate Procedures—Continued

Attachment A

Weighting Areas Established for Puerto Rico - continued

<u>Serial No.</u>	<u>Municipio, Barrio or Sub-Barrio</u>	<u>Population (Preliminary)</u>
	San Juan:	
76	Balance of Municipio	19,216
	San Juan City:	
77	Caparra Heights and El Cinco (Barrios)	32,354
	Hato Rey (Barrio):	
78	Hato Rey Central (Sub-Barrio)	28,771
79	Hato Rey Norte and Hato Rey Sur (Sub-Barrios)	30,618
80	Oriente (Sub-Barrio)	34,966
81	Universidad and Monacillo Urbano (Sub-Barrios)	22,454
82	Pueblo (Sub-Barrio)	19,584
83	Puerto Nuevo (Sub-Barrio)	35,064
84	Sabana Llana Norte and Sabana Llana Sur (Sub-Barrios)	28,458
85	San Juan Antiguo (Barrio)	22,148
	Santurce (Barrio):	
86	Alto del Cabro through Figueroa (Sub-Barrios)	30,889
87	Gandul through Las Palmas (Sub- Barrios)	30,519
88	La Zona through Melilla (Sub- Barrios)	27,753
89	Merhoff through Monteflores (Sub- Barrios)	19,037
90	Obrero through Pulguero (Sub- Barrios)	32,995
91	Sagrado Corazon through Villa Palmeras (Sub-Barrios)	36,898
92	San Lorenzo	27,936
93	San Sebastián	33,445
94	Santa Isabel	14,545
95	Toa Alta	15,694
96	Toa Baja	19,777
97	Trujillo Alto	18,262
98	Utuado	40,501
99	Vega Alta	17,598
100	Vega Baja	30,185
101	Vieques	7,199
102	Villalba	16,493
103	Yabucoa	29,927
104	Yauco	34,814