

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: The Role Of The Computer In Economic And Social Research

Volume Author/Editor: Nancy D. Ruggles

Volume Publisher:

Volume URL: <http://www.nber.org/books/rugg74-1>

Publication Date: 1974

Chapter Title: The Data Bank of the Latin American Demographic Center

Chapter Author: Julio Morales Vergara

Chapter URL: <http://www.nber.org/chapters/c6613>

Chapter pages in book: (p. 19 - 32)

# THE DATA BANK OF THE LATIN AMERICAN DEMOGRAPHIC CENTER

JULIO MORALES VERGARA

Latin American Demographic Center

## 1. BACKGROUND INFORMATION

In the past few years, several institutions devoted to social research in Latin America have shown their interest in the formation of records of scientific data which may be placed at the disposal of persons or institutions concerned with social phenomena in the region. The need for such records has become more evident with the marked increase of interest in such phenomena and also because existing empirical information is scarce and, as a rule, difficult and expensive to obtain.

In addition, it should be taken into consideration that some of these records have become feasible thanks to the level of development attained by cybernetics within the past ten to fifteen years. In fact, storing and processing of material gathered was possible with conventional equipment for mechanical data processing, but treatment of large volumes of data—such as are often handled in population censuses, for example—was only made possible, both in terms of space devoted to the storage of records and of the broad possibilities of exploitation of data, by means of computers.

For the purpose of taking steps toward "the creation, development and modernization of Latin American records of data in social sciences,"<sup>1</sup> the Latin American Council of Social Sciences (CLACSO) appointed a special commission, which has been active since 1967. At its meetings in Lima (1968) and Caracas (1969), decisions were taken for promoting contacts between institutions with the aim of establishing an inventory of available data, promoting the creation and preservation of records, establishing uniform classification standards, and making possible a widespread access to the information incorporated into these records. The goals which have been established are ambitious, and therefore it is anticipated that they will be attained only on a long-term basis.

On the other hand, the Latin American Demographic Center (CELADE), at approximately the time when the CLACSO Commission initiated its activities, decided to form its own data bank—naturally, of an exclusively demographic nature—on the basis of the considerable amount of numerical data which the institution had obtained from its own investigations, as well as from a program initiated in 1960 for the purpose of collecting data from population censuses taken in Latin America during the 1960s.

As with other records of scientific information, the fundamental aim of CELADE's data bank is to permit demographers, and social researchers in general, to carry out their studies on the basis of empirical data. Available material not only permits a better knowledge of different demographic variables in Latin

<sup>1</sup> Jorge García-Bouza, "El archivo latinoamericano de datos de CLACSO," *Revista Latinoamericana de Sociología*, 69/3, Buenos Aires.

America, but also allows the formulation or verification of theories of demographic change and the establishment of interrelationships with variables from other social disciplines. Moreover, it will serve as background for historical studies to be carried out in the future.

Material incorporated into the bank is at the disposal of all researchers or agencies concerned in the study of Latin America, with the sole limitations occasionally imposed by statistical secrecy or, eventually, by preparation costs of given data.

This report contains a description of material incorporated into the bank and of several aspects connected with it. Finally, present plans for the future development of this data bank are presented.

## 2. MATERIAL GATHERED AND ITS CHARACTERISTICS

So far, data on Latin American countries available at the bank come from six different sources:

1. samples from population censuses taken in the 1960s;
2. experimental censuses;
3. experimental demographic survey in Cauquenes (Chile);
4. Program of Comparative Fertility Surveys (Urban and Rural PECFAL);
5. Program of Comparative Studies on Induced Abortion and Use of Contraceptives; and
6. surveys of migration to metropolitan areas.

The following is a brief description of origin, type of data kept, and bibliography, with additional background information on the above material. The table presents some of the relevant facts in concise form.

### *A. Population Census Samples from the 1960s (OMUECE)*

This project was initiated following a recommendation of the Seminar on Evaluation and Utilization of Results from Population Censuses in Latin America, held in Santiago, Chile, at the end of 1959. This seminar specifically recommended selecting samples from population censuses, at a national level, for the purpose not only of advancing census figures (the complete processing of censuses as a rule takes rather a long time) but also of preparing special tabulations, not requiring complete census information, in order to ensure future availability of data for studies of a historic-demographic nature.

CELADE received this recommendation with great interest, urging governments to select such samples, at the same time offering—and, in fact, providing—technical assistance in the designing and selection of samples. The sampling unit was the individual or the household and for each person complete information was gathered, as it had been obtained in the census.

In most cases CELADE obtained a copy of the selected samples, which were subsequently incorporated into the data bank. Among Latin American countries, only Peru and Nicaragua—in addition to those countries where no censuses were taken in the 1960s: Bolivia, Cuba and Haiti—did not provide copies of these samples. Furthermore, it was also possible to obtain a sample for Puerto Rico and

## CONTENT OF THE DATA BANK

Title of the Research	Dates	Countries or Regions Covered	Approximate Size (number of persons)
Population census sample (OMUECE)	1960 and 1964	Argentina, Brazil, Colombia, Costa Rica, Chile, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Dominican Republic, Uruguay, Venezuela, and Puerto Rico	From 20,000 (Honduras) to 900,000 (Brazil); total, 3.5 million
Experimental censuses	1968 and 1969	Cantón Grecia (Costa Rica) and Belén (Argentina)	11,000 (Grecia) and 6,000 (Belén)
Experimental demographic survey	1964 and 1966	Cauquenes Hospital Area (Chile)	12,000
Program of Comparative Fertility Surveys (PECFAL):			
Urban	1963-64	Bogota, Buenos Aires, Caracas, Mexico City, Panama, Rio de Janeiro, and San Jose (subse- quently, Quito, Guayaquil, and Guatemala City)	From 2,000 to 2,500 each (Quito and Guayaquil, about 1,000 each)
Rural	1968-70	Colombia, Costa Rica, Mexico, and Peru	From 2,000 to 3,000 each
Program of Comparative Studies on Induced Abortion and Use of Contraceptives (PEAL)	1967-69	Bogota, Buenos Aires, Lima, and Panama	1,500 each
Surveys of migration to metropolitan areas	1962-67	Caracas, Lima, Santiago	From 11,000 to 14,000 (some 2,000 households)

another for the United States. For Latin America, information is available on nearly 3.5 million persons in seventeen geographical units.

The different samples gathered show a great deal of variation with regard to size. The number of individuals selected ranges from 18,818 (Honduras) to 900,000 (Brazil), while in relative terms, the sampling rate varies from 0.63 percent (Argentina) to 6.61 percent (Dominican Republic) and 10.21 percent (Puerto Rico).

Because of the different absolute sizes of the samples, it has been difficult to prepare tabulations with the same degree of breakdown for all the countries; in addition, tabulations can be prepared at the regional level only for the countries with large samples. Such limitations will have to be taken into account in similar programs undertaken in the future.

Material received at CELADE includes complete individual information, as processed in the censuses of each country; only Puerto Rico and the United States suppressed some information in relation to geographical location.

Census questionnaires from the different countries contain only certain variables (questions) in common, and thus the comparative analysis of the different variables cannot always include all the countries. Moreover, some variables which have been investigated in all the countries present different categories of classification. Thus, for example, under marital status, consensual unions or divorced persons may or may not have been considered as separate categories. To a certain

extent, this lack of uniformity imposes limitations on a comparative analysis of information from the different countries.

Variables investigated in every one of the censuses of the 1960s are:

1. Geographical characteristics
  - (a) Place of enumeration
  - (b) Place of birth
  - (c) Condition of urban-rural residence
2. Personal characteristics
  - (d) Sex
  - (e) Age
  - (f) Relationship to head of household
  - (g) Marital status
3. Cultural characteristics
  - (h) Literacy
  - (i) Educational level
  - (j) Years of schooling
4. Economic characteristics
  - (k) Type of activity (active or inactive)
  - (l) Principal occupation
  - (m) Branch of industry
  - (n) Occupational status

In relation to internal migration, eleven countries provided data on "time of residence" in addition to information included under "geographical characteristics." Only El Salvador, Honduras, the Dominican Republic, and Venezuela did not provide this information.

With regard to fertility, the question on "children ever born" was asked in Argentina, Brazil, Chile, Guatemala, Mexico, Paraguay, and Venezuela, and also in Puerto Rico.

Additional information on characteristics of these samples and of the OMUECE program may be found in the *Boletines Informativos del Banco de Datos de CELADE*. These bulletins, of which a total of four have been published, include information on contents of national samples, classification of variables, tabulations anticipated in the OMUECE program, stage attained by the project, and other useful information concerning the samples.

### *B. Experimental Censuses*

According to a recent CELADE publication, the experimental censuses in which the Center participates are an attempt "to test procedures for obtaining data in relation to population, capable of contributing to the improvement of the quality of the information gathered in Latin American countries."<sup>2</sup> These, then, are field studies carried out mainly for methodological purposes. Therefore, these experimental censuses may eventually omit investigating certain topics which raise no doubts with regard to definition of concepts, formulation of questions, or other aspects of a general nature.

<sup>2</sup> *Censo Experimental de Costa Rica*. CELADE. Series A, No. 108, Santiago, Chile, 1971, p. 1.

So far, the data bank includes information from two experimental censuses: one carried out in Canton Grecia (Province of Alajuela), Costa Rica, March 15-19, 1968, and the other in Belen village (Province of Catamarca), Argentina, taken in April 1969. Information from an experimental census carried out in Nicaragua during 1970 is expected to be incorporated soon.

In the Grecia census three different aspects were approached methodologically: (a) investigation of new topics; (b) changes in the formulation of some questions; and (c) analysis of the quality of information obtained, according to the person providing the information. In addition, an analysis was made of the household, based on the question about relationship.

From the point of view of the potential user of this information from the data bank, it should be noted that in the Grecia census the following subjects, which are not usually included in population censuses of the region, were investigated: (i) condition of orphanage (of father and mother, separately); (ii) size of establishment where economically active person works; (iii) number of principal occupations of different kinds carried out in the last six months; and (iv) number of live-born children borne by women during the last year.

The incorporation of the first and last of these subjects is an attempt to establish a procedure for collecting new antecedents or substitute information on mortality and fertility; while questions (ii) and (iii) are aimed at investigating indirectly the degree of modernization of economic activities carried out by the population, and also underemployment. Eventually, cross-tabulations of these variables with all the others investigated in this experimental census may be programmed.

In the Belen Census, in Argentina, special emphasis was placed on the question on orphanage, but in this case only in relation to the mother. This experimental census did not take special consideration of other methodological aspects, since it was programmed principally with a view to broadening general census procedures for the Population Census of Argentina, taken in September 1970.

For further information on part of the material covered by this section of the data bank, see *Censo Experimental de Costa Rica*,<sup>3</sup> which includes a chapter analyzing the main subjects investigated.

### C. *Experimental Demographic Survey in Cauquenes (Chile)*

Through this survey, CELADE planned to investigate the economic feasibility (reasonable cost) of obtaining information about the level of some simple demographic indicators in predominantly rural areas where continuous registration of vital events is either unsatisfactory or nonexistent. The same methodology had already been tested previously in an urban area, in the State of Guanabara, Brazil.

The final report of the Cauquenes Survey includes the following:

The aim of the investigation was fundamentally to test a procedure for collecting data which would permit the preparation of the more elemental demographic indices. . . .

The operation was initiated towards the middle of 1964 and field work continued until the middle of 1966. A registration was made of some twelve

<sup>3</sup> *Ibid.*

thousand persons residing in dwellings selected in the region (Cauquenes Hospital Area, Province of Maule) and who were visited on four occasions. During these visits, an investigation was made of changes occurring from one visit to the next in relation to a series of events under study: births, deaths, changes in marital status, and migration.<sup>4</sup>

By means of information gathered in the questionnaire it was possible to establish "time of exposure to risk" for each of the phenomena studied, which, together with the observed frequency of such events, led to the establishment of the level of the respective rates. In addition, the survey collected data on sex, age, marital status, schooling, relationship to head of household and economic characteristics of the latter, and of members of households interviewed. These variables led to the establishment of differentials in the level of rates.

For detailed information on the field investigation itself, on methodology and results, and also for an analysis of the latter, see CELADE's publication: *Encuesta Demográfica Experimental de Cauquenes*.<sup>5</sup> Other CELADE documents have also been published containing accounts and a report presented by persons responsible for the investigation to the World Population Conference, held in Belgrade in 1965. In addition, an article has been published in *Demography*.<sup>6</sup>

#### *D. Program of Comparative Fertility Surveys (PECFAL)*

Background for this program was a fertility survey initiated in Santiago, Chile, at the end of the 1950s. On the basis of experience gathered in this survey, CELADE promoted in 1963 the carrying out of similar studies in other major cities of the region and subsequently also in rural areas.

These surveys are known as KAP-Surveys (Knowledge, Attitude, and Practice) and their objective was to obtain information on: (a) levels and trends of fertility, according to different socioeconomic characteristics; (b) attitudes and opinions on desired family size, family planning, and socioeconomic factors associated with it; and (c) use of contraceptives, attitudes toward their use and means of information about them.

The questionnaires employed contain a great deal of information on explanatory variables such as religiousness, traditionalism, and personal characteristics of interviewees and of their spouses, pregnancy histories constituting the base of the investigation.

Fieldwork was executed by local institutions in the respective countries, with technical assistance—especially in the designing of the sample—from CELADE staff members. Thus, it was possible to ensure that investigations would be basically similar and also that comparative analyses of the surveys would be feasible.

Urban PECFAL Surveys were carried out from 1963 to 1964 in Bogota, Buenos Aires, Caracas, Mexico City, Panama City, Rio de Janeiro, and San Jose; subsequently Quito and Guayaquil (Ecuador) and Guatemala City were incorporated into the program.

The study was limited to women aged 20–49 years, of any marital status, selected in a probability sample. In each of the two cities of Ecuador, the number

<sup>4</sup> *Encuesta Demográfica Experimental de Cauquenes*, CELADE, Santiago, Chile, 1968, p. 1.

<sup>5</sup> *Ibid.*

<sup>6</sup> Vol. II, 1965.

of women interviewed was approximately 1,000; in the others, the size of the sample ranged from 2,000 to 2,500.

The Rural PECFAL Surveys were carried out in Colombia, Costa Rica, Mexico, and Peru. The age range of women interviewed was broadened to 15-49 years and the self-weighting samples were probabilistically drawn from areas with scattered population or from localities of less than 20,000 inhabitants. The size of the samples ranged from 2,000 to 3,000 in the different countries.

Local institutions responsible for the surveys have been preparing the respective analytical reports. CELADE, in its turn, is responsible for the comparative analysis of the different surveys.

So far, available literature on the PECFAL program refers to the following: (a) methodological aspects (CELADE documents, Series A, Nos. 40 to 45); (b) national reports prepared by Brazil, Colombia, Costa Rica, Panama, and Venezuela (see Appendix); (c) comparative analyses (CELADE documents, Series A, Nos. 47, 49 and 56); and (d) rural PECFAL documents, Nos. 1-37.

*E. Program of Comparative Studies on Induced Abortion and Use of Contraceptives in Latin America (PEAL)*

Various investigations on trends and levels of fertility in Latin America have shown that, together with the use of contraceptives, induced abortion has contributed substantially to the reduction of biological levels of fertility in the different countries. In view of this, during the past five years CELADE has carried out a program of studies similar to the PECFAL, the principal objective of which was investigating fundamental aspects in the practice of induced abortion and in the use of contraceptives in different capital cities of the region.

The questionnaire prepared for this program is composed of 156 basic questions, in addition to two annexes. Its concrete purpose is to find out the influence of each of these two factors (abortion and family planning) on the reduction of fertility or on its differentials; to find out attitudes of women toward these alternatives for the limitations of their fertility; and to determine what are the consequences of the practice of abortion for women that use it.

Due to the very nature of the subject investigated, obstacles encountered in fieldwork are easy to understand. It is thus possible that notwithstanding all precautions taken to overcome these obstacles, and the elimination of defective information, the degree of validity of information may not be as great as that of other material gathered by CELADE.

The first survey was initiated in Bogota toward the middle of 1967; subsequently this was followed by surveys in Panama (1968), Buenos Aires (1968), and Lima (1969). Fieldwork was in all instances executed by local agencies, while the necessary technical assistance in its different stages was rendered by members of CELADE's staff.

The number of women at fertile ages (15-49 years) interviewed in each instance is approximately 1,500, selected in two stages: in the first, through a self-weighting random sample a selection of some 750 women was made; in the second, after classifying these women into three socioeconomic strata with different characteristics, the number of women originally obtained was increased until there were 500



in each of these strata. In this manner, then, the sample permits direct conclusions to be drawn for the local area under study, and also, comparisons between groups of equal size from different strata—or from the same strata—may be made for the different cities.

The bibliographical material available so far is composed solely of internal publications of CELADE, of a methodological nature. Nine of these documents have been prepared, known as PEAL 1, PEAL 2, and so on, covering the different stages of the investigation, from "Presentation of the Study and Its Objectives" to "Supervision Handbook."

#### *F. Migration Surveys to Metropolitan Areas*

The mass movement of population from rural areas toward the large urban centers, together with the high rate of population growth, comprise the two most characteristic demographic phenomena of our times, requiring careful attention from social scientists. The field of internal migration, of special importance in Latin American countries, thus could not remain outside the scope of investigations carried out by CELADE.

In view of the above, explorations were initiated as early as 1961 in regard to taking a survey in the metropolitan area of Greater Santiago, the main purposes of which were:

- (a) estimating the volume and historical trends of migration towards the metropolitan area;
- (b) investigating differential demographic and social characteristics of the migrant population, in relation to the city-born population;
- (c) investigating the demographic and socioeconomic factors which appear to be linked with the movements; and
- (d) studying the degree and conditions of adjustment of in-migrants to the economic and social environment, taking into consideration time of residence and certain characteristics of in-migrants (sex, age on arrival, region of origin, educational level, etc.).<sup>7</sup>

This survey was carried out in 1962, with the valuable collaboration of the Instituto de Sociología of the Universidad de Chile. Subsequently, similar surveys were carried out in Lima (1965–1966) and in Caracas (1967) with the participation of the respective National Bureaus of Statistics. The content of questionnaires for these two surveys is quite similar to that of the Santiago survey; except that in the two later ones the status of migrant is applicable only to those persons aged 14 years or over who arrived in Lima or Caracas during the ten years prior to the survey.

In each of the three capital cities, the survey covered a total of approximately 2,000 households that included from 11,000 to 14,000 persons.<sup>8</sup> There were two types of questionnaire in each survey: one aimed at gathering general information, both on migrants and nonmigrants, and the other aimed at investigating more specific aspects of the migrant and characteristics of migration. Information from both questionnaires has been incorporated into the data bank.

<sup>7</sup> *Encuesta de Inmigración Lima Metropolitana No. 1*, Dirección Nacional de Estadística y Censos, Lima, 1966, p. 3.

<sup>8</sup> In Lima 2,000 households were added later, for certain segments of the city.

Different methodological aspects of the Santiago and Lima surveys, as well as an analysis of their findings, may be found in:

CELADE, *Encuesta sobre Inmigración en el Gran Santiago*, General Report, Series A, No. 15, Santiago, 1964.

Juan C. Elizaga, *Migraciones a las Areas Metropolitanas de América Latina*, CELADE, Series E, No. 6, Santiago, 1970.

Dirección Nacional de Estadística y Censos, Perú: *Encuesta de Inmigración. Lima Metropolitana* (3 volumes), Lima, 1966 and 1968.

So far there is no literature available on the Caracas survey.

### 3. RECORD KEEPING

Information available in the data bank is stored principally in the form of magnetic tapes or punched cards.

In the case of the Urban-PECFAL, in addition to tapes and cards, there is a series of over 1,000 already-processed tabulations for each of the cities included in the program, thus making it possible to answer requests for information in a short space of time and at a reduced cost.

The punch cards are IBM cards, which may be processed by means of conventional systems of mechanical processing or computing equipment. On the other hand, magnetic tapes have a nine-channel recording with a density of 800 bytes per inch. The computer equipment used by CELADE is an IBM 360/40, from the Computing Center of the Universidad de Chile.

The system for storage of data from each project is as follows:

OMUECE-60:	Magnetic tapes
Experimental censuses:	
Belen:	Magnetic tapes
Grecia:	Punched cards
Cauquenes Survey:	Punched cards
Urban-PECFAL:	Magnetic tapes and cards (for each city)
Rural-PECFAL:	Magnetic tapes
PEAL:	Punched cards
Migration survey:	
Santiago:	Punched cards
Lima:	Magnetic tapes
Caracas:	Magnetic tapes

With regard to the OMUECE project, it should be noted that for standardization purposes, original material from each of the countries was transferred to a single code for the recording of the necessary information for tabulations planned in the OMUECE. However, original samples are also kept, either in cards or tapes with their original codes, including the different variables investigated in national censuses which are not included in the OMUECE tabulations.

For purposes of comparative analysis, the OMUECE tabulations, a total of 34, cover the different fields of demography which are investigated through censuses: geographical distribution, sex, age and marital-status structure, characteristics of the economically active population, cultural characteristics, internal migration, and fertility. For programming reasons, these tables have appeared

in three successive generations, the first covering aspects of a general nature in the population, including economic activity and cultural characteristics; the second, the area of migration; and the third, fertility.<sup>9</sup>

So far, the three generations of tables have been completed for Chile and Paraguay; for Colombia, Costa Rica, and Panama, the first two generations have been prepared; while for Ecuador, El Salvador, Guatemala, Honduras, Mexico, and the Dominican Republic, only the first generation of tables is available. For the remaining countries (Argentina, Brazil, Puerto Rico, Uruguay, and Venezuela), for a variety of reasons, not even coding for the eventual transfer of material to tapes has been carried out.

#### 4. SOME PROBLEMS

Most of the studies incorporated into the data bank correspond to investigations carried out by CELADE in collaboration with national institutions. On this account, interpretation and processing of data have presented no difficulties. Codes were processed internally and opportunely, for the purpose of allowing standard tabulations to be processed for the different geographical units in question so that comparative analysis would be feasible.

In the case of the OMUECE project, however, in view of the fact that national statistical units applied their own individual criteria to the programming and execution of their population censuses and to the processing of data collected in these censuses, the necessary standardization was not possible. This, together with other negative circumstances, led to numerous difficulties in the processing of tabulations anticipated for the program.

The standardization of codes, an indispensable task in view of the large number of countries involved and the number of tabulations designed, presented difficulties in two respects: there were divergences between national coding manuals and codes registered in the cards of samples received (punching of codes not appearing in manuals, and so on), and there were samples which did not register certain characteristics (e.g., educational level and occupation) for certain groups of persons (women, in many instances) in some geographical areas. Numerous consultations with responsible national institutions, necessarily time consuming, led as a rule to the satisfactory solution of these difficulties.

On the other hand, it should be noted that data processing carried out by CELADE has shown that some samples are subject to errors (apparently the norms for selection are not always followed strictly) leading to wide differences between censusal and sample tabulations. Actually, for this reason, and also because no reliable antecedents existed on the designing and selection of the sample, at least one of the national samples had to be eliminated.

Finally, it should be recognized not only that the small size of some samples prevents the preparation of tabulations for medium-sized geographical areas, much less for the smaller ones, but that the degree of breakdown possible is very limited. In view of this, in at least one instance (Costa Rica) it was possible to increase the size of the sample originally obtained. At present, it is considered that for the OMUECE program tabulations, a minimum sample of some 200,000

<sup>9</sup> See *Boletín Informativo No. 4 del Banco de Datos*.

persons would be required, and that a sample of some 500,000 persons would be necessary if the same tabulations are to be processed for broad geographical areas.

### 5. COSTS

It is very difficult to estimate real costs of the data bank, since many of the items are in common with other CELADE projects. Moreover, in strict justice, at least a small part of the cost of the original projects (PECFAL, PEAL, and so on) should be included under bank costs.

Since it is not possible to make even a rough estimate of these indirect expenditures, for illustrative purposes, only direct expenditures (computing hours, cards, magnetic tapes, purchase of processed material, and so forth) incurred between 1967 and 1970 and the respective sources of financing are shown:

Source	Fiscal Year	Total
Agency for International Development (AID)	1967	U.S. \$ 1,500
Agency for International Development (AID)	1968	5,000
Agency for International Development (AID)	1969/70	6,798
Population Council	1969/70	2,225
Ford Foundation	1969/70	41,940

At first glance, it is to be noted that nearly 90 percent of total expenditures, amounting to almost U.S. \$57,500, were made in the fiscal year 1969/70. This is due to the fact that during this period the OMUECE project was in its tabulating stage and, in addition, the demand for information from the different projects incorporated into the bank had become greatly intensified.

It should be emphasized that direct data bank expenses are financed exclusively by contributions from different institutions, which, in consideration of the importance of each of the projects, have been most generous. On the other hand, the salaries of personnel responsible for the data bank—one analyst and three programmers—are included in CELADE's ordinary budget. In addition, an international expert and a research assistant work half-time at the bank.

### 6. USE OF THE STORED INFORMATION

Notwithstanding the short existence of the bank, the information stored has been profusely used in different research projects. Users may be classified into three types: (a) CELADE researchers; (b) researchers outside CELADE; and (c) students from CELADE's Basic and Advanced Courses. Since it is impossible to provide a detailed description of each of the studies carried out with the material of the bank, only the major ones will be indicated and their basic characteristics underlined.

The group responsible for interrelationships between demography and economics within CELADE initiated a study of the level of underemployment, using census information. Underemployed persons were defined as those persons who, being economically active, work in given occupations in some specified branches of economic activity, the productivity of which may be estimated as very low.

Using information from the OMUECE project available at the time (Central American countries, mainly), relevant tabulations were prepared. Thus, it was established that the level of underemployment obtained through this procedure for the area under study was approximately the same as estimates obtained through complicated methods for the handling of extracensal statistical information, not always at the disposal of the researcher. This would be a proof that the above phenomenon may be measured with satisfactory approximation through census information habitually gathered.

Another CELADE researcher used OMUECE data in a study of the principal educational characteristics of the Latin American countries. His findings and conclusions will be published in the near future by CELADE.<sup>10</sup>

Officials from the Economic Commission for Latin America (ECLA) have also requested special tabulations with OMUECE data, in order to investigate characteristics of internal migration (in Colombia) and the standardization of geographical units (in Ecuador). Their results have been summarized in two publications.<sup>11</sup>

CELADE students are among those who have most benefited from the data bank, through the use not only of data from the OMUECE project but, most especially, of data from the Urban-PECFAL and from experimental censuses. Results of these studies, carried out under the guidance of members of CELADE's staff, have been included in research reports which the students have to present at different stages of their training period. Undoubtedly, the most interesting studies are those referring to an in-depth analysis of fertility in the city of Buenos Aires; to methodological aspects; and to examination of results from experimental censuses in relation to family units.

Finally, it should be pointed out in this section that with due authorization from the respective statistical bureaus, copies of some of the census samples have been made available to the University of Florida in Gainesville, Florida (United States), as part of an exchange program. This university has established its own data bank, part of which is composed of samples from some censuses taken in the region.

## 7. FUTURE PROGRAM

The OMUECE tabulations for those countries with satisfactory samples should be completed in the very near future, and a program of publications will be initiated, with different series of subjects, covering given geographical units. These publications will include, in addition to tabulations, simple comparative analyses between the different countries in each region, thus permitting an adequate interpretation of figures. The different volumes in these series will be of not more than five hundred pages each. The subjects to be covered are: (a) economic characteristics; (b) educational characteristics; (c) fertility; (d) internal migration; and (e) family.

On the other hand, samples from censuses being taken during the present decade in Latin America have already been requested. Coverage of countries is

<sup>10</sup> Thomas Frejka, *Trabajo sobre la educación en América Latina*, CELADE. Series E, No. 10.

<sup>11</sup> George Martine, *Volume and Characteristics of Internal Migration in Colombia*, and Anibal Quijano, *El proceso de urbanización en Ecuador*. ECLA internal documents.

expected to be as good as that of the OMUECE-60, or even better. In addition, experience gained previously will permit accelerating the preparation of tabulations, and what is more important, will lead to a broadening of the range and validity of the tabulations programmed.

OMUECE-70 will give rise to the need for revising tabulations made for OMUECE-60 to ensure that the analysis between both groups of censuses is compatible.

CELADE is also at present in the process of collecting data on international migration of Latin Americans. For this purpose, the Center has requested from the institutions responsible for censuses in the region the information on all foreigners, Latin Americans or not, or nonnatives of the country, who have been enumerated in their censuses. This will permit the study of intraregional movements as well as of the contribution of extraregional flows.

In addition, action has been taken with some European countries, and with the United States, for the purpose of obtaining similar information on all Latin Americans enumerated in those countries. Negotiations with many of the countries are in an advanced stage and obtaining such data will lead to the broadening of the scope of the studies of migratory movements of Latin Americans.

All this information will, of course, be incorporated into the data bank, as will be that from any other research undertaken by CELADE for which empirical data on demographic characteristics of the population of the region are gathered, either directly or through the action of third parties.

## 8. SUMMARY

Throughout its almost fifteen years of existence, the Latin American Demographic Center (CELADE) has been carrying out numerous investigations on demographic aspects of the population of the region, many of which are based on empirical data collected through fieldwork.

With data from many of these studies, CELADE has formed a data bank, thus making it possible for information gathered to be useful not only to the originally planned investigation, but also to any future scientific study requiring new tabulations—not initially programmed—either for the investigation of trends or to verify or reject theories in relation to certain interrelationships.

Information kept by this bank is essentially of a numerical nature and refers to demographic, economic, and social characteristics of individuals who have been under study in each investigation.

Samples from the population censuses taken in the 1960s in fifteen countries of the region, plus Puerto Rico, which were gathered at CELADE for the purpose of making a comparative demographic analysis, have also been incorporated into the data bank.

The present report presents a brief description of the different studies, data from which have been included in the bank, with background information about their purpose, volume of data, and other characteristics, as well as bibliographical material. (The Appendix presents an additional bibliography.)

In the final part of the report, other general aspects of the data bank are discussed, such as storing of data from each investigation, direct costs, utilization

of information, and so on. Finally, a brief reference is made to future expansion plans for the data bank.

Lastly, it should be noted the data bank has been created not only as an answer to research requirements of CELADE personnel and students, but likewise to answer requests for information from different institutions or researchers concerned with social, economic, and demographic studies in Latin American.

#### APPENDIX

##### *Reports of the Countries on the Results of Urban-PECFAL*

###### 1. Brazil

Centro Latinoamericano de Pesquisas em Ciencias Sociais: *Fecundidade da População Urbana do Rio de Janeiro*.

###### 2. Colombia

Universidad de Los Andes, Centro de Estudios sobre Desarrollo Económico (CEDE): *Análisis de la Encuesta de Fecundidad*. Informe Preliminar. Bogotá, 1965.

Rafael Prieto Durán y Roberto Cuca Tolosa: *Análisis de la Encuesta de Fecundidad*. Centro de Estudios sobre Desarrollo Económico (CEDE), Monografía 19.

Universidad de Los Andes, Centro de Estudios sobre Desarrollo Económico (CEDE): *Encuesta de Fecundidad en Bogotá, Anexo Estadístico*. Bogotá, 1965.

###### 3. Costa Rica

Gómez B. Miguel: *Informe de la Encuesta de Fecundidad en el Area Metropolitana*. Universidad de Costa Rica, Instituto Centroamericano de Estadística. San José, 1968.

Universidad de Costa Rica, Instituto de Estadística, Dirección General de Estadística y Censos: *Algunos Resultados de la Encuesta de Fecundidad en el Area Metropolitana de San José, Costa Rica, abril-mayo, 1964*. San José, Costa Rica, 1966.

###### 4. Panama

Hildebrado Araica: *Informe de la Encuesta de Fecundidad en el Area Metropolitana de la Ciudad de Panamá. Año 1964*. Dirección de Estadística y Censos. Panamá, 1964.

###### 5. Venezuela

República de Venezuela, Ministerio de Fomento, Dirección General de Estadística y Censos Nacionales: *Encuesta de Fecundidad en el Area Metropolitana de Caracas*. Año cuatricentenario de Caracas, 1967.