

Patterns of Penetration of ICT Goods and Services in Latin American and Caribbean Households

**Analysis based on data from National
Population and Housing Censuses, Round 2000**

**Observatory for the Information Society in Latin
America and the Caribbean (OSILAC)**



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Summary

This paper explores the usefulness of data deriving from Population and Housing Censuses in Latin America and the Caribbean, in the 2000 Round, in order to describe the patterns of penetration of ICT goods in the households of the countries in the region. With this purpose in mind, the report approaches the following issues:

- The availability of information on ICTs in the 2000 Census Round. Characteristics of the instruments used for registering and measuring the ownership of ICT goods.
- The penetration of the various kinds of ICT goods. Profile description of households with greatest connectivity, with the intention of identifying significant connectivity gaps, as well as territorial and socio-economic gaps.
- A series of proposals to obtain new or better information with regard to the possession and penetration of ICT goods, by means of censuses.

I. Principal Findings

This first exhaustive study of the access to information and communication technology (ICT) in the households of Latin America and the Caribbean countries, which makes use of data derived from population surveys during the so-called 2000 Round, yields a series of possibilities regarding what has taken place in the region in connection with access to ICT goods. This analysis cannot and does not intend to show the most recent and current information regarding this dynamic process; rather, in order to increase understanding of this complex phenomenon, it aims at providing an assessment of how ICT dissemination tends to reduce or favour social and economic gaps. This is why generating a point of reference with complete coverage information, such as surveys provide, becomes an important input for analysts, academics and public policymakers who wish to research the subject in depth.

There are two papers which provide the methodological background to this study, and which have identified existing meta-information on ICTs in the countries in the region (Schulz and Olaya, 2005) and globally (Partnership, 2005a). The state of progress regarding the incorporation of ICT statistics in censuses, household surveys and business surveys was compiled in these papers for the first time, and they have constituted the foundation for a proposal for a methodology regarding global and regional measurement of ICT access and use.

Specifically, available census data used in this study are derived from micro-data provided by countries to CELADE—ECLAC Population Division—and organized in REDATAM format for processing and analysis. There are census data for 19 countries in the region, of which 18 have included variables related to ownership of an ICT appliance. In addition to showing the conventional dimensions of the digital divide (rural, educational, economic activity), there are more subtle measurements (such as gender and ethnic) which also underscore differences in the use of ICTs. This leads to the central question in this study and highlights each dimension's level of importance, in order to identify the factors which determine access to ICTs. The following items are some of the aspects derived from this study:

- 1- Mobile telephony figures which have emerged during the last five years imply that this has become the preferred tool in the universalization of voice communication. It is the type of service most frequently used in rural areas, even in households without electricity or connection to a sewer system, and also amongst the young. According to census data, fixed-line telephones never reached the levels of penetration which mobile telephony has attained

in the rural areas of many countries in the region. There is a large group of households with mobile telephony but no fixed-line telephones or Internet access. One of the possibilities for all of these households to be able to obtain access to the Internet, is the globalization of mobile Internet by means of cellular telephones.

- 2- There are a significant percentage of households (8% in Chile, 6.5% in Antigua and Venezuela, 5% in Saint Lucia, between 3 and 4% in Paraguay and Saint Vincent and the Grenadines) with access to fixed-line telephones and to a computer, but not to the Internet. Although not all of the fixed lines are suitable for a dial-up connection, these households are potential Internet users and the penetration of this service might increase in the percentages mentioned. In other words, for these households the problem does not seem to involve the supply of ICTs, but rather the asymmetry of information as regards the demand for these services, such as, for example, a lack of information about the benefits of Internet or the skills required for its use.
- 3- It is natural to expect electricity to be a determining factor in the possibility of access to most of the ICTs and that the existence of a sewerage network, particularly in urban areas, might be an indication of the existence of the minimum basic conditions for quality of life in households and therefore, in the use of ICTs. The study shows that access to electricity is indeed a limiting factor in the ownership of television, computers, and, consequently, Internet access, but not necessarily in the ownership of a cellular telephone. Access to a sewer system, however, is not perceived to be a relevant variable for the ownership of ICTs, as compared to the lack of electricity, which is a stronger factor (see Appendix II, summary 1). It should be noted that the percentage of households with sewer system connections but no electricity is too small to allow a general statement to be made. Furthermore, the presence of electricity, but no sewer system, does not necessarily lead to any conclusions, owing to the fact that this is usually a condition which applies to rural areas, and it is this which is thought to be mainly influencing the lack of ICTs.
- 4- Apparently, age gaps are not significant. The study shows that the age of the head of a household does not imply a clear tendency to a greater or lesser degree of ownership of an appliance, although it should be noted that in general, access to fixed-line telephones is greater in households where the head is older than 55, whereas access to mobile telephony is greater in younger households. Two conclusions may therefore be reached. On the one hand, that youth tends to adapt more easily to new technology, although young people usually have fewer economic resources. On the other hand, that mobile telephony offers cheaper possibilities of access than fixed-line telephones.
- 5- There is a tendency to think that there is a gender gap in connection with access to ICT. The information in this study reveals that in most countries this gap is non-existent, at least as regards the general perspective of access according to the gender of the heads of household. However, in order to obtain a clearer picture of tendencies regarding access and use by individual members of the population, and in order to determine whether there is any kind of individual gap, it would be necessary to carry out an in-depth study. According to general findings, it is possible to hypothesize that there is a real opportunity for using access to ICT to help reduce other social and economic divides with regard to gender, which are much more marked. If both men and women had access to and used these technological tools equitably, gaps in education, labor market access or business opportunities, among others, could be reduced.
- 6- With regard to the level of education of the head of household, census data indicate that households in which the head has a higher level of education (full secondary or above) are greater users of all of the ICT services. This concentration is particularly high as regards

possession of a computer and access to the Internet, and, to a lesser extent, of a fixed-line and cellular telephone. This, in brief, indicates that in every country of the region this characteristic is closely linked to better-educated households and, consequently, higher incomes. The penetration of ICT appliances according to the educational levels of the members of the household is clear proof that in households which contain members who are university students, ownership of a computer and access to the Internet is substantially higher than in households whose members are only receiving a primary or secondary education.

- 7- The surveys also make it possible to identify the relationship between access to ICT and ethnic origins. Census data show that minority ethnic groups in the Caribbean (Chinese, Indians, Portuguese, Syrian/Lebanese, Caucasian and others) have far greater access to ICT than that which is recorded for the predominant ethnic groups (descendants from Africans, mixed-race and indigenous peoples). It should be noted that in some South American countries the ethnic group with the highest rate of connection to ICT is the small Asian population; that is, Japanese, Chinese, Koreans and others. In Middle America, indigenous groups are far less connected than non-indigenous groups.
- 8- The differences between levels of access to ICT in connection with the economic activity of the head of household are accentuated in countries with lower total penetration. In general, the greatest gaps are between employers on the one hand and self-employed workers and non-remunerated family members on the other, while salary earners usually have an intermediate level of access to ICT.

II. ICT in Population and Housing Censuses

1. Censuses and the Integration of ICT Variables

Information and Communication Technology, commonly known as ICT, is composed of tools which represent a group of technologies which use a binary code (bit) in order to represent and work with information, digitally. It has been argued and commonly accepted that ICT brings about significant changes in productive and social organization, changes which underpin the so-called Information Societies. This is a form of social organization in which the storage, processing, transmission and translation of information is one, if not the principal, activity. The simplest example of these tools was radio, followed by telephone and television. With the advent of information digitization and its impact on technological development, these tools have been transformed, enabling generalized access to new means of communication and to digitized information, by means of mobile telephony and the domestic use of computers, through which individuals can now enjoy direct access to the Internet and to digitized information.

Interest arose in the late nineties, when the Information and Communication Technology revolution took off, in providing quantitative and qualitative follow-up for the accelerated process of change which the adoption of these technologies implies. In this sense, statisticians, economists and sociologists have been expending efforts for over a decade, studying the Information Society phenomenon, in order to assess the effect of existing differences in the ownership and use of ICT, on factors which limit access to the Information and Knowledge Society.

To this end, proposals have been designed for the quantification of basic ICT tools penetration (mainly fixed-line telephones, cellular telephones, computers and the Internet) in business, government, education and households.

The demand for this kind of information, calls for changes in the traditional methods used by national statistics systems. It has become necessary, in many countries, to redesign measuring instruments and sample designs used in traditional surveys, in order to represent ICT activity sectors adequately, or to generate new statistics to cover the needs of the sector, such as, for example, economic evaluations of electronic commerce and its penetration in different economic sectors.

With regard to the penetration of ICT tools in households, the demand for data is concentrated on three focal points:

- Assessment of household connectivity through the confirmation of the existence of appliances which provide access to various technological and communication options, both traditional ones such as radio and television, and those which make it possible to access and transfer digitized information, such as fixed-line telephones, cellular telephones, computers, and the Internet.
- Description of the socio-economic and territorial profile of households possessing different ICT appliances.
- Discovery of the frequency and type of use the population makes of ICT appliances and, at the same time, propose a socio-economic, demographic and territorial typology of this use.

The compilation of household data in national statistics systems is generated by two main sources: household surveys and population and housing censuses. However, in many countries, records linked to the telecommunications sector market regulation system, also make it possible to obtain figures regarding the use of telephone (fixed-line and mobile) and Internet services in households.

Household surveys are statistical operations intended for many purposes, such as the analysis of poverty, income distribution, the penetration and progress of public policies, etc. The frequency of the surveys can be quarterly (employment and unemployment surveys), annual, biennial or five-yearly (as in the case of surveys on income and expenditure, living conditions, or some multiple purpose surveys) and their geographic and analytic representativeness is subject to their sample designs. In almost all of the countries in Latin America and the Caribbean, household surveys are carried out yearly or biennially, thus generating relative data, mainly regarding the constitution of household income; basic data used to estimate different poverty indicators and social inequality.

Most of the questionnaires used in these surveys are designed to register a household's assets, recording the ownership of amenities such as: color or black and white television, cable television, heating, refrigerators, computers (PC), telephones, automobiles, etc. The list of goods which compose the assets varies from country to country, according to the importance of the different goods in achieving the socio-economic stratification of the households; that is, their importance as indirect indicators of the household's consumer capacity.

In this list of assets, ICT appliances (fixed-line telephones, cellular telephones, computers [PC] and Internet access) are usually included in order to classify the households socio-economically, and, more recently, as a result of the demand for relative data regarding their penetration as instruments of connectivity in households.

Population and housing censuses, as opposed to sample household surveys, are household surveys which cover all of the households and persons inhabiting a territory, and are carried out every ten years, approximately. Every country's National Population and Housing Census aims to obtain data related to dwellings, households and persons within its territory.

A housing (living place) census is a group of operations which consist in gathering, compiling, evaluating, analyzing and publishing statistical data related to dwelling places (living areas which are structurally separate and independent and devoted, at the time of the census, to providing a living area).

A population¹ census is a group of operations consisting in gathering, compiling, evaluating, analyzing and publishing demographic, economic and social data related to the inhabitants of a country. Individuals are the enumeration unit in a population census. However, individuals within their dwelling places are linked to other persons in order to satisfy their needs as regards food and the use of other basic articles, and thus make up a “household”, composed of one or more members who may or may not be connected through a family relationship. A dwelling is also an enumeration unit, since it connects all of the members of the household, in terms of its domestic economy. One or more households may coexist within one dwelling unit, which leads to the assumption that the number of households and the number of dwelling units may not be the same.

The thematic extension of a National Census is more limited than that of surveys. Usually a census is restricted to recording basic questions per thematic area, providing structural data related to the size of the economically active population, according to occupation within different economic sectors, data regarding the type of access to basic services within households, their composition, ownership of the dwelling, etc. As opposed to sample household surveys, censuses do not usually gather data related to income (although they do in some countries, such as Panama and Brazil), nor do they, typically, deal in depth with specific subjects.

The usefulness of census data as compared to sample data is their wide territorial coverage, which makes it possible to analyze socio-economic conditions with a wide possibility of breakdown into categories for analysis and smaller geographical units. In addition, it is possible to include territory in the socio-economic analysis, enabling a spatial description of the significance of the various social categories for which census data exist, such as unsatisfied basic needs. It is likely that this study will lead to others, with greater precision as regards geographical analysis.

A National Population and Housing Census is the most extensive, complex and costly statistical data gathering operation carried out within a country. In order to carry out a census, it is necessary that each of its stages (data gathering, processing, validation and tabulation of results) should be carefully planned, in order to obtain quality results in the shortest time possible.

Prior to the census rounds of each decade, the results of the previous round are evaluated and the next round is prepared, in order to propose methodological and thematic recommendations with the purpose of enabling comparisons between the National Census results of different countries.

From the point of view of subject, a basic list is proposed to the countries, on the basis of which countries can choose and produce instruments with which to cover their information needs. These subjects focus on the following characteristics: 1) geographic and internal migration, 2) household or family, 3) demographic and social, 4) fertility and mortality, 5) educational, 6) economic, 7) international migration, 8) disability, 9) dwellings and their quality.

This list of recommendations does not imply an obligation to include all of the subjects; each country is free to choose the subjects which will be included in the census (that is, the issues on which it will be attempted to obtain information for each person and dwelling). In general, the criterion for the choice is based on a balanced examination of: 1) the needs of the majority of users of data within the country, 2) the achievement of international comparability, and, 3) suitability; that is, how likely it is that the population will be able to provide the information with an appropriate degree of reliability.

¹ United Nations definition, “Principles and Recommendations for Population and Housing Censuses”, Series M N°67/Rev.1, New York, 1998.

Generally, subjects covered in a population and housing census are decided on the basis of national requirements. Thus, each country's decision with regard to the subjects to be covered arises from an assessment of the urgency and need for information in each area and the possibility of obtaining equal or better information by resorting to other sources of information.

2. The Availability of Information on ICT in the 2000 Census Round

Initiatives with regard to including items for the purpose of recording ICT possession in the principal household survey questionnaires, have met with wide approval in the countries of the region and, in fact, because of them it is now possible to begin an evaluation of the digital divide, in association with levels of income, education and gender, among other factors.

The Observatory for the Information Society in Latin America and the Caribbean (OSILAC)², together with the Partnership on Measuring ICT for Development³, and with the support of the Statistics Institutes, has proposed a series of key indicators related to the access and use of ICT in households and businesses in the developing world (Partnership, 2005b). This effort has facilitated a large amount of information on ICT, by means of household surveys, which is currently being processed and harmonized.

In spite of this advantage, household sample surveys in many countries have a limited statistical representativeness and they do not enable an approach to an evaluation of territorial differences regarding possession of and access to ICT goods and services in households. In order to do this, it is necessary to resort to continuous registration arising from telecommunications activity regulation and at the same time take advantage of available data in population and housing censuses, which, as well as making it possible to measure the penetration of ICT goods and services in households by urban-rural areas, and smaller geographical areas, also enables the assessment of existing gaps between households of different socio-economic and cultural levels, at those geographical levels. Unfortunately, censuses are only carried out every ten years; however, they are the only source which provides universal coverage of the territory, which makes them an evaluation parameter and a basis for other data sources.

In the case of the 2000 censuses, the last round carried out, there is no documented evidence regarding recommendations about the need to obtain information with relation to the penetration of ICT goods in households. In the paper "Principles and Recommendations for Population and Housing Censuses", revision 1 (1998), reference is made to these in the Housing Section, under additional subjects (op.cit., page 127),

- telephone availability (ref. 2428),
- and in the section devoted to the registration of the ownership of electric household appliances (ref. 2432), their inclusion is suggested according to national circumstances.

² This is an ECLAC project, with the financial support of the Institute for Connectivity in the Americas (ICA-IDRC) and the European Commission's @LIS project.

³ For further information, see: <http://new.unctad.org/>

It should be underlined, furthermore, that the paper makes no reference, in any of its paragraphs, to subjects related to the recording of information regarding access and use in households and by persons, of information and communication technology.⁴

The first countries to carry out their censuses in 2000 included for the first time a list of consumer goods in which items such as computers, fixed-line telephones, and cellular telephones were mentioned, while later censuses, particularly in the Caribbean countries, also included, as well as these items, access to the Internet. With the exception of this group of countries, among which certain comparability is observed in the list of ICT goods, the censuses of other countries in the region differ substantially. Table 1 shows that there are countries for which no record was made (such as Guatemala and Peru), or countries such as Ecuador which only recorded possession of a fixed-line telephone. A group of countries recorded the ownership of three ICT goods, the composition of which varies, in each case. The National Census of Costa Rica recorded the possession of television, fixed-line telephones and computers, while the Bahamas recorded ownership of television, computers and Internet, omitting fixed-line telephones and cellular telephones.

A third group, composed of eight countries, recorded four ICT goods, for which the only discernible pattern in common is the record of radio, television, fixed-line telephones and computers, in countries as diverse as Brazil, Honduras, Mexico, Belize and Haiti. In the rest of the countries in this group, as may be seen in Table 1, records vary; only Argentina, Jamaica and Aruba, mentioned Internet access.

Neither is there a clear pattern among the countries which recorded five ICT goods. In Paraguay and Chile ownership of television, fixed-line telephones, cellular telephones, computers and Internet is recorded. In Trinidad and Tobago radio was included while mobile phones were not; in Panama, radio ownership was recorded, but not Internet access.

Finally, seven countries recorded six ICT goods: radio, television, fixed-line telephones, mobile phones, computers (PC) and Internet, and as Table 1 shows, most of them are countries in the Caribbean.

TABLE 1
LIST OF COUNTRIES IN WHICH NATIONAL POPULATION AND HOUSING CENSUSES
WERE CARRIED OUT IN THE 2000 ROUND

Country	Date	Number of ICT Goods Recorded	ICT Goods	Access to Data Available at CELADE
Guatemala	11.24.02	0	Unavailable	Available
Peru	2005	0	Unavailable	Unavailable
Ecuador	11.25.01	1	Fixed-line telephone	Available
Costa Rica	06.28.00	3	TV, fixed-line telephone, PC	Available
Bolivia	09.05.01	3	Radio, TV, fixed-line telephone or cellular telephone	Available
Colombia	12.07.05	3	Radio, TV, PC	Unavailable
Bahamas	05.01.00	3	TV, PC, Internet	Unavailable
Brazil	08.01.00	4	Radio, TV, fixed-line telephone, PC	Available
Honduras	07.28.01	4	Radio, TV, fixed-line telephone, PC	Available

⁴ OSILAC hopes, however, that the actions currently promoted by the Partnership on Measuring ICT for Development will encourage the formal inclusion of the subject in forthcoming rounds: <http://new.unctad.org/>

Mexico	02.14.00	4	Radio, TV, fixed-line telephone, PC	Available
Belize	05.12.00	4	Radio, TV, fixed-line telephone, PC	Available
Haiti		4	Radio, TV, fixed-line telephone, PC	Unavailable
Jamaica	09.10.01	4	Fixed-line telephone, cellular telephone, PC, Internet	Unavailable
Aruba	10.14.00	4	TV, fixed-line telephone, PC, Internet	Unavailable
Argentina	11.17-18.01	4	Fixed-line telephone, cellular telephone, PC, Internet	Available
Dominican Republic	10.16.02*	5	Radio, TV, fixed-line telephone or cellular telephone, PC, Internet	Available
Trinidad and Tobago	05.15.00	5	Radio, TV, fixed-line telephone, PC, Internet	Available
Chile	04.24.02	5	TV, fixed-line telephone, cellular telephone, PC, Internet	Available
Paraguay	08.28.02	5	TV, fixed-line telephone, cellular telephone, PC, Internet	Available
Panama	05.17-18.00	5	Radio, TV, fixed-line telephone, cellular telephone, PC	Available
Antigua & Barbuda	05.28.01	6	Radio, TV, fixed-line telephone, cellular telephone, PC, Internet	Available
Saint Lucia	05.22.01	6	Radio, TV, fixed-line telephone, cellular telephone, PC, Internet	Available
Saint Vincent and the Grenadines	05.12.01	6	Radio, TV, fixed-line telephone, cellular telephone, PC, Internet	Available
Barbados	05.01.00	6	Radio, TV, fixed-line telephone, cellular telephone, PC, Internet	Available
Venezuela	10.01.01	6	Radio, TV, fixed-line telephone, cellular telephone, PC, Internet	Available
Grenada/Carriacou & Petite Martinique	05.25.01	6	Radio, TV, fixed-line telephone, cellular telephone, PC, Internet	Unavailable
Guyana	09.15.02	6	Radio, TV, fixed-line telephone, cellular telephone, PC, Internet	Unavailable

Source: Produced by OSILAC on the basis of the census forms in each country.

Type of Information and Data-Gathering Instruments

In general, the ownership of ICT goods or services in households is determined by means of binary questions with two alternative answers (owns or does not own; or YES-NO) so that possession within the household of goods or services may be indicated with a mark. ICT goods or services are usually part of a long list of different appliances (for example, refrigerator, washing machine, heater, etc.)

Radio ownership was recorded in 16 countries. In ten of these, respondents were questioned about possession within the household of a “radio” appliance. In Mexico, ownership of a radio-cassette recorder was registered, in Colombia, sound equipment, and in Honduras, the Dominican Republic, Barbados and Trinidad and Tobago, a category was used which included a wider group of appliances: “radio, radio-cassette recorder, or sound equipment”. (In Appendix I, Table 1, the record of ICT goods ownership in the censuses of all of the countries is shown).

With regard to the ownership of television, 21 countries included this appliance. In 17 countries, respondents were simply questioned about possession of a television set, without specification of type.

In Costa Rica and Colombia, color television was included. In Chile, the ownership of both black and white, and color television was recorded, in separate categories, and only in Colombia was the number of (color) television sets in a household taken into consideration.

Fixed-telephone service ownership was recorded in 20 countries. This service was not recorded in the Bahamas. In Bolivia and the Dominican Republic possession of “fixed-line telephone or mobile phones” was recorded in a single category.

With regard to mobile telephony in general, the presence of cellular telephones was recorded in households, but not the number or the type. This was one of the main limitations of the resulting data, since this type of service is, typically, a personalized service, which usually means that there is more than one cellular telephone in each household. Twelve countries recorded possession of cellular telephones (Jamaica, Argentina, Chile, Paraguay, Panama, Antigua & Barbuda, Saint Lucia, Saint Vincent and the Grenadines, Barbados, Venezuela, Grenada/Carriacou & Petite Martinique).

Ownership of computers was recorded in 21 countries and of these, 14 recorded access to an Internet service. In general, Internet access was recorded as a part of the household’s assets and in no case was there a question regarding the type of technology (dedicated line or commuted; ADSL, cable, etc.) used to obtain access.

In conclusion, the census data of the 2000 round are, consequently, extremely variable as regards the record made of ICT goods, and, furthermore, the countries which included a record of the greatest quantity of this type of goods, did so in order to obtain a socio-economical discrimination of households, rather than with the purpose of assessing subjects such as the digital divide. This gave rise to partial or very general basic data, particularly with regard to the penetration of cellular telephones and the Internet, items for which it would be necessary to reformulate the record. For example, it would be useful to at least record the number of cellular telephones in use within the dwelling location, and explore the possibility of recording the type of technology used to obtain access to the Internet.

Beyond the content and comparability limitations of the census data in relation to the record of possession and access to ICT goods, there is a group of eleven countries with sufficient data for a connectivity analysis of households, within the framework of the Information Society. This group of countries has recorded data regarding the ownership in households of basic information and telecommunications goods and services. On the one hand, there are data with regard to access in households to collective means of communication, such as radio and television (with the sole exception of Argentina), and on the other, data regarding access in households to some type of telephone system (fixed-line telephone, or cellular telephone) and the possession of computers (PC) and Internet access (with the sole exception of Panama).

In some of the sections of this paper, in-depth analyses are carried out for this group of eleven countries, which include the ten countries which show a record for six and five ICT goods, plus Argentina, where only four goods are recorded, but which include the Internet.

III. Penetration of ICT Goods according to Census data

The principal factor restricting the analysis of the penetration of ICT goods in households, based on census data in Latin America and the Caribbean, is the difficulty in comparing levels of penetration in the countries of the region, as the countries' National Censuses do not provide a uniform record of the ownership of ICT goods. In this sense, it should be underlined that the record of cellular telephone possession is incomplete; this appliance was underestimated as a personal means of telephone communication: only the presence of a cellular telephone in the household was recorded, and not the number of cellular telephones in use by members of the household. Available census data are derived from micro-data delivered by the countries to CELADE—ECLAC's Population Division, and arranged in REDATAM format for processing and analysis. There are census data available for 19 countries in the region, of which 18 countries included information related to the ownership of some ICT appliance (see Table 1). Other countries in the region, such as Colombia and Nicaragua, held a census more recently (2005). In Uruguay (2004) and Peru (2005) a census was not carried out, only an enumeration of the population (with a minimal number of questions), and El Salvador has not yet held a census. In other countries, such as Cuba and some of the countries in the Caribbean, although censuses have in fact been held, it has not been possible to gain access to the information obtained, since results are not officially delivered to CELADE, or delivery has not yet been made, as in the case of Haiti and other countries in the Caribbean (see details in Table 1).

A general perspective of the ownership of ICT goods and services in the countries of the region, based on census data, suggests that the level of penetration of ICT appliances such as fixed-line telephones, cellular telephones, computers and the Internet (for countries in which data is available), is extremely variable. In some, such as Chile, Argentina and the countries in the Caribbean, fixed-line and cellular telephone penetration has attained significant levels, while at the same time, in others, such as Honduras, Paraguay and Bolivia, levels are much lower. Internet access possibilities also show noticeable differences among the countries of the region; in general, penetration levels are still low or medium, and do not exceed 14% of households.

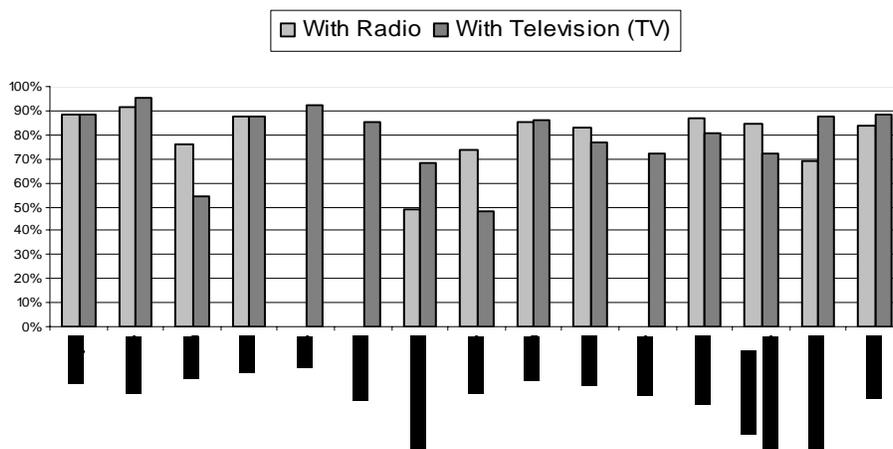
The following provides a general analysis of the levels of penetration of fixed-line and cellular telephones, of computer possession and of Internet access, and a brief description of the

current state of access to television and radio. It should be underlined that information regarding ownership of cellular telephones and Internet access is not available in all countries, which results in an incomplete diagnosis of the condition of digital and telephone connectivity in the countries of the region.

1. Ownership of Radio and Television Sets in Households

Chart 1 shows that in all of the countries in the region for which census data is available, ownership of a radio set in the household is very high: in most countries this percentage exceeds 80%. The lowest radio ownership percentages were recorded in the Dominican Republic (49.1%), in Honduras (73.9%) and in Bolivia (75.7). With regard to the ownership of television sets, the penetration percentage is also high. In Antigua and Barbuda, Barbados, Brazil, Chile, Mexico and Venezuela, over 85% of households own at least one television set, while in Costa Rica the percentage is close to 85%. In other countries ownership percentages are lower, with Honduras (47.8%) and Bolivia (54.3%) displaying the lowest percentages (Chart 1).

CHART 1
PERCENTAGE OF HOUSEHOLDS WITH RADIO AND TELEVISION SETS BY COUNTRY



Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

2. Ownership of Fixed-Line and Mobile Phones in Households

In countries in the Caribbean, penetration of fixed-line telephones is generally higher than in continental countries (Argentina, Chile, Paraguay, Venezuela). In Barbados, 82% of households own fixed-line telephones, in Antigua and Barbuda and Saint Lucia the percentage is lower (67 and 61%), but higher than the remaining countries, such as Chile, or Argentina, where close to half of the households own fixed-line telephones. The lowest figure for fixed-line telephone possession was recorded in Paraguay, where only close to 17% of households own fixed-line telephones.

With regard to mobile phones, ownership percentages vary between 4% in Antigua and Barbuda (1 out of 25 households), and the highest level of possession, recorded in Chile, where 51% of households (one in two) own at least one cellular telephone.

TABLE 2
HOUSEHOLDS WITH GOODS AND SERVICES WHICH PROVIDE ACCESS TO MEANS OF
COMMUNICATION (RADIO AND TV) AND DIGITAL TELECOMMUNICATIONS (FIXED-
LINE TELEPHONES, CELLULAR PHONES, COMPUTERS AND THE INTERNET)
(Percentages)

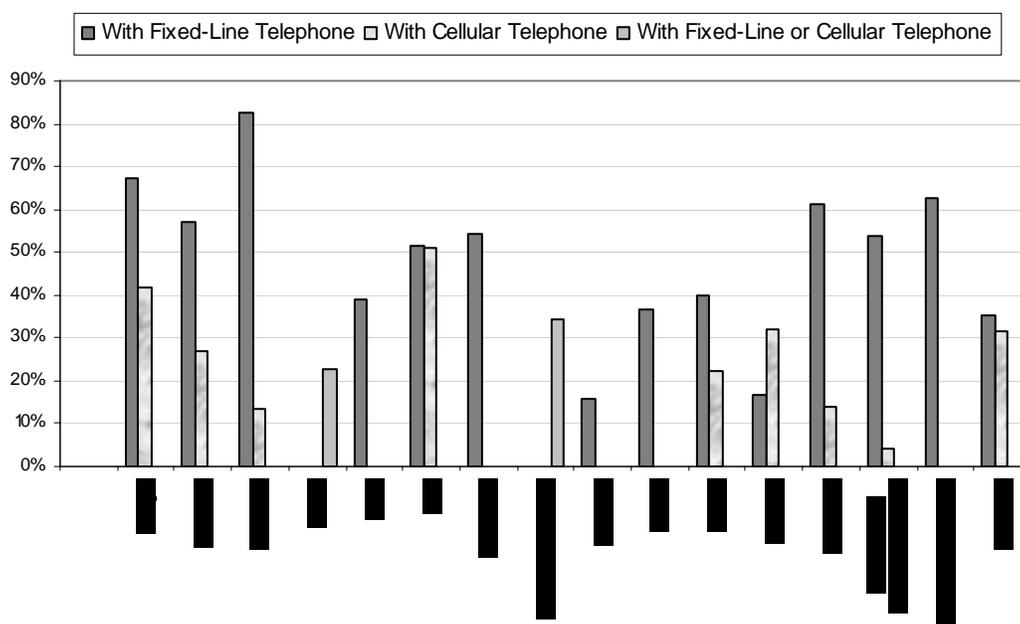
Country	Place of Residence	With Radio	With Television (TV)	With Fixed-Line Telephone	With Mobile phone	With Computer (PC)	With Internet
Antigua and Barbuda	Urban	86.70 %	87.18 %	59.19 %	38.46 %	15.58 %	9.27 %
	Rural	88.77 %	88.76 %	71.16 %	43.23 %	24.24 %	16.04 %
	Total	88.08 %	88.23 %	67.13 %	41.63 %	21.33 %	13.77 %
Argentina	Urban	NA	NA	61.49%	27.67%	22.13 %	9.91 %
	Rural	NA	NA	15.47%	21.68%	5.33 %	1.14 %
	Total	NA	NA	57.04%	27.09%	20.50 %	9.06 %
Barbados	Urban	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA
	Total	91.20 %	95.55 %	82.41%	13.27 %	21.57 %	14.22 %
Bolivia	Urban	82.55%	79.64 %		36.02% ^a	NA	NA
	Rural	64.91%	14.47 %		1.64% ^a	NA	NA
	Total	75.71%	54.37 %		22.69% ^a	NA	NA
Brazil	Urban	89.41%	92.60 %	45.80%	NA	12.41 %	NA
	Rural	80.20%	60.15 %	5.79%	NA	1.21 %	NA
	Total	87.88%	87.23 %	39.18%	NA	10.56 %	NA
Chile	Urban	NA	94.76 %	58.09%	52.59%	22.94 %	11.48 %
	Rural	NA	77.16 %	9.08%	41.00%	5.04 %	1.80 %
	Total	NA	92.41 %	51.53%	51.04%	20.55 %	10.19 %
Costa Rica	Urban	NA	91.99 %	70.46%	NA	19.89%	NA
	Rural	NA	73.99 %	29.58%	NA	5.12%	NA
	Total	NA	84.89 %	54.32%	NA	14.06%	NA
Dominican Republic	Urban	52.61 %	75.15 %		43.57 % ^a	7.76 %	4.07 %
	Rural	42.95 %	56.50 %		17.59 % ^a	1.38 %	.59 %
	Total	49.11 %	68.39 %		34.15 % ^a	5.45 %	2.81 %
Ecuador	Urban	NA	NA	43.74 %	NA	NA	NA
	Rural	NA	NA	12.44 %	NA	NA	NA
	Total	NA	NA	32.18 %	NA	NA	NA
Honduras	Urban	79.17 %	78.49 %	30.29 %	NA	7.06 %	NA
	Rural	68.84 %	18.09 %	1.79 %	NA	.40 %	NA
	Total	73.93 %	47.86 %	15.84 %	NA	3.69 %	NA
Mexico	Urban	89.37 %	93.42 %	45.92 %	NA	12.02 %	NA
	Rural	71.96 %	62.53 %	5.99 %	NA	.83 %	NA
	Total	85.27 %	86.16 %	36.54 %	NA	9.39 %	NA
Panama	Urban	86.36 %	91.60 %	55.41 %	30.42 %	12.47 %	NA
	Rural	76.90 %	49.59 %	11.05 %	6.31 %	1.09 %	NA
	Total	83.07 %	77.01 %	40.00 %	22.05 %	8.52 %	NA
Paraguay	Urban	NA	83.94 %	26.15 %	42.51 %	10.11 %	2.73 %
	Rural	NA	54.53 %	1.89 %	16.12 %	.67 %	.09 %
	Total	NA	72.33 %	16.57 %	32.09 %	6.38 %	1.69 %
Saint Lucia	Urban	89.92 %	89.91 %	74.02 %	21.48 %	21.73 %	15.92 %
	Rural	85.16 %	76.57 %	56.66 %	11.34 %	10.32 %	6.36 %
	Total	86.48 %	80.24 %	61.44 %	14.13 %	13.45 %	8.91 %
Saint Vincent and the Grenadines	Urban	88.75 %	80.88 %	61.68 %	6.91 %	12.85 %	8.47 %
	Rural	80.99 %	65.06 %	47.39 %	2.08 %	4.60 %	2.52 %
	Total	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %
Trinidad and Tobago	Urban	NA	NA	NA	NA	NA	NA
	Rural	NA	NA	NA	NA	NA	NA
	Total	68.80 %	87.58 %	62.47 %	NA	11.77 %	7.36 %
Venezuela	Urban	84.81 %	91.53 %	39.08 %	33.76 %	14.88 %	4.88 %
	Rural	72.39 %	62.41 %	6.44 %	13.15 %	1.02 %	.21 %
	Total	83.41 %	88.24 %	35.39 %	31.44 %	13.32 %	4.35 %

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a In Bolivia and the Dominican Republic joint ownership of fixed-line telephones and cellular telephones was recorded.

If fixed-line telephone and mobile phone ownership percentages are compared, some countries emerge in which the ratio of households with fixed-line telephones as compared to households with cellular telephones is practically equivalent; such is the case in Chile and in Venezuela, with a one on one ratio. The most noticeable figure is in Paraguay, where the percentage of households with cellular telephones doubles the percentage of households with fixed-line telephones.

CHART 2
PERCENTAGE OF HOUSEHOLDS WITH FIXED-LINE AND CELLULAR TELEPHONES



Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

Note: In Bolivia and the Dominican Republic joint ownership of fixed-line telephones and cellular telephones was recorded. Brazil, Costa Rica, Honduras, Mexico and Trinidad and Tobago did not record possession of cellular telephones in households.

3. Ownership of Personal Computers and Access to the Internet

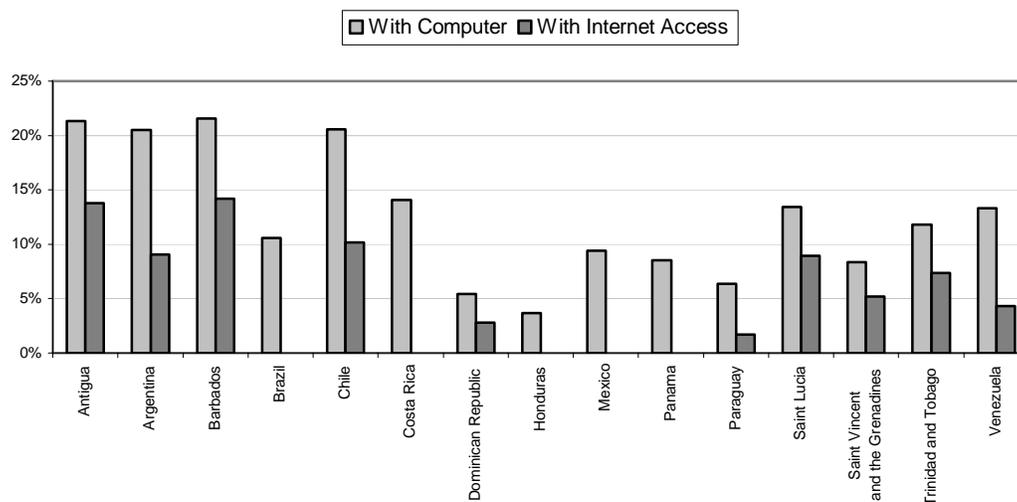
With regard to the possession of computers and Internet access, the differences between ownership and access between countries are similar to those displayed by figures related to the possession of fixed-line and cellular telephones (see Table 2).

As shown in Chart 3, among countries with the highest rates of computer ownership in households, in Antigua and Barbuda, Argentina, Barbados and Chile, one out of five households owns at least one computer, while in Saint Lucia and Venezuela (mid-level possession), one out of seven households owns a computer.

The percentage of households with Internet access is lower in all countries than the percentage of households with a computer. In Antigua and Barbuda, Barbados, Saint Lucia and Saint Vincent and the Grenadines, the ratio between the number of households which own at least one computer and those with access to the Internet is high; two out of three households own a PC

with Internet access. Whilst in Paraguay, for example, only one out of four households with a computer also has access to the Internet.

CHART 3
PERCENTAGE OF HOUSEHOLDS WITH COMPUTERS AND INTERNET ACCESS



Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

Note: Brazil, Costa Rica, Honduras, Mexico and Panama did not record ownership of Internet in households.

IV. Socio-Demographic and Economic Characteristics of Households and their Relationship with the Ownership of Goods and Access to Information and Communication Services according to Census data

Within the framework of the Information Society, the level of penetration of ICT goods and services in households is, without a doubt, crucial for the outlook of public policies designed to foster digital connectivity. Nevertheless, in order to achieve greater efficiency in the execution of such policies, a deeper understanding of the households of users and non-users of digital connectivity services is required. This background information is of particular interest in the support of public activities intended to overcome existing limitations, or to take advantage of the experience and digital development of social and productive sectors which have been more successful in their advance towards the Information Society. Within the framework of public policies, the availability of a user profile is indispensable in order to, on the one hand, identify and associate groups and actions related to specific policies and, on the other, measure and assess gaps or disparities connected to conditions regarding the economy, the territory, generations, access to knowledge and gender. The availability of information which would make it possible to obtain periodic access to the socio-economic profiles of users has, up to now, been scarce or incomplete, particularly with relation to patterns of Internet use by persons, territorial accessibility to fixed-line and cellular telephones, and to Internet services.

Census data allow an approach which, though limited, is of great use in shedding light on the penetration of mobile telephony and the Internet in households. This section provides a description of the ownership of ICT goods and services, on the basis of the possibilities of demographic, socio-cultural and territorial differentiation obtained by means of population and housing censuses. Where possible, an approach is attempted to a quantitative evaluation of existing gaps between different socio-economic and demographic groups.

The description of user profiles is, in the first instance, made according to the area of residence (urban or rural). The definitions of the categories—urban and rural—are those used in each country⁵. It should be noted that in some of the countries in the Caribbean there is no

⁵ At present, criteria for distinguishing between urban and rural areas vary from country to country. The distinction is usually based on demographic and socio-economic criteria (size of population in the

criterion available to enable a distinction to be made between urban and rural households. This limitation is due to the fact that in these countries, most of them very small, territorial characteristics are very homogeneous.

Other criteria used to describe the profiles of the households of ICT goods and services users are composed, on the one hand, of the head of household's demographic, social and cultural characteristics, and on the other, of household typology according to size, access to two basic services (electricity and a sewerage system), and household educational level.

In order to carry out a quantitative evaluation of existing gaps, bearing in mind the exploratory nature of this first study, an analysis of disparities in the ownership of ICT goods and services has been selected, based mainly on the comparison of the penetration rates of ICT goods and services in households. This comparison is made between categories of demographic, social and economic variables, or with regard to the total penetration of each ICT appliance or service.

These simple measures of disparity, which are used widely, provide a primary approach to a study of inequality. In order to obtain them, it is necessary to define the points of reference of the distribution of the ownership of ICT goods and services within the category of each variable. Within the context of this paper, two criteria or procedures are used for the calculation of gaps. For the age and level of education variables, two points of reference have been chosen.

With regard to education, middle and university levels of education are compared to the completed basic level of education (the point of reference)⁶, which is considered the minimum level of education which makes digital education—and consequently, the use of the Internet—possible, as well as being the minimum level of education from a socio-economic viewpoint.

As regards age, the point of reference has been taken to be the ownership of ICT goods and services in households with heads who are under 25 years of age. In the case of the remaining variables, the point of reference is the total ownership of ICT goods and services, since in conceptual terms, the definition of a category of analysis as a point of reference presents greater analytical difficulties.

In order to describe the profiles of the different ICT goods and services user households recorded by the National Population Censuses, countries have been divided into two groups. The first group includes countries which recorded all of the ICT goods and services (radio, television, fixed-line telephone, mobile phone, computer and Internet access) in their National Censuses, as well as those which simultaneously recorded possession of fixed-line and cellular telephones, or the ownership of computers and Internet access. The second group is composed of the remaining countries, those for which at least one of the ICT goods or services is recorded (see Table 1). This classification of countries is only made in order to achieve a better presentation of the information obtained, since in the second group, as Table 1 shows, the record of ICT data varies greatly, which makes it difficult to display them in a single table.

populated centres, or amount of commercial and industrial activity as compared to agricultural activity, dwelling organization, etc.). In several Latin American countries, a rural population is considered to be any in which fewer than 1500, 2000 or 2500 inhabitants reside. Definitions each country uses can be found in CELADE, 2005 (page 203).

⁶ The point of reference is the value which serves as the basis for comparison in a variable's analysis categories. It is usually the most extreme point or category.

1. ICT Penetration in Urban and Rural Households

When the classification of urban or rural is used to describe a territory, factors are taken into consideration which are related to the concentration of population and the level of development in the area of trade, financial and industrial activities, and activities which are generally perceived to pertain to urban life. According to these criteria, rural areas are small settlements (of not more than 2000 or 3000 inhabitants) and which, in many countries, particularly those which are less developed, are lacking in basic infrastructure. As a result, in most of the rural areas of the countries in the region, access to electricity and levels of penetration of ICT services, such as fixed-line telephones, are low.

During the seventies, and even during the eighties, one of the main priorities of development processes was to provide rural areas with electricity and telephones. Within the framework of the Information Society, interest goes further; there is a need to achieve digital connectivity, as a fundamental element in promoting economic and social development. In spite of this interest in Latin America, significant disparities continue to prevail between urban and rural areas, as regards access to both electricity and fixed-line telephones. These structural limitations point to very different situations in the countries of the region. Within a single country, it is possible to find rural households which still lack electricity and telephones, and households with electricity but no telephone. Furthermore, there are also households with access to electricity and fixed-line telephones, and which could thus potentially make use of digital connectivity tools. There is no doubt that the significance of these scenarios points to the level of digital development within a country. Nevertheless, it should be underlined that during the last few years, the limitations which arise from a lack of access to telephone communication, have been overcome in the case of many households, through the launching on the market of mobile telephony, although penetration and access opportunities for households to this service vary from country to country.

It is possible, on the basis of census data, to carry out an evaluation of some of these penetration scenarios, as well as an approach to measuring discrepancies of access to electricity and telephone services which exist between urban and rural areas, and in some countries, though unfortunately few, an assessment of the penetration of mobile telephony and the Internet (see Table 2). The following analysis attempts to provide some evidence regarding these aspects, for which purpose ICT goods and services are conceptually divided into three groups. Appliances associated with access to traditional means of communication: television and radio; appliances associated with access to telephone telecommunication: fixed-line telephones and cellular telephones, and appliances associated with access to digital technology: ownership of computers and access to the Internet.

Radio and Television

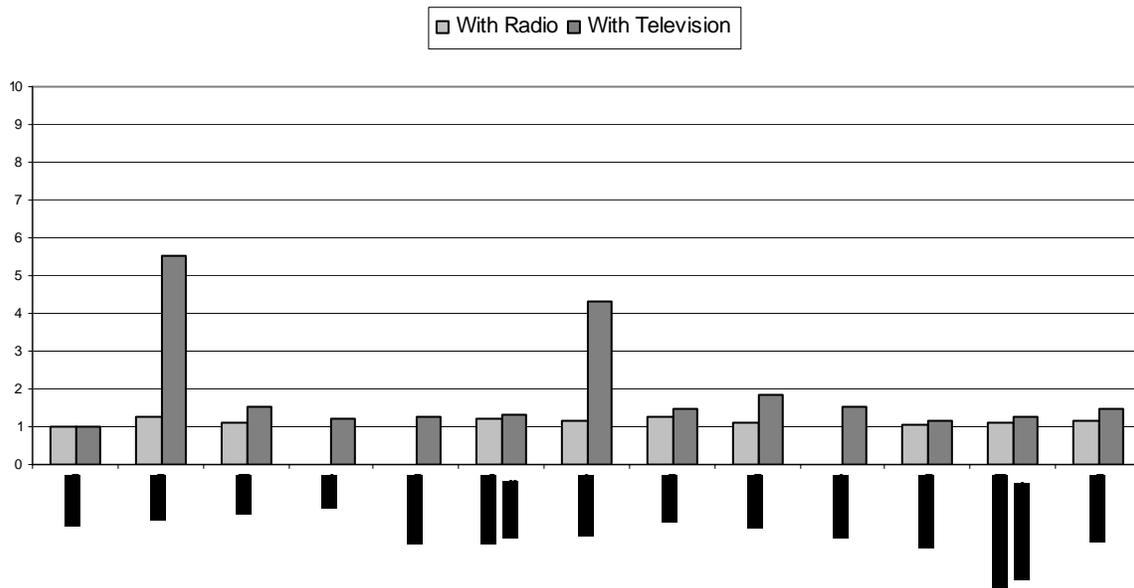
Available census information in the region shows a high and generalized degree of access to radio and television in households, both in urban and in rural areas. For countries with data availability, an overall view shows that although there is a slight predominance of radio ownership amongst urban households, the difference with regard to rural households is minimal. Amongst urban households, possession is close to, or above 80% in most countries, with the exception of the Dominican Republic, in which ownership in urban households is only 53% (see Table 2).

Amongst rural households, radio ownership shows levels which differ between 10 and 30% when compared to urban households. The highest difference is in Bolivia, where radio penetration in urban households is close to 30% greater than in rural areas (or 1.3 times higher, as seen in Chart 4).

In the case of television, ownership differences between urban and rural households are higher than with the ownership of radio sets. As Chart 4 shows, the country in which the difference is greatest is Bolivia, where the frequency of urban households with television sets is five times higher than in rural areas. In another example, Honduras, the penetration rate of television in urban households is four times higher than in rural areas.

In general, however, it can be stated that there are no marked differences with regard to radio and television between urban and rural areas in the countries which were analyzed.

CHART 4
RATIO BETWEEN PERCENTAGES OF URBAN AND RURAL HOUSEHOLDS OWNING
RADIO AND TELEVISION SETS



Source: Tables 3a and 3b. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

TABLE 3a
GROUP 1. URBAN RURAL PROFILE OF HOUSEHOLD ACCESS TO
ICT GOODS AND SERVICES BY COUNTRY

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Mobile Telephone	With Computer (PC)	With Internet
Antigua and Barbuda	Highest Ownership ^a	Rural (88.8%)	Rural (88.8%)	Rural (71%)	Rural (43%)	Rural (24%)	Rural (16%)
	Ratio (urban/rural) ^b	1.0	1.0	0.8	0.9	0.6	0.6
	Total Penetration	88.08 %	88.23 %	67.13 %	41.63 %	21.33 %	13.77 %
Argentina	Highest Ownership	NA	NA	Urban (61%)	Urban (27.6%)	Urban (22%)	Urban (9%)
	Ratio	NA	NA	4.0	1.3	4.2	8.7
	Total Penetration	NA	NA	57.04%	27.09%	20.50 %	9.06 %
Barbados	Highest Ownership	NA	NA	NA	NA	NA	NA
	Ratio	NA	NA	NA	NA	NA	NA
	Total Penetration	91.20 %	95.55 %	82.41%	13.27 %	21.57 %	14.22 %
Chile	Highest Ownership	NA	Urban (95%)	Urban (58%)	Urban (52%)	Urban (23%)	Urban (11%)
	Ratio	NA	1.2	6.4	1.3	4.5	6.4
	Total Penetration	NA	92.41 %	51.53%	51.04%	20.55 %	10.19 %
Dominican Republic	Highest Ownership	Urban (52.6%)	Urban (75.1%)	Urban (43%)		Urban (7.8%)	Urban (4%)
	Ratio	1.2	1.3	2.5		5.6	6.9
	Total Penetration	49.11 %	68.39 %	34.15 %		13.45 %	8.91 %
Panama	Highest Ownership	Urban (86.3%)	Urban (91.6%)	Urban (55.4%)	Urban (30.4%)	Urban (12.5%)	NA
	Ratio	1.1	1.8	5.0	4.8	11.4	NA
	Total Penetration	83.07 %	77.01 %	40.00 %	22.05 %	8.52 %	NA
Paraguay	Highest Ownership	NA	Urban (84%)	Urban (26%)	Urban (42%)	Urban (10%)	Urban (3%)
	Ratio	NA	1.5	13.8	2.6	15.1	29.8
	Total Penetration	NA	72.33 %	16.57 %	32.09 %	6.38 %	1.69 %
Saint Lucia	Highest Ownership	Urban (89%)	Urban (89%)	Urban (74%)	Urban (21%)	Urban (22%)	Urban (16%)
	Ratio	1.1	1.2	1.3	1.9	2.1	2.5
	Total Penetration	86.48 %	80.24 %	61.44 %	14.13 %	13.45 %	8.91 %
St. Vincent and the Grenadines	Highest Ownership	Urban (91%)	Urban (91%)	Urban (61%)	Urban (7%)	Urban (12%)	Urban (8%)
	Ratio	1.1	1.2	1.3	3.3	2.8	3.4
	Total Penetration	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %
Trinidad and Tobago	Highest Ownership	NA	NA	NA	NA	NA	NA
	Ratio	NA	NA	NA	NA	NA	NA
	Total Penetration	68.80 %	87.58 %	62.47 %	NA	11.77 %	7.36 %
Venezuela	Highest Ownership	Urban (91%)	Urban (91%)	Urban (39%)	Urban (34%)	Urban (15%)	Urban (5%)
	Ratio	1.2	1.5	6.1	2.6	14.6	23.3
	Total Penetration	83.41 %	88.24 %	35.39 %	31.44 %	13.32 %	4.35 %

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a Highest ownership identifies the category with the highest percentage of ownership in each of the ICT goods and services.

^b The gap corresponds to the quotient between the percentage of urban ownership and the percentage of rural ownership in each of the ICT goods and services.

Note: NA stands for data which is not available, either because the information was not obtained in the National Census of the country, or because data are not available for the category of analysis.

TABLE 3b
GROUP 2. URBAN RURAL PROFILE OF HOUSEHOLD ACCESS TO
ICT GOODS AND SERVICES BY COUNTRY

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Fixed-Line or Mobile Telephone	With Computer (PC)
Bolivia	Highest Ownership	Urban (82.6 %)	Urban (79.6 %)	NA	Urban (36 %)	NA
	Ratio (urban/rural)	1.3	5.5	NA	22.0	NA
	Total Penetration	75.71%	54.37 %	NA	22.69%	NA
Brazil	Highest Ownership	Urban (89.4%)	Urban (92.6%)	Urban (45.8%)	NA	Urban (12.4%)
	Ratio (urban/rural)	1.11	1.54	7.90	NA	10.3
	Total Penetration	87.88%	87.23 %	39.18%	NA	10.56 %
Costa Rica	Highest Ownership	NA	Urban (92 %)	Urban (70.5 %)	NA	Urban (19.9 %)
	Ratio (urban/rural)	NA	1.2	2.4	NA	3.9
	Total Penetration	NA	84.89 %	54.32%	NA	14.06%
Ecuador	Highest Ownership	NA	NA	Urban (43.8 %)	NA	NA
	Ratio (urban/rural)	NA	NA	6.4	NA	NA
	Total Penetration	NA	NA	32.18 %	NA	NA
Honduras	Highest Ownership	Urban (79.1%)	Urban (78.4%)	Urban (30.2%)	NA	Urban (7%)
	Ratio (urban/rural)	1.2	4.3	16.9	NA	17.6
	Total Penetration	73.93 %	47.86 %	15.84 %	NA	3.69 %
Mexico	Highest Ownership	Urban (89.4%)	Urban (93.4%)	Urban (43%)	NA	Urban (12.0 %)
	Ratio (urban/rural)	1.2	1.5	7.7	NA	14.5
	Total Penetration	85.27 %	86.16 %	36.54 %	NA	9.39 %

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

Fixed-Line and Mobile Telephony

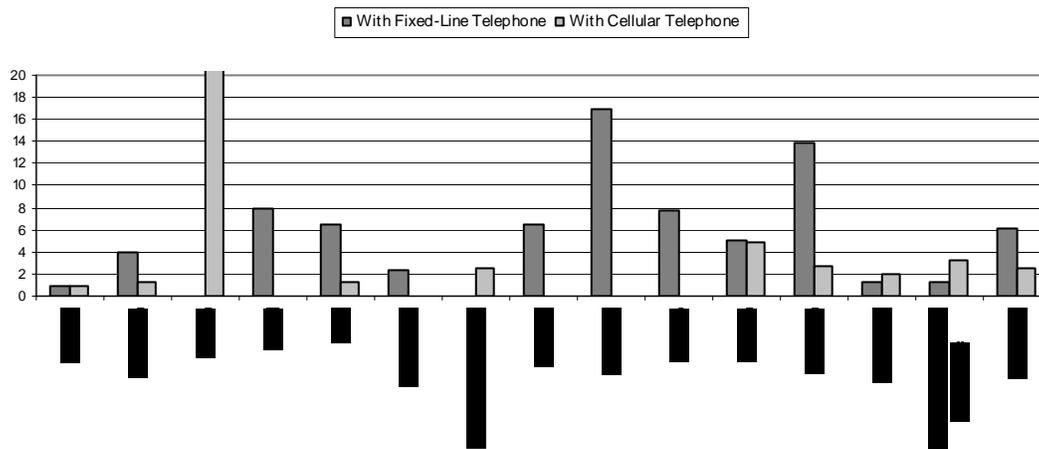
Access to fixed-line and mobile telephone services differs significantly from ownership figures related to radio and television. As Tables 3a and 3b show, there are greater asymmetries with regard to urban-rural access, and of varying intensities, between different countries.

In the case of fixed-line telephones, the greatest difference was recorded in Paraguay, where access amongst urban households is close to 14 times higher than in rural households (13.8

times higher). Next in size with regard to this difference are Brazil (7.8 times), Mexico (7.7 times), Ecuador (6.4 times), Chile (6.4 times) and Venezuela (6.1 times). The lowest differences are to be found in the countries in the Caribbean, where there are very similar levels of access in urban and in rural households. It should be borne in mind that most of these countries are very small, and together with the fact that their main economic activity is tourism, they display very different rural characteristics when compared to the continental countries. Such, for example, is the case in Antigua and Barbuda, where the urban-rural pattern of ICT goods and services ownership is completely different to that in all of the other countries: its rural areas show higher levels of possession.

As regards mobile telephony, differences between urban and rural areas are smaller than those recorded for fixed-line telephones. The greatest difference was recorded in Panama, where ownership of cellular telephones in urban households is 4.8 higher than in rural households. In the rest of the countries differences are lower, as Chart 5 shows. These data show a high relative penetration of cellular telephones in rural households. The case of Bolivia cannot be analyzed comparatively due to the fact that the variable which corresponds to telephone services derives from a question on the combined ownership of fixed-line and cellular telephones. However, the great disadvantage of rural households as compared to urban households is obvious, as access to any telephone is 22 times lower in rural areas. In the Caribbean countries, differences observed are not as high as in other countries, mainly due to the social and economic characteristics of rural areas.

CHART 5
RATIO BETWEEN PERCENTAGES OF URBAN AND RURAL HOUSEHOLDS OWNING
FIXED-LINE TELEPHONES AND MOBILE TELEPHONES



Source: Tables 3a and 3b. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

Note: In Bolivia and the Dominican Republic simultaneous ownership of fixed-line telephones and cellular telephones was recorded.

Computers and the Internet

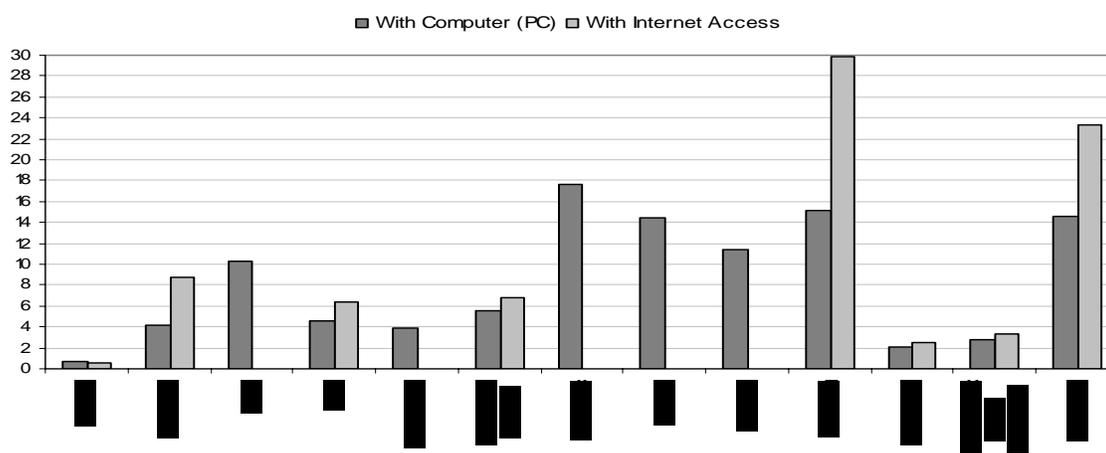
With regard to computers and Internet access, asymmetries between urban and rural areas are greater than in the case of telephone ownership, and clearly display the existence of an urban profile of computer and Internet access ownership.

Tables 3a and 3b show that, with the exception of the countries in the Caribbean, ownership of computers (PC) in urban households is at least four times more frequent than in rural households. The

smallest difference was recorded in Costa Rica, where the frequency of urban households owning computers is 3.9 times the figure for rural areas. The greatest differences are to be found in Honduras, Mexico, Venezuela and Paraguay, where the ratio of computer ownership in urban households is equal to or above 14 times the ownership figure in rural households.

Access to the Internet within the household is the ICT service which displays the lowest level of total penetration and, furthermore, it is the service for which the greatest differences between urban or rural place of residence were recorded. Chart 6 shows existing asymmetries both within countries and between countries for which information is available. As with the telephone services, the countries of the Caribbean show the smallest differences; Paraguay and Venezuela show the highest internal asymmetries; Chile and Argentina, in comparison with other countries, display intermediate levels.

CHART 6
RATIO BETWEEN PERCENTAGES OF URBAN AND RURAL HOUSEHOLDS OWNING COMPUTERS AND ACCESS TO THE INTERNET



Source: Tables 3a and 3b. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

2. ICT Penetration in Households according to Basic Needs⁷

Within the context of this paper, the access of any household to electricity and to sewerage systems constitutes indicators which point to the degree of economic and territorial marginalization of households. Electricity is an essential resource in order to obtain access to most of the ICTs, and a sewerage system is perceived as a fundamental basic service, access to which is a minimum basic condition in the quality of life of a household. Therefore, households in which neither of these services is available would of necessity be seen to lack the basic services and probably have lower consumer capacity. On the other hand, households in which both services are available, very likely enjoy better living conditions, although not necessarily higher consumer capacity.

⁷ An analysis is carried out in this section, based mainly on Group 1 countries, as these countries permit a comparison between relative levels of fixed-line and mobile telephone penetration in households, according to their level of access to basic services.

Ownership of Radio and Television Sets

Summary 1 of Appendix II shows that the penetration of ICT goods and services according to this structural proxy related to the lack of services is, in every case, and as might be expected, systematically higher in households in which both basic services are available. As regards radio ownership, the penetration differences are smaller, which makes radio the universal resource enabling access to collective means of communication.

Television ownership, on the other hand, displays greater penetration differences between households with both services and households in which neither service is available. The greatest gap between groups was recorded in the Dominican Republic, Paraguay and Saint Vincent and the Grenadines, where the television ownership rate for households with both services is 18, 14 and 12 times the rate recorded in households without these services (Table 4).

Access to electricity is obviously a limiting factor in the ownership of television, computers, and, consequently, Internet access, but not necessarily for the ownership of a telephone, and it is here that cellular telephones again play a decisive role in some of the countries. According to census data, television ownership is higher than fixed-line telephone ownership, both in households without electricity or a sewerage system connection, and in households in which both services are available.

Ownership of Fixed-Line and Cellular Telephones

With regard to fixed-line and cellular telephone ownership, three ownership patterns can be found in the countries for which data are available. On the one hand, Chile, Paraguay and Venezuela, where together with a total mobile telephony ownership which is equal to or higher than fixed-line telephone ownership (summary 1), there is a higher relative possession of cellular telephones than of fixed-line telephones in households lacking at least one of the basic services (electricity or sewerage system).

As the table on Chile shows in Summary 1, in relative terms, households without a sewerage system connection or electricity, display a higher percentage of cellular telephone ownership (9.4%) as compared to fixed-line telephone ownership, which is only 0.3%. These differences are even greater amongst households with no electricity (20.72% and 4.36%), and amongst those without a sewerage system (35.34% and 6.48%), whereas amongst households with both services, ownership of fixed-line and cellular telephones is similar (53.48% and 56.75%).

In Paraguay, the total penetration of cellular telephones (32.45%) is significantly higher than the penetration of fixed-line telephones (16.8%). Ownership of fixed-line telephones is low in households lacking any of the services (not above 1%). On the other hand, in these categories ownership of cellular telephones reaches 6.06% amongst households lacking electricity, and 12.07% amongst those with no connection to a sewerage system. In Paraguay, as opposed to Chile, there is a noticeably higher concentration of cellular telephone ownership in households with access to services.

In Venezuela, ownership of fixed-line telephones (35.66%) is slightly higher than cellular telephone possession (31.67%), but as in Chile and Paraguay, recorded figures for relative ownership of cellular telephones are higher than for fixed-line telephone ownership in households without electricity or a sewerage system, or without one of these two services (Summary 1, Appendix II).

The second ownership pattern is that displayed by Argentina, Panama and Antigua. In these countries, total cellular telephone ownership is lower than fixed-line telephone possession, and this difference is even more marked in households with both services. On the other hand, it is noticeable that ownership of fixed-line and cellular telephones is similar or only slightly different in households with patterns showing a lack of services which are typical of rural areas (lack of

electricity and a sewerage system, and lack of electricity only). Even more, in Antigua and Barbuda, households without a sewerage system or electricity have a relative fixed-line telephone ownership which is lower than cellular telephone ownership (6.81% and 12.24% respectively). In Argentina, in the same type of households, fixed-line and cellular telephone ownership is similar (close to 16%). In Panama, ownership of both kinds of telephone is low among households with neither of the two services, but displays a fixed-line and cellular telephone ownership which is close to 7% in households lacking electricity.

The third pattern is to be found mainly in the Caribbean countries, in which mobile telephony penetration is much lower than fixed-line telephone penetration; a difference which is maintained across all of the basic service ownership categories (Summary 1).

Ownership of Computers and Access to the Internet

The countries in the region offering information regarding computer ownership are few, which makes it difficult to attempt a comparative approach to ownership of and access to computers, which, as mentioned above, is still very rare in rural areas. Computer ownership and access to the Internet in households with electricity but no connection to a sewerage system, is much lower, in all countries, to ownership and access in households with both services, and displays a lower penetration than for mobile telephony. In the case of computers and the Internet, Table 4 records gaps only for households with electricity; that is, between those with both services and those with electricity but no sewerage system. Antigua and Argentina are the countries which recorded the smallest gaps as regards possession of computers, whereas the countries with the greatest differences in access are Paraguay, the Dominican Republic and Venezuela. With respect to differences in Internet access, results are similar in these same countries; however, there are also great differences in access in Saint Vincent and the Grenadines. It should be noted that in these countries, rural households usually have electricity but no sewerage system, and it is precisely these that display the greatest lack of access to sophisticated ICT. In this case, it is not possible to establish causality regarding lack of access to the sewerage system, as such a lack is mainly owing to the fact that the households are located in rural areas.

TABLE 4
A PROFILE OF ACCESS TO ELECTRICITY AND A SEWERAGE SYSTEM AS RELATED TO HOUSEHOLDS AND THEIR ACCESS TO ICT GOODS AND SERVICES, BY COUNTRY

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Mobile Telephone	With Computer (PC)	With Internet Access
Antigua and Barbuda	Highest Ownership	Sewerage system and electricity (90.8%)	Sewerage system and electricity (94.6%)	Sewerage system and electricity (79.2 %)	Sewerage system and electricity (46.8%)	Sewerage system and electricity (28.0 %)	Sewerage system and electricity (18.6%)
	Gap ^a	1.4	5.3	11.6	3.8	2.2	2.3
	Total penetration	88.08 %	88.23 %	67.13 %	41.63 %	21.33 %	13.77 %
Argentina	Highest Ownership	NA	NA	Sewerage system and electricity (70.4 %)	Sewerage system and electricity (32.7%)	Sewerage system and electricity (28.2 %)	Sewerage system and electricity (13.6%)
	Gap ^a	NA	NA	4.2	2.0	2.4	3.6
	Total penetration	NA	NA	57.04%	27.09%	20.50 %	9.06%

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Mobile Telephone	With Computer (PC)	With Internet Access
Barbados	Highest Ownership	Sewerage system and electricity (93.15 %)	Sewerage system and electricity (96.8 %)	Sewerage system and electricity (90.3 %)	Sewerage system and electricity (15.6%)	Sewerage system and electricity (25.9%)	Sewerage system and electricity (17.2 %)
	Gap ^a	1.7	9.4	15.4	21.0	7.3	12.83
	Total Penetration	91.20%	92.89%	82.60%	13.27%	21.61%	14.22%
Chile	Highest Ownership	NA	Sewerage system and electricity (95.7 %)	Sewerage system and electricity (56.8%)	Sewerage system and electricity (53.5%)	Sewerage system and electricity (22.7%)	Sewerage system and electricity (11.3%)
	Gap ^b	NA	1.1	164.58	5.67	12.67	20.21
	Total Penetration	NA	92.41%	51.53%	51.04%	20.55%	10.19%
Dominican Republic	Highest Ownership	Sewerage system and electricity (58.1%)	Sewerage system and electricity (81.4%)	Sewerage system and electricity (54.8%)	Sewerage system and electricity (9.9%)		Sewerage system and electricity (5.0%)
	Gap ^b	2.09	18.46	49.57	39.71		23.00
	Total Penetration	49.11%	68.39%	34.15%	5.45%		2.81%
Panama	Highest Ownership	Sewerage system and electricity (89.5 %)	Sewerage system and electricity (95.44 %)	Sewerage system and electricity (64.2 %)	Sewerage system and electricity (35.95%)	Sewerage system and electricity (15.6 %)	NA
	Gap ^b	1.3	8.4	189.5	37.5	11.18	NA
	Total Penetration	83.07%	77.01%	40.00%	22.05%	8.52%	NA
Paraguay	Highest Ownership	NA	Sewerage system and electricity (73%)	Sewerage system and electricity (26.3%)	Sewerage system and electricity (46.3%)	Sewerage system and electricity (10.2%)	Sewerage system and electricity (2.7%)
	Gap ^b	NA	14.1	1922.4	56.3	47.3	81.01
	Total Penetration	NA	72.33%	16.57%	32.09%	6.38%	1.69%
Saint Lucia	Highest Ownership	Sewerage system and electricity (93.3%)	Sewerage system and electricity (94.9%)	Sewerage system and electricity (83.3%)	Sewerage system and electricity (22.4%)	Sewerage system and electricity (23.9%)	Sewerage system and electricity (16.2%)
	Gap ^a	1.7	9.7	11.0	15.3	11.3	19.4
	Total Penetration	86.48%	80.24%	61.44%	14.13%	13.45%	8.91%
Saint Vincent and the Grenadines	Highest Ownership	Sewerage system and electricity (92.6%)	Sewerage system and electricity (91.4%)	Sewerage system and electricity (79.1%)	Sewerage system and electricity (7.7%)	Sewerage system and electricity (15.6%)	Sewerage system and electricity (10%)
	Gap ^a	1.6	11.8	19.8	35.3	15.3	32.5
	Total Penetration	84.52%	72.26%	53.89%	4.28%	8.35%	5.22%

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Mobile Telephone	With Computer (PC)	With Internet Access
Trinidad & Tobago	Highest Ownership	Sewerage system and electricity (74.21%)	Sewerage system and electricity (94.7%)	Sewerage system and electricity (76.1%)	NA	Sewerage system and electricity (16.1%)	Sewerage system and electricity (10.2%)
	Gap ^a	2.18	4.13	18.81	NA	12.03	20.70
	Total Penetration	68.39%	86.96%	62.13%	NA	11.78%	7.36%
Venezuela	Highest Ownership	Sewerage system and electricity (87%)	Sewerage system and electricity (93.5%)	Sewerage system and electricity (41.3%)	Sewerage system and electricity (35.3%)	Sewerage system and electricity (15.6%)	Sewerage system and electricity (5.1%)
	Gap ^a	1.6	5.5	70.4	12.3	39.4	51.4
	Total Penetration	83.41%	88.24%	35.39%	31.44%	13.32%	4.35%

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a Highest ownership identifies the category with the highest percentage of possession in each of the ICT goods and services.

^b The highest gap figure corresponds to the ratio between the percentage of households with a sewerage system and electricity, and households without either service. However, in the case of computer ownership and Internet access, the total gap was obtained with relation to households with electricity but no sewerage system.

Note: NA stands for data which is not available, either because the information was not obtained in the National Census of the country, or because data are not available for the analysis category.

3. ICT Penetration and Demographic Characteristics of the Heads of Household: Age and Gender

3.1. Age of the Head of Household

The age of the head of the household is closely linked to the household's capacity to consume, but, from a socio-cultural perspective, younger heads of households are more open to new technology. However, this disposition will undoubtedly be conditioned by the level of income/cost of technology ratio.

Census data relative to the ownership of ICT goods and services according to the age of the head of household thus provide the possibility of making both an eminently economic interpretation and also a cultural one, with emphasis on the generational effect of the adoption of technologies. According to this, and as borne out by household surveys in the countries of the region, households whose heads are younger (under 25) are generally the poorer households and as age increases, the poverty levels decrease.

Ownership of radio and television does not display significant differences among the age groups and it is possible to state that there are practically no age-linked access gaps (Tables 5a and 5b), for which reason only the ownership of the other ICTs will be analyzed.

Ownership of Fixed-Line and Cellular Telephones

As regards fixed-line telephones, the data register a predominance of ownership in households where the head is over 55. The levels of concentration of ownership in this age group vary from

country to country, but the tendency is clear. In Paraguay, 22% of households with fixed-line telephones are households with heads between 55 and 65 years of age, a figure which contrasts with that of households whose heads are under 25, which is only 5%. In Venezuela and in Chile, fixed-line telephone ownership in households with heads older than 55 is close to three times that which was recorded for heads under 25, which is only 15% in Venezuela, and 23% in Chile (Summary 2, Appendix II). In the remainder of the countries the same ratio is maintained, with the exception of Argentina and Barbados where no significant contrast is observed (Chart 7).

Cellular telephone ownership is different, since the highest possession appears in households with younger heads, which would appear to support the hypothesis that young people adapt far more easily to new technology such as mobile telephony. However, it is also possible that cellular telephone ownership in younger households is, in many countries, linked to the fact that mobile telephony offers households with lower incomes, and rural households, a greater chance of obtaining access to a telephone service. It should be noted that the concentration of cellular telephone ownership amongst the younger households was recorded in all of the countries, and contrasts with the slightly lower ownership in households whose heads are older. This seems to imply that whereas cellular telephone ownership predominates in households where heads are younger, ownership differences in this group, as compared to the other age groups, are small, and, therefore, the size of the age-linked gaps is inverted and much smaller than those recorded for fixed-line telephones.

TABLE 5A
GROUP 1. AGE PROFILE OF THE HEADS OF HOUSEHOLD AND ACCESS TO ICT GOODS AND SERVICES, BY COUNTRY

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access
Antigua and Barbuda	Highest Ownership ^a	No significant differences observed	No significant differences observed	55 to under 65 (81 %)	25 to under 35 (51 %)	45 to under 55 (28 %)	45 to under 55 (19 %)
	Gap ^b	1.1	1.1	2.2	0.7	2.1	2.3
	Total penetration	88.08 %	88.23 %	67.13 %	41.63 %	21.33 %	13.77 %
Argentina	Highest Ownership ^a	NA	NA	65 and over	25 to under 35 (35 %)	45 to under 55 (28 %)	45 to under 55 (12%)
	Gap ^b	NA	NA	1.0	1.0	1.5	1.7
	Total penetration	NA	NA	47.88%	27.09%	20.50 %	9.06 %
Barbados	Highest Ownership ^a	45 to under 55 (93%)	Under 25 (97%)	55 to under 65 (89%)	25 to under 35 (17%)	45 to under 55 (29%)	45 to under 55 (20%)
	Gap ^b	1.0	1.0	1.0	0.9	1.0	1.1
	Total penetration	91.20 %	95.55 %	82.41%	13.27 %	21.57 %	14.22 %
Chile	Highest Ownership ^a	NA	45 to under 55 (94%)	55 to under 65 (60%)	25 to under 35 (62%)	45 to under 55 (27%)	45 to under 55 (14%)
	Gap ^b	NA	1.1	2.6	0.8	1.4	1.7
	Total penetration	NA	92.41 %	51.53%	51.04%	20.55 %	10.19 %

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access
Dominican Republic	Highest Ownership ^a	45 to under 55 (53%)	35 to under 45 (73%)	45 to under 55 (39%)		45 to under 55 (7.85%)	45 to under 55 (4.43%)
	Gap ^b	1.33	1.25	1.9		2.1	2.7
	Total penetration	49.11 %	68.39 %	34.15 %		5.45 %	2.81 %
Panama	Highest Ownership ^a	45 to under 55 (86%)	35 to under 45 (75.3%)	45 to under 55 (48%)	45 to under 55 (25%)	45 to under 55 (12%)	NA
	Gap ^b	1.2	1.2	2.7	1.0	2.3	NA
	Total penetration	83.07 %	77.01 %	40.00%	22.05 %	8.52 %	NA
Paraguay	Highest Ownership ^a	NA	45 to under 55 (76%)	55 to under 65 (23%)	25 to under 35; 25 to under 45 (35%)	45 to under 55; 55 to under 65 (9%)	45 to under 55; 55 to under 65 (2%)
	Gap ^b	NA	1.4	4.3	1.1	2.4	3.5
	Total penetration	NA	72.33 %	16.57 %	32.09 %	6.38 %	1.69 %
Saint Lucia	Highest Ownership ^a	35 to under 45; 45 to under 55 (88 and 89%)	35 to under 45; 45 to under 55 (84%)	45 to under 55 (70%)	25 to under 35 (18%)	45 to under 55 (20%)	45 to under 55 (14%)
	Gap ^b	1.1	1.2	1.6	0.8	1.7	2.2
	Total penetration	86.48 %	80.24 %	61.44 %	14.13 %	13.45 %	8.91 %
Saint Vincent and the Grenadines	Highest Ownership ^a	45 to under 55 (88%)	45 to under 55 (80%)	55 to under 65; 65 to under 75 (66 and 69%)	45 to under 55 (6%)	45 to under 55 (13%)	45 to under 55 (9%)
	Gap ^b	1.2	1.5	2.5	2.0	2.7	4.9
	Total penetration	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %
Trinidad and Tobago	Highest Ownership ^a	45 to under 65 (49%)	35 to under 45 (73%)	45 to under 55 (39%)	NA	45 to under 55 (7.8%)	45 to under 55 (4.4%)
	Gap ^b	1.3	1.3	1.9	NA	2.1	2.7
	Total penetration	49.11 %	68.39 %	34.15 %	NA	5.45 %	2.81 %
Venezuela	Highest Ownership ^a	45 to under 55 (88%)	45 to under 55 (91%)	55 to under 65; 65 to under 75 (47 and 48%)	25 to under 35; 35 to under 45; 45 to under 55 (33%; 35%; 34%)	35 to under 45; 45 to under 55; 55 to under 65 (15%; 18%; 15%)	35 to under 45; 45 to under 55; 55 to under 65 (5%; 6%; 6%)
	Gap ^b	1.2	1.1	3.0	1.2	3.0	3.9
	Total penetration	83.41 %	88.24 %	35.39 %	31.44 %	13.32 %	4.35 %

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

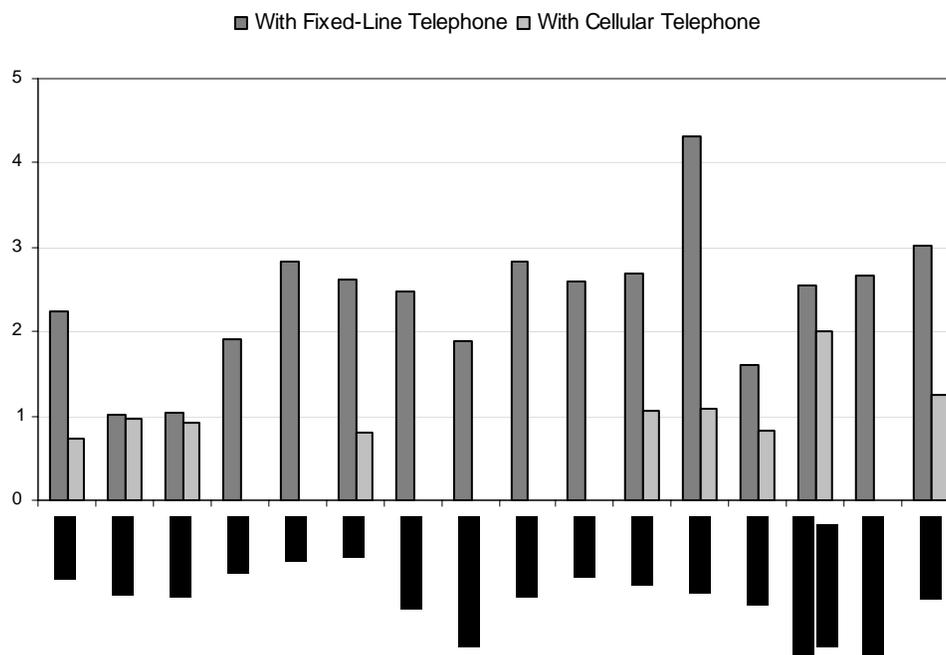
^a Highest ownership identifies the category with the highest percentage of possession in each of the ICT goods and services.

^b The gap corresponds to the quotient between ownership percentage of each ICT appliance and service in households where the head is between 55 to under 65 years of age, and the ownership percentage of each ICT appliance and service in households where the head is under 25 years of age.

Note: NA stands for data which is not available, either because the information was not obtained in the National Census of the country, or because data are not available for the analysis category.

As Table 5 shows, this tendency is clear in Chile, where cellular telephone ownership in households in which the heads are 35 or under, is higher (62%) than in the rest of the age groups, in which cellular telephone ownership decreases slightly with age. On the other hand, in Paraguay and Venezuela, ownership differences between younger and older households are smaller.

CHART 7
RATIO OF THE PERCENTAGE OF HOUSEHOLDS WITH HEADS BETWEEN 55 AND 65 YEARS OF AGE, AND THE PERCENTAGE OF HOUSEHOLDS WITH HEADS UNDER 25 WHO OWN FIXED-LINE AND CELLULAR TELEPHONES



Source: Tables 5a and 5b. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

Note 1: This ratio was obtained from the quotient between the percentage of ownership in households for every ICT appliance and service in the categories mentioned.

Note 2: There are no data available regarding ownership of cellular telephones for Bolivia, Brazil, Honduras, Mexico, Dominican Republic, Costa Rica and Trinidad and Tobago.

This uniformity can be observed in Chart 7, leading to the conclusion that the new low-cost technologies are easily adopted in younger households, but at the same time are widely accepted by all types of households, and thus have managed to overcome both purchasing power and territorial barriers.

Ownership of Personal Computers and Access to the Internet

Computer ownership is high in households where the heads are between 45 and 55 years of age, and least frequent in households where the heads are under 20 or older than 65. It is possible that households, in which the heads are between 45 and 55 years of age, enjoy a better level of income, as compared to other groups, but it is also probable that the demand for computers and Internet access is higher in this group, due to the existence of children in middle and higher education.

In spite of the predominance of computer ownership in households in which the head is between 45 and 55, it should be noted that computer ownership percentages in this group vary from country to country. Thus, if computer ownership for this group is compared to households with heads who are under 25 (Chart 8), it is found that in most countries, computer ownership in households with heads between 45 and 55 is close to double or more the figure for households with heads under 25. The highest degree of similarity as regards computer ownership in households in both groups was recorded in Argentina, Chile and Barbados (differences of between 1 and 1.5 times).

TABLE 5B
GROUP 2. AGE PROFILE OF THE HEADS OF HOUSEHOLD AND ACCESS TO ICT GOODS AND SERVICES, BY COUNTRY

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access
Bolivia	Highest Ownership ^a	No significant differences observed	35 to under 45 (60.28%)	45 to under 55 (27.67%)			
	Gap ^b	1.04	1.02		1.91		
	Total penetration	75.74	54.39		22.69	NA	NA
Brazil	Highest Ownership ^a	45 to under 55 (90.76%)	No significant differences observed	45 to under 55 (46.83%)		45 to under 55 (15.31%)	
	Gap ^b	1.12	1.11	2.82		2.52	
	Total penetration	87.88%	87.23%	39.18%		10.56%	
Costa Rica	Highest Ownership ^a		35 to under 45 (87.87%)	55 to under 65 (63.64%)		45 to under 55 (19.42%)	
	Gap ^b		1.14	2.5		2.6	
	Total penetration		84.84%	54.17%		13.88%	
Ecuador	Highest Ownership ^a			45 to under 55 (38.79%)			
	Gap ^b			1.95			
	Total penetration			32.19%			
Honduras	Highest Ownership ^a	45 to under 55 (78 %)	35 to under 45 (51.01 %)	45 to under 55 (20.45 %)	NA	45 to under 55 (5.19 %)	NA
	Gap ^b	1.13	1.07	2.83		2.52	
	Total penetration	73.94%	47.87%	15.84%	NA	3.69%	
Mexico	Highest Ownership ^a	NA	45 to under 55 (76%)	55 to under 65 (23%)	25 to under 35; 25 to under 45 (35%)	45 to under 55; 55 to under 65 (9%)	45 to under 55; 55 to under 65 (2%)
	Gap ^b	NA	1.4	4.3	1.1	2.4	3.5
	Total penetration	NA	72.33 %	16.57 %	32.09 %	6.38 %	1.69 %

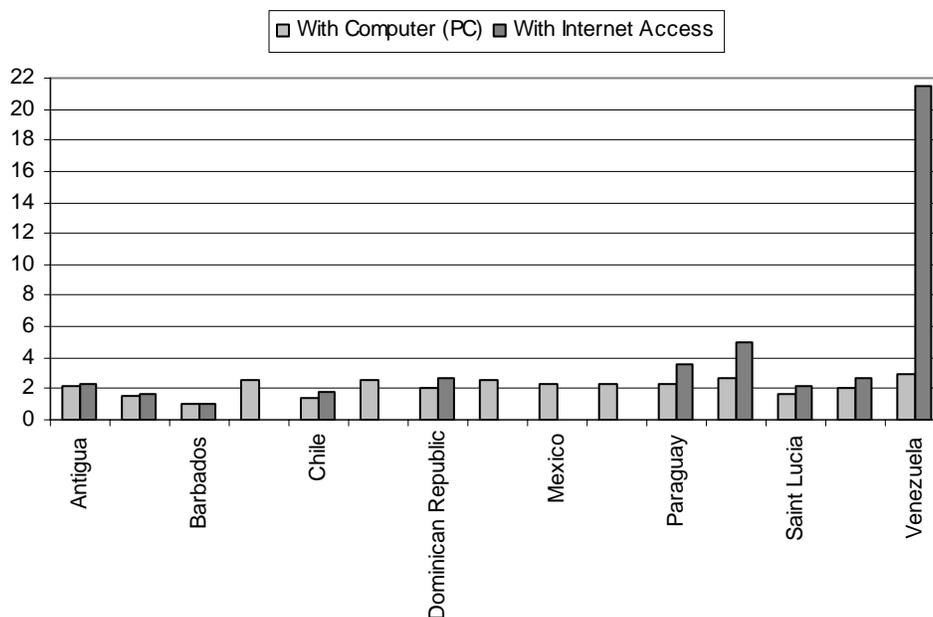
Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^aHighest ownership identifies the category with the highest percentage of possession in each of the ICT goods and services.

^bThe gap corresponds to the quotient between ownership percentage of each ICT appliance and service in households where the head is between 55 to under 65 years of age, and the ownership percentage of each ICT appliance and service in households where the head is under 25 years of age.

Note: NA stands for data which is not available, either because the information was not obtained in the National Census of the country, or because data are not available for the category of analysis.

CHART 8
RATIO OF THE PERCENTAGE OF HOUSEHOLDS WITH HEADS BETWEEN 55 AND UNDER 65 YEARS OF AGE, AND THE PERCENTAGE OF HOUSEHOLDS WITH HEADS UNDER 25 WHO OWN COMPUTERS AND INTERNET ACCESS*



Source: Tables 5a and 5b. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

*This ratio was obtained from the quotient between the percentage of ownership in households for every ICT appliance and service.

Note: There are no PC or Internet access ownership data for Bolivia. There is no Internet access information available for households in Brazil, Costa Rica, Honduras, Mexico and Panama.

As regards Internet access ownership, just as for computer ownership, Chart 8 shows that in Chile, Argentina and Barbados, the difference between Internet access frequency in households in which the heads are between 55 to 65, and in households where the heads are under 25, is lower than in countries such as Venezuela, Saint Vincent and the Grenadines and Paraguay, for the same age groups. That is, with regard to Internet access, the gaps between groups of households are smaller in countries with higher total access figures.

3.2. Gender of the Head of Household

With reference to the gender of the heads of household, census data record, on the one hand, the existence of equal levels of radio and television ownership, and on the other, the existence of significant inequalities—though inferior to those recorded according to age—in connection with the ownership of cellular telephones, computers and Internet access.

In all countries, households with female heads display, as compared to households with male heads, a greater relative ownership of television and fixed-line telephones (Charts 9 and 10). This predominance is shown in Table 6, in which only Trinidad and Tobago stands out with a 1.6 ratio between fixed-line telephone ownership percentage in households with male heads and the same percentage in households with female heads. In other countries these ratios are mostly below 1, which indicates a higher predominance of relative fixed-line telephone ownership in

households with female heads, as compared to households with male heads. Panama and Honduras display the widest male gaps, with ratios of 0.74 and 0.77 respectively.

In terms of cellular telephones (Chart 10), as opposed to fixed-line telephones, ratios between ownership percentages in households with male heads and households with female heads, are in most countries, higher than 1, which indicates that female ownership gaps are wider than those for males. Countries with the widest negative gaps as far as women are concerned, are Saint Vincent and the Grenadines, with a 1.73 ratio between the percentage of cellular telephone ownership in households with male heads and households with female heads; Saint Lucia, with a 1.52 ratio, and Argentina, with a ratio of 1.42.

With regard to computer ownership, just as for mobile telephony, in most countries there is a predominance of households with male heads which own computers. The only country which displays an inverse ownership is Barbados, with a ratio which is below, but close to 1 (0.95).

As far as access to the Internet (Chart 11) is concerned, there is a similar ownership pattern to that registered for cellular telephone and computer ownership, but with a female Internet access gap which is wider in most countries than that registered for computer ownership.

TABLE 6
RATIO BETWEEN PERCENTAGE OF HOUSEHOLDS WITH MALE HEADS AND
PERCENTAGE OF HOUSEHOLDS WITH FEMALE HEADS, OWNING DIFFERENT ICT
GOODS AND SERVICES*

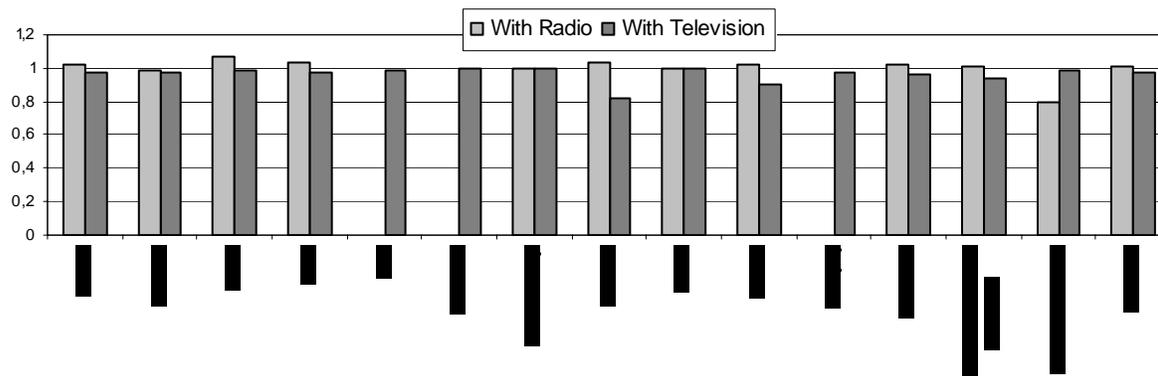
Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access
Antigua and Barbuda	1.02	0.98	1.02	1.24	1.41	1.69
Argentina	NA	NA	1.00	1.41	1.38	1.40
Barbados	0.99	0.98	0.96	0.95	0.95	0.97
Bolivia	1.07	0.99	1.03	NA	NA	NA
Brazil	1.03	0.97	0.91	NA	1.24	NA
Chile	NA	0.99	0.93	1.17	1.30	1.38
Costa Rica	NA	1.00	0.89	NA	1.17	NA
Dominican Republic	1.00	1.00	1.00	NA	1.00	1.00
Ecuador	NA	NA	0.92	NA	NA	NA
Honduras	1.03	0.82	0.74	NA	1.10	NA
Mexico	1.00	1.00	1.00	NA	1.00	NA
Panama	1.02	0.90	0.77	NA	1.06	NA
Paraguay		0.98	0.97	1.04	1.29	1.53
Saint Lucia	1.02	0.96	0.93	1.52	1.32	1.52
Saint Vincent and the Grenadines	1.01	0.94	0.86	1.73	1.48	1.73
Trinidad and Tobago	0.8	0.98	1.64	NA	0.75	1.54
Venezuela	1.01	0.98	0.87	1.08	1.17	1.37

Source: Summary 3, Appendix II. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

* This ratio was obtained from the quotient of the percentage of ownership of each ICT appliance and service in households with male heads and the same percentage in households with female heads.

Note: NA stands for data which is not available, either because the information was not obtained in the National Census of the country, or because data are not available for the category of analysis.

CHART 9
RATIO BETWEEN PERCENTAGE OF HOUSEHOLDS WITH MALE HEADS AND PERCENTAGE OF HOUSEHOLDS WITH FEMALE HEADS, OWNING RADIO AND TELEVISION*

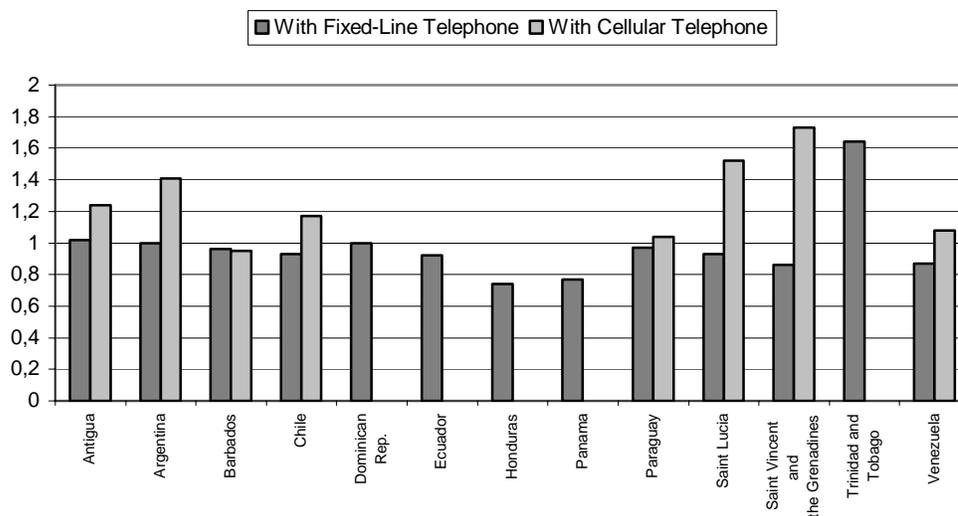


Source: Table 6. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

* This ratio was obtained from the quotient of the percentage of ownership of each ICT appliance and service in households with male heads and the same percentage in households with female heads.

Note: There is no information regarding radio and television ownership in households in Argentina and Ecuador. Chile, Costa Rica and Paraguay have no census data regarding radio ownership.

CHART 10
RATIO BETWEEN PERCENTAGE OF HOUSEHOLDS WITH MALE HEADS AND PERCENTAGE OF HOUSEHOLDS WITH FEMALE HEADS, OWNING FIXED-LINE AND CELLULAR TELEPHONES*

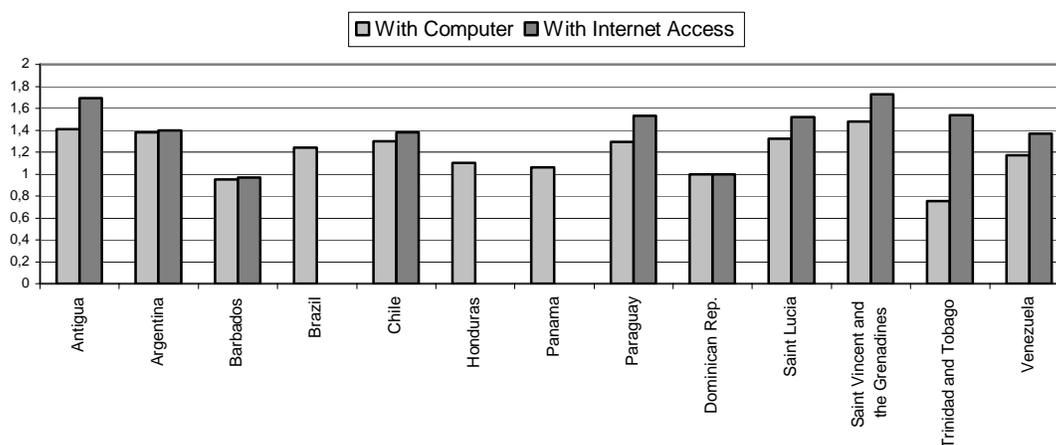


Source: Table 6. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

* This ratio was obtained from the quotient of the percentage of ownership of each ICT appliance and service in households with male heads and the same percentage in households with female heads.

Note: There are no data available regarding ownership of cellular telephones for Bolivia, Brazil, Honduras, Mexico, Dominican Republic, Costa Rica and Trinidad and Tobago.

CHART 11
RATIO BETWEEN PERCENTAGE OF HOUSEHOLDS WITH MALE HEADS AND
PERCENTAGE OF HOUSEHOLDS WITH FEMALE HEADS, OWNING COMPUTERS AND
INTERNET ACCESS*



Source: Table 6. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

* This ratio was obtained from the quotient of the percentage of ownership of each ICT appliance and service in households with male heads and the same percentage in households with female heads.

Note: There are no PC or Internet access ownership data for Bolivia. There is no Internet access information available for households in Costa Rica, Honduras, Mexico and Panama.

4. ICT Penetration and Education Levels of Heads of Household and Household Members

A person's level of education is one of the main indicators of his or her capacity to generate income and, therefore, obtain access to consumer goods. Furthermore, from the perspective of the Information Society, the use of some ICT goods, such as the Internet, requires that users should have attained a higher level of education, a condition which at the same time would justify ownership of an Internet access service in the household. This is why countries with public policies aimed at fostering digital connectivity in households and among persons, as a tool for development and social integration, have focused on implementing strategies to improve access and at the same time, improve the quality of education.

Two criteria for analysis have been selected, in order to approach the existing relationship between level of education and ownership of ICT goods and services on the basis of census data. On the one hand, households have been classified according to the level of education of the head of household. This classification will enable us to identify the household's cultural level and its potential economic capacity. On the other hand, households have also been classified according to the educational level attained by household members who are students. This typology is composed of categories which identify the educational level which members of the household are attending. On the basis of these categories, it is possible to evaluate the ownership of ICT goods and services and obtain access to relative indirect information with regard to the possible internal demand for ICT services in households, in order to fulfill the educational needs of their members.

4.1 Level of Education of the Head of Household

With regard to the level of education of the head of household, Table 7 shows the differences in ownership of all ICT goods and services, according to levels of education. The data indicate that households in which the head has a higher level of education (has completed secondary school or higher) are greater users of all of the ICT services. This concentration is particularly high as regards possession of a computer and access to the Internet, and, to a lesser extent, of a fixed-line and a cellular telephone. This, in brief, indicates that in every country of the region this characteristic is closely linked to better-educated households, and, consequently, higher incomes.

Ownership of Fixed-Line and Cellular Telephones

As regards ownership of fixed-line telephones, discrepancies according to educational levels increase considerably as the head of household's level of education increases. In most countries greater fixed-line telephone ownership was recorded in households in which the head has completed secondary education, or has begun higher education. Cellular telephone ownership shows a similar pattern to that of fixed-line telephones, but to a lesser degree in most countries, with the exception of Paraguay, where, as opposed to all the other countries, levels of cellular telephone ownership are higher than those for fixed-line telephones in all educational groups. This results in the gap for cellular telephone ownership between households with better-educated heads and those in which the head has only a primary education, being narrower than the gap for fixed-line telephone ownership (Table 7). This is also the case in Venezuela; however, levels of fixed-line telephone ownership are higher than those for cellular telephones, but the differences between the categories of education are smaller in the case of cellular telephone ownership. In general, in Venezuela, as well as in Chile, Antigua and Saint Vincent and the Grenadines, fixed-line and cellular telephone ownership according to educational level displays smaller differences than in other countries. The difference between the levels of education used for this study in the other countries, is greater in the case of cellular telephone ownership, than for fixed-line telephone ownership, and consequently, cellular telephone ownership constitutes, to a greater extent, a characteristic of households in which the head is better-educated. The greatest contrast between levels was recorded in Barbados.

Ownership of Computers and Access to the Internet

Table 7 shows, in fact, that in all countries, households with computers and access to the Internet show a predominant ownership profile when the heads of household are better-educated; that is, have completed secondary education, and even more so if they have at least begun to attend higher education. In spite of this tendency, census data show that there are significant differences between countries, which should be pointed out.

With regard to computers, the ratio between ownership in households in which the heads are better-educated and ownership in households in which the head has only completed a basic level of education indicates that there are countries in which computer ownership in households in which the head has only completed basic education, is much lower. This is the case in Paraguay, where 43% of households with better-educated heads own computers and only 2% of those with a basic education do so. In Panama, the percentage of ownership for the higher level is sixteen times higher than for the basic level; in Trinidad and Tobago and in the Dominican Republic, it is thirteen times higher, whereas in Chile, Saint Lucia and Venezuela, it is over eight times higher.

In terms of the Internet, differences are higher than those recorded for computer ownership, but the greatest differences are to be found in the same countries: Paraguay, the Dominican Republic, Trinidad and Tobago, Chile, Saint Lucia and Venezuela (Summary 4, Appendix II).

TABLE 7
EDUCATIONAL PROFILE OF THE HEADS OF HOUSEHOLD, ACCORDING TO OWNERSHIP AND ACCESS TO ICT GOODS AND SERVICES, BY COUNTRY

Country	Indicator	With Radio	With Television (TV)	With Fixed-line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access
Antigua and Barbuda	Predominant profile	Has received some higher education, university or technical (90.3%)	Has received some higher education, university or technical (92.2%)	Has received some higher education, university or technical (76.7%)	Has received some higher education, university or technical (50.1%)	Has received some higher education, university or technical (34.2%)	Has received some higher education, university or technical (24.5%)
	Gap (higher education level/basic educational level)	1.0	1.1	1.2	1.6	3.2	5.0
	Total penetration	88.15%	88.46%	66.07%	41.63%	21.33%	13.77%
Argentina	Predominant profile	NA	NA	Has received some university education (83.8%)	Has received some university education (59.3%)	Has received some university education (61.4%)	Has received some university education (37.6%)
	Gap (higher educat. level/basic educational level)	NA	NA	1.6	3.2	6.3	14.7
	Total penetration	NA	NA	57.04%	27.09%	20.50%	9.06%
Barbados	Predominant profile	Has received some higher or technical education (94.7%)	Has received some higher or technical education (97.4%)	Has received some higher or technical education (93.8%)	Has received some higher or technical education (30.0%)	Has received some higher or technical education (54.2%)	Has received some higher or technical education (40.9%)
	Gap (higher educat. level/basic educational level)	1.1	1.1	1.2	6.2	6.7	10.6
	Total penetration	91.20%	95.55%	82.41%	13.27%	21.57%	14.22%
Chile	Predominant profile	NA	Has received some university education (96.5%)	Has received some university education (79%)	Has received some university education (77.4%)	Has received some university education (61%)	Has received some university education (39%)
	Gap (higher educat. level/basic educational level)	NA	1.1	1.9	1.9	8.6	17.9
	Total penetration	NA	92.41%	51.53%	51.04%	20.55%	10.19%
Dominican Republic	Predominant profile	Has received some university education (68.9%)	Has received some university education (85.9%)	Has received some university education (68.4%)		Has received some university education (25.1%)	Has received some university education (14.1%)
	Gap (higher educat. level/basic educational level)	1.4	1.2	2.2		12.6	17.7
	Total penetration	51.52%	71.91%	37.74%		6.28%	3.22%
Panama	Predominant profile	Has received some university education (94.2%)	Has received some university education (96.6%)	Has received some university education (27.6%)	Has received some university educat. (36.2%)	Has received some university education (34.3%)	NA
	Gap (higher educat. level/basic educational level)	1.2	1.3	1.6	3.3	16.3	NA
	Total penetration	83.07%	77.01%	40.00%	22.05%	8.52%	NA

Country	Indicator	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access
Paraguay	Predominant profile	NA	Incomplete secondary to higher education (bet. 82 and 95%)	Higher educational level, university (62%)	Higher educational level, university (77%)	Higher educational level, university (61%)	Higher educational level, university (15%)
	Gap (higher educat. level/basic educational level)	NA	1.3	5.7	2.7	21.7	68.9
	Total penetration	NA	72.33%	16.57%	32.09%	6.38%	1.69%
Saint Lucia	Predominant profile	No significant differences observed	No significant differences observed	Completed secon. to higher education, univ. or technical (bet. 74 and 86%)	Completed secon. to higher education, univ. or technical (bet. 25 and 35%)	Higher education, university or technical (42%)	Higher education, university or technical (31%)
	Gap (higher educat. level/basic educational level)	1.1	1.3	1.6	5.2	8.8	13.5
	Total penetration	86.48%	80.24%	61.44%	14.13%	13.45%	8.91%
Saint Vincent and the Grenadines	Predominant profile	No significant differences observed	No significant differences observed	Higher education, university or technical (83.2%)	Completed secon. to higher education, univ. or technical (bet. 11 and 13%)	Higher education, university or technical (32%)	Higher education, university or technical (22%)
	Gap (higher educat. level/basic educational level)	1	1.1	1.3	2.3	2.9	4.2
	Total penetration	84.52%	72.26%	53.89%	4.28%	8.35%	5.22%
Trinidad and Tobago	Predominant profile	Higher educational level. complete (5.4%)	Higher educational level. complete (96.5%)	Higher educational level. complete (92.4%)	NA	Higher educational level. complete (56.9%)	Higher educational level. complete (44.5%)
	Gap (higher educat. level/basic educational level)	1.3	1.1	1.6	NA	13.0	21.4
	Total penetration	68.38%	87.01%	61.83%	NA	11.52%	7.22%
Venezuela	Predominant profile	No significant differences observed	No significant differences observed	Higher educational level, university (72%)	Completed secon. to higher education, univ. or technical (bet. 42 and 48%)	Higher education, university or technical (bet. 35 and 50%)	Completed secon. to higher education, univ. or technical (bet. 11.5 and 22%)
	Gap (higher educat. level/basic educational level)	1.1	1.1	2.2	1.7	8.0	23.7
	Total penetration	83.40%	88.20%	35.40%	31.40%	13.85%	4.40%

Source: Produced by OSILAC, on the basis of National Population and Housing Censuses in each country. Household educational level.

Note: NA means that no data were obtained in the census.

4.2 Educational Level of Household Members

Ownership of Computers and Access to the Internet

A recurrent outcome in studies about the access to and use of ICT goods and services is the close link between levels of education, cellular telephone ownership, and access to the Internet.

It is not possible to study the relationship between each individual's education and the ownership of ICT goods and services directly, by means of census data. In order to attempt an investigation of this link by means of census data, households have been typified according to the educational level of the members of the household who are students. Eight categories of analysis have been established: households in which no members are students; households with members only in primary education; households with members only in secondary education; households with members only in higher education; households with members in primary and secondary education; households with members in primary and higher education; households with members in higher and secondary education, and households with members in all three levels of education.

The penetration of ICT appliances according to this variable shows clearly that in households in which members are university students, the possession of a computer and access to the Internet is substantially higher than in households whose members are only receiving a primary or secondary education. This ratio is observed in all of the countries for which data are available, and is particularly significant among the countries of the Caribbean (Saint Lucia, Antigua and Barbuda, Barbados, and Trinidad and Tobago) and, to a lesser extent, in Argentina and Chile (Tables 8 and 9). Charts 12 and 13 show these differences clearly. The highest ownership of computers in households with members in higher education was recorded in Antigua and Barbuda (65.8%), Saint Lucia (56.23%), Brazil (52.9%), Barbados (50.6%), and Saint Vincent and the Grenadines (52.9%). The lowest ownership percentages were recorded in Honduras (13.6%) and in the Dominican Republic (19.18%).

As regards Internet access in households with members attending university, the highest percentages were recorded in Antigua and Barbuda (53.9%), Saint Lucia (43.9%), and Saint Vincent and the Grenadines (9.9%). The lowest percentages are to be found in Paraguay (6.4%) and in the Dominican Republic (9.9%).

In addition, as Tables 8 and 9 show, if the total ownership of each ICT appliance and service is taken as a point of reference, the ownership of computers and Internet access is comparatively higher than the ownership of the other ICT goods. That is, whereas ownership of all ICT goods and services is higher in households with members in the higher educational levels, the ownership concentration in households with computers and Internet, in those households, is higher. This concentration is particularly high in Brazil for the percentage of computer ownership, and in the countries of the Caribbean, where the ratio of computer and Internet access ownership as regards the total ownership percentage of each ICT appliance, is five times higher.

Ownership of Fixed-Line and Cellular Telephones

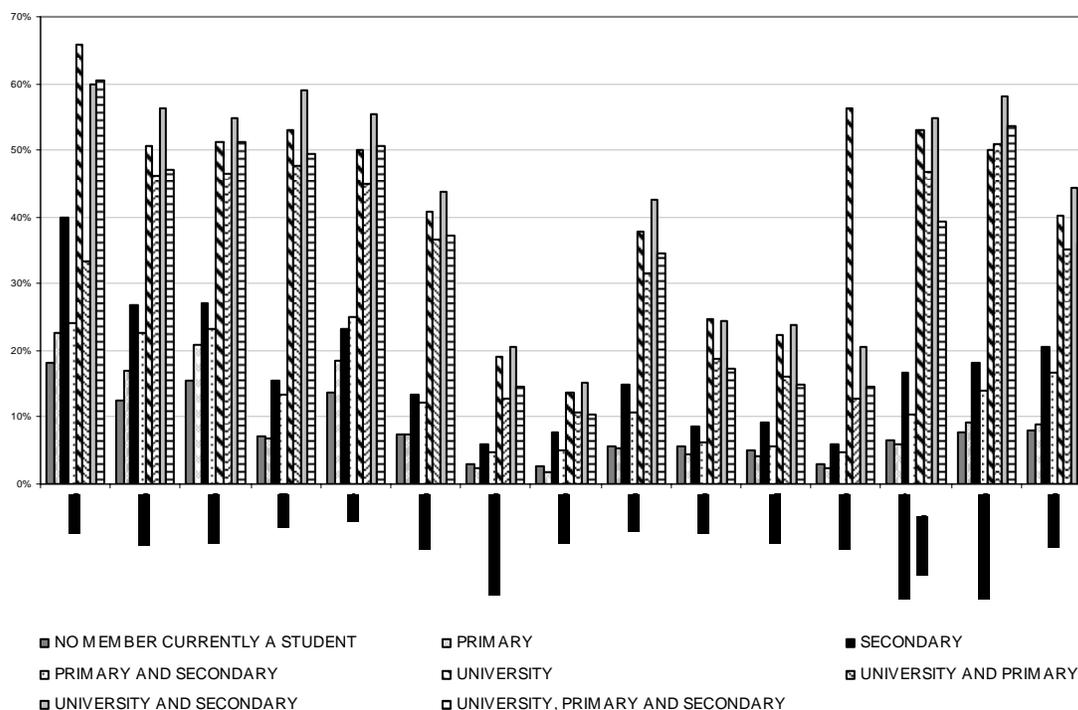
In Tables 10 and 11, a comparison is made between the ownership of fixed-line telephones and cellular telephones, according to the household educational level categories. In the case of mobile telephony, the width of the gaps in each category, with regard to the total percentage, is narrower than the gaps for computer and Internet access ownership. However, the distribution pattern by educational level is similar to computer and Internet access ownership patterns; that is, there is greater ownership in educational levels with members attending university.

Tables 10 and 11 also show that ownership of cellular telephones is lower than fixed-line telephone ownership and that in all countries, households with members in higher education have a greater level of ownership of both types of service. These differences become more marked in Antigua and Barbuda, Saint Lucia, Barbados, Paraguay and Venezuela. In Saint Vincent and the Grenadines, cellular telephone ownership in households with one member attending higher education is six or more times the total ownership, in Saint Lucia the same percentage is four times the total, and in Antigua, Paraguay and Venezuela, three times the total (see Table 10).

In Argentina, Chile, Paraguay and Panama, cellular telephone ownership displays fewer differences according to the educational level of the household, with a greater homogeneity in the ownership of cellular telephones in households with members only in basic and secondary education, or in combinations of both, as compared to ownership in households with one or more members in higher education, but in all cases there is a noticeable predominance of cellular telephone ownership in households in which at least one of the members is a higher education student.

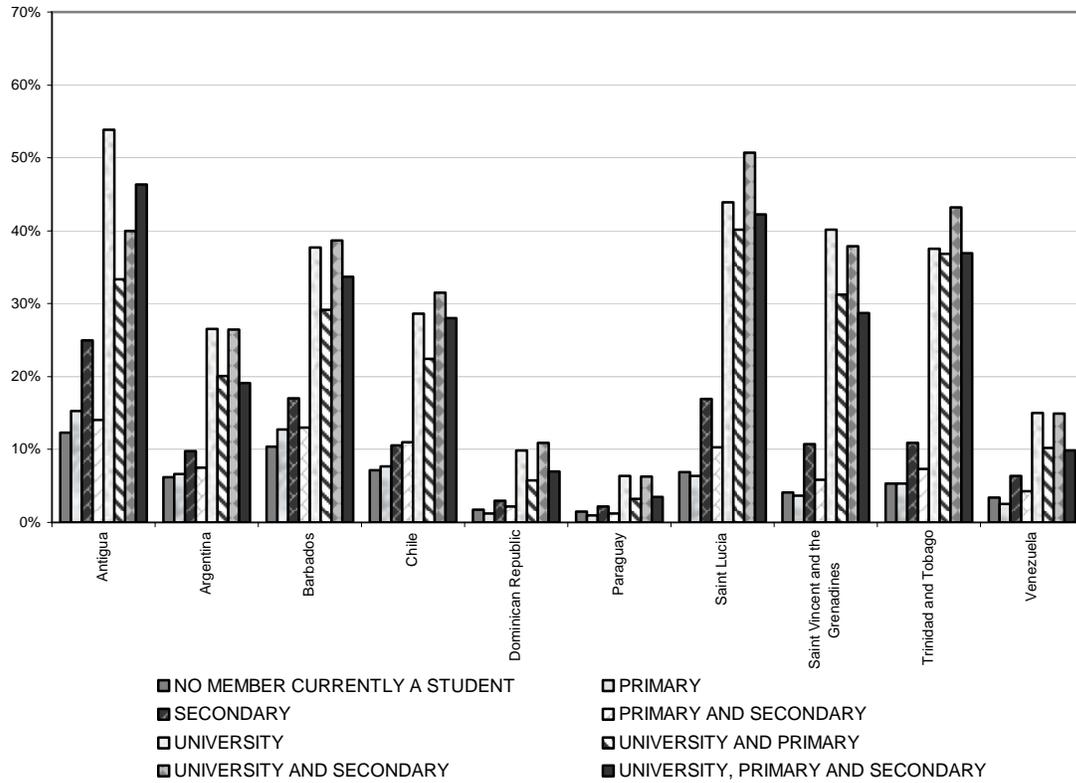
In the case of fixed-line telephone ownership (Table 11) a more homogeneous pattern is observed among the educational levels of households; although in all countries there is a concentration of fixed-line telephone ownership in households in which there are university students. Countries which stand out in this respect are Honduras (2.96 times more than the total), Paraguay (2.6), Brazil (2.19), Mexico (2.04) and Venezuela (1.9).

CHART 12
PERCENTAGE OF COMPUTER OWNERSHIP IN HOUSEHOLDS ACCORDING TO EDUCATIONAL LEVEL OF THE MEMBERS WHO ARE CURRENTLY STUDENTS



Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

CHART 13
PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO AN INTERNET SERVICE,
ACCORDING TO EDUCATIONAL LEVEL OF THE MEMBERS WHO ARE CURRENTLY
STUDENTS



Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

TABLE 8
PERCENTAGE OF HOUSEHOLDS WITH COMPUTERS ACCORDING TO EDUCATIONAL LEVEL OF HOUSEHOLDS WITH MEMBERS WHO ARE STUDENTS AND ACCESS GAP IN EACH EDUCATIONAL LEVEL AS COMPARED TO TOTAL ACCESS

Educational Level	Antigua & Barbuda	Argentina	Barbados	Brazil	Chile	Costa Rica	Dominican Republic	Honduras	Mexico	Panama	Paraguay	Saint Lucia	Saint Vincent and the Grenadines	Trinidad & Tobago	Venezuela
No member currently a student	18.15 %	12.48 %	15.41 %	7.03 %	13.66 %	7.43 %	3.01 %	2.66 %	5.60 %	5.63 %	5.12 %	3.01 %	6.43 %	7.70 %	8.11 %
Primary	22.52 %	16.95 %	20.79 %	6.85 %	18.53 %	7.49 %	2.48 %	1.69 %	5.41 %	4.51 %	4.03 %	2.48 %	6.03 %	9.32 %	9.01 %
Secondary	39.90 %	26.67 %	27.06 %	15.61 %	23.21 %	13.36 %	6.01 %	7.63 %	14.75 %	8.54 %	9.30 %	6.01 %	16.78 %	18.12 %	20.59 %
Primary and Secondary	24.03 %	22.57 %	23.14 %	13.28 %	25.01 %	12.34 %	4.62 %	4.94 %	10.73 %	6.15 %	5.79 %	4.62 %	10.50 %	13.95 %	16.80 %
University	65.75 %	50.64 %	51.24 %	52.88 %	49.94 %	40.66 %	19.18 %	13.64 %	37.73 %	24.63 %	22.39 %	19.18 %	52.91 %	49.91 %	40.26 %
University and Primary	33.33 %	46.10 %	46.56 %	47.71 %	44.84 %	36.68 %	12.73 %	10.67 %	31.52 %	18.63 %	16.01 %	12.73 %	46.88 %	51.06 %	35.02 %
University and Secondary	60.00 %	56.29 %	54.94 %	58.91 %	55.43 %	43.77 %	20.42 %	15.25 %	42.53 %	24.57 %	23.80 %	20.42 %	54.90 %	58.20 %	44.40 %
University, Primary and Secondary	60.40 %	47.16 %	51.21 %	49.51 %	50.60 %	37.32 %	14.53 %	10.30 %	34.49 %	17.21 %	15.00 %	14.53 %	39.36 %	53.59 %	36.17 %
TOTAL	21.41 %	20.46 %	21.61 %	10.56 %	20.47 %	13.88 %	5.45 %	3.69 %	9.18 %	8.52 %	6.38 %	13.45 %	8.35 %	11.78 %	13.41 %
Gap															
No member currently a student	0.848	0.61	0.71	0.67	0.67	0.54	0.55	0.72	0.61	0.66	0.80	0.75	0.77	0.65	0.60
Primary	1.052	0.83	0.96	0.65	0.91	0.54	0.46	0.46	0.59	0.53	0.63	0.77	0.72	0.79	0.67
Secondary	1.864	1.30	1.25	1.48	1.13	0.96	1.10	2.07	1.61	1.00	1.46	1.94	2.01	1.54	1.53
Primary and Secondary	1.123	1.10	1.07	1.26	1.22	0.89	0.85	1.34	1.17	0.72	0.91	1.25	1.26	1.18	1.25
University	3.071	2.48	2.37	5.01	2.44	2.93	3.52	3.70	4.11	2.89	3.51	4.18	6.34	4.24	3.00
University and Primary	1.557	2.25	2.15	4.52	2.19	2.64	2.34	2.90	3.43	2.19	2.51	4.22	5.61	4.34	2.61
University and Secondary	2.802	2.75	2.54	5.58	2.71	3.15	3.75	4.14	4.63	2.88	3.73	4.77	6.57	4.94	3.31
University, Primary and Secondary	2.821	2.31	2.37	4.69	2.47	2.69	2.67	2.79	3.76	2.02	2.35	4.27	4.71	4.55	2.70
TOTAL	1.000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

TABLE 9
PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO THE INTERNET, ACCORDING TO EDUCATIONAL LEVEL OF HOUSEHOLDS WITH MEMBERS WHO ARE STUDENTS AND OWNERSHIP GAP IN EACH EDUCATIONAL LEVEL AS COMPARED TO TOTAL OWNERSHIP

Educational Level	Antigua & Barbuda	Argentina	Barbados	Chile	Dominican Republic	Paraguay	Saint Lucia	Saint Vincent and the Grenadines	Trinidad and Tobago	Venezuela
No member currently a student	12.30 %	6.18 %	10.35 %	7.17 %	1.77 %	1.48 %	6.92 %	4.11 %	5.31 %	3.39 %
Primary	15.23 %	6.67 %	12.76 %	7.70 %	1.27 %	1.00 %	6.34 %	3.64 %	5.32 %	2.56 %
Secondary	25.00 %	9.75 %	16.98 %	10.53 %	2.93 %	2.15 %	16.90 %	10.77 %	10.90 %	6.36 %
Primary and Secondary	14.09 %	7.49 %	12.99 %	11.03 %	2.16 %	1.23 %	10.30 %	5.86 %	7.34 %	4.23 %
University	53.88 %	26.50 %	37.70 %	28.59 %	9.86 %	6.38 %	43.90 %	40.12 %	37.52 %	15.04 %
University and Primary	33.33 %	20.11 %	29.19 %	22.47 %	5.80 %	3.27 %	40.14 %	31.25 %	36.82 %	10.20 %
University and Secondary	40.00 %	26.44 %	38.70 %	31.55 %	10.91 %	6.31 %	50.75 %	37.86 %	43.20 %	14.88 %
University, Primary and Secondary	46.31 %	19.07 %	33.72 %	28.00 %	6.98 %	3.53 %	42.22 %	28.72 %	36.91 %	9.83 %
TOTAL	13.82 %	9.04 %	14.22 %	10.15 %	2.81 %	1.69 %	8.91 %	5.22 %	7.36 %	4.38 %
Gap										
No member currently a student	0.89	0.68	0.73	0.71	0.63	0.88	0.78	0.79	0.72	0.77
Primary	1.10	0.74	0.90	0.76	0.45	0.59	0.71	0.70	0.72	0.58
Secondary	1.81	1.08	1.19	1.04	1.04	1.27	1.90	2.06	1.48	1.45
Primary and Secondary	1.02	0.83	0.91	1.09	0.77	0.73	1.16	1.12	1.00	0.97
University	3.90	2.93	2.65	2.82	3.50	3.77	4.92	7.68	5.10	3.43
University and Primary	2.41	2.22	2.05	2.21	2.06	1.93	4.50	5.98	5.01	2.33
University and Secondary	2.89	2.92	2.72	3.11	3.88	3.73	5.69	7.25	5.87	3.40
University, Primary and Secondary	3.35	2.11	2.37	2.76	2.48	2.09	4.74	5.50	5.02	2.24
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

TABLE 10
PERCENTAGE OF HOUSEHOLDS WITH CELLULAR TELEPHONES, ACCORDING TO EDUCATIONAL LEVEL OF HOUSEHOLDS WITH MEMBERS WHO ARE STUDENTS AND OWNERSHIP GAP IN EACH EDUCATIONAL LEVEL AS COMPARED TO TOTAL OWNERSHIP

Educational Level	Antigua & Barbuda	Argentina	Barbados	Chile	Panama	Paraguay	Saint Lucia	Saint Vincent and the Grenadines	Venezuela
No member currently a student	37.02 %	22.36 %	11.05 %	45.22 %	17.87 %	29.70 %	12.12 %	4.04 %	24.66 %
Primary	41.72 %	27.21 %	14.62 %	52.56 %	15.52 %	26.76 %	13.31 %	3.33 %	31.54 %
Secondary	53.37 %	27.64 %	13.03 %	57.34 %	22.91 %	39.90 %	20.14 %	6.52 %	39.37 %
Primary and Secondary	48.17 %	26.01 %	13.08 %	55.53 %	17.77 %	32.15 %	15.55 %	4.23 %	39.52 %
University	59.82 %	45.75 %	25.47 %	69.21 %	47.15 %	56.99 %	37.63 %	19.77 %	42.73 %
University and Primary	66.67 %	43.92 %	22.58 %	66.60 %	41.40 %	53.06 %	37.67 %	14.58 %	44.43 %
University and Secondary	60.00 %	43.45 %	25.20 %	70.40 %	42.00 %	55.22 %	34.81 %	18.63 %	45.02 %
University, Primary and Secondary	63.09 %	39.18 %	21.07 %	68.77 %	35.43 %	46.00 %	47.83 %	17.02 %	45.74 %
TOTAL	41.78 %	27.03 %	13.27 %	51.21 %	22.05 %	32.09 %	14.13 %	4.28 %	31.67 %
	Gap								
No member currently a student	0.89	0.83	0.83	0.88	0.81	0.93	0.86	0.94	0.78
Primary	1.00	1.01	1.10	1.03	0.70	0.83	0.94	0.78	1.00
Secondary	1.28	1.02	0.98	1.12	1.04	1.24	1.43	1.52	1.24
Primary and Secondary	1.15	0.96	0.99	1.08	0.81	1.00	1.10	0.99	1.25
University	1.43	1.69	1.92	1.35	2.14	1.78	2.66	4.62	1.35
University and Primary	1.60	1.62	1.70	1.30	1.88	1.65	2.67	3.41	1.40
University and Secondary	1.44	1.61	1.90	1.37	1.90	1.72	2.46	4.36	1.42
University, Primary and Secondary	1.51	1.45	1.59	1.34	1.61	1.43	3.39	3.98	1.44
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

TABLE 11
PERCENTAGE OF HOUSEHOLDS WITH FIXED-LINE TELEPHONES, ACCORDING TO EDUCATIONAL LEVEL OF HOUSEHOLDS WITH MEMBERS WHO ARE STUDENTS AND OWNERSHIP GAP IN EACH EDUCATIONAL LEVEL AS COMPARED TO TOTAL OWNERSHIP

Educational Level	Antigua & Barbuda	Argentina	Barbados	Brazil	Chile	Costa Rica	Ecuador	Honduras	Mexico	Panama	Paraguay	Saint Lucia	Saint Vincent and the Grenadines	Trinidad and Tobago	Venezuela
No member currently a student	64.96 %	57.4%	78.48 %	36.42 %	48.43 %	45.42 %	28.95 %	11.25 %	32.95 %	34.00 %	14.79 %	53.02 %	45.73 %	57.73 %	31.64 %
Primary	70.67 %	44.9%	84.23 %	31.02 %	46.03 %	42.94 %	25.34 %	8.98 %	27.25 %	27.54 %	11.06 %	62.19 %	52.67 %	55.82 %	28.00 %
Secondary	79.02 %	62.3%	88.61 %	54.62 %	60.50 %	63.41 %	41.90 %	31.40 %	51.10 %	45.43 %	22.29 %	80.09 %	77.02 %	75.46 %	49.89 %
Primary and Secondary	69.56 %	52.3%	85.39 %	49.15 %	56.73 %	57.94 %	33.37 %	23.20 %	38.24 %	35.00 %	14.31 %	73.36 %	67.75 %	65.02 %	41.57 %
University	93.55 %	79.3%	95.30 %	85.90 %	77.96 %	82.84 %	60.65 %	46.81 %	73.70 %	71.84 %	43.08 %	91.28 %	93.02 %	92.31 %	68.11 %
University and Primary	100.00 %	74.5%	95.32 %	82.01 %	77.98 %	82.55 %	56.80 %	42.57 %	67.22 %	68.11 %	39.15 %	95.27 %	96.88 %	92.12 %	60.95 %
University and Secondary	100.00 %	83.4%	97.15 %	89.63 %	82.97 %	87.70 %	62.42 %	53.11 %	77.43 %	72.61 %	44.57 %	94.93 %	100.00%	94.65 %	70.63 %
University, Primary and Secondary	95.27 %	74.3%	95.79 %	83.96 %	81.34 %	83.29 %	55.05 %	44.31 %	68.18 %	63.26 %	29.80 %	94.74 %	95.74 %	92.20 %	62.00 %
TOTAL	67.39 %	57.0%	82.60 %	39.18 %	51.33 %	54.17 %	32.19 %	15.84 %	36.17 %	40.00 %	16.57 %	61.44 %	53.89 %	62.13 %	35.66 %
Gap															
No member currently a student	0.96	1.01	0.95	0.93	0.94	0.84	0.90	0.71	0.91	0.85	0.89	0.86	0.85	0.93	0.89
Primary	1.05	0.79	1.02	0.79	0.90	0.79	0.79	0.57	0.75	0.69	0.67	1.01	0.98	0.90	0.79
Secondary	1.17	1.09	1.07	1.39	1.18	1.17	1.30	1.98	1.41	1.14	1.34	1.30	1.43	1.21	1.40
Primary and Secondary	1.03	0.92	1.03	1.25	1.11	1.07	1.04	1.46	1.06	0.87	0.86	1.19	1.26	1.05	1.17
University	1.39	1.39	1.15	2.19	1.52	1.53	1.88	2.96	2.04	1.80	2.60	1.49	1.73	1.49	1.91
University and Primary	1.48	1.31	1.15	2.09	1.52	1.52	1.76	2.69	1.86	1.70	2.36	1.55	1.80	1.48	1.71
University and Secondary	1.48	1.46	1.18	2.29	1.62	1.62	1.94	3.35	2.14	1.82	2.69	1.55	1.86	1.52	1.98
University, Primary and Secondary	1.41	1.30	1.16	2.14	1.58	1.54	1.71	2.80	1.89	1.58	1.80	1.54	1.78	1.48	1.74
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

5. ICT Penetration and Ethnic Origin of the Head of Household

In the countries of the region, ethnic groups have different names or are classified in different ways. This makes it difficult to produce a comparative classification between countries. In most of the countries, mainly in the continental ones, it would be possible to classify households in two ethnic categories: “belonging” and “not belonging” to an ethnic group. This simple form of classification, however, is limited, since it would not make it possible to distinguish between ethnic groups with less penetration of basic information and communication technology, which, in terms of a universal access policy, would be very useful. In the countries of the Caribbean, ethnic groups can not only be classified as indigenous and non-indigenous, but also encompass a great diversity of population groups: Asian, African, indigenous, etc. In spite of this comparative difficulty, it is possible to note that in all of the countries, the penetration of all the ICT goods, in particular the ownership of computers and Internet access, is low among most of the minority groups composed of indigenous peoples and African descendants.

In addition, it should be pointed out that not all countries in the region recorded the ethnic composition of their populations in their censuses. The countries which did not include a question regarding this variable during the 2000 round census were Argentina and the Dominican Republic.

The following is a description, for countries for which the information is available, regarding the ownership of fixed-line and cellular telephones, Internet access and computers in households, according to the ethnic groups in each country. The analysis is carried out on the basis of the information contained in the tables in Summary 6, available in Appendix II. In order to achieve greater comparability in the analysis, the countries have been separated into two groups: countries of the Caribbean, which all display similar ethnic characteristics, and the continental countries of Middle America and South America.

5.1 Countries of the Caribbean

Ownership of Fixed-Line and Cellular Telephones

In **Antigua and Barbuda**, the predominant ethnic group is black African (90.5%); ownership of fixed-line telephones (65%) and cellular telephones (40%) in this group is close to the total penetration of each type of telephone service, which is 67% and 41% respectively.

Next in size are the ethnic groups known as mixed (3.9%) and white (2.5%). In mixed households, fixed-line telephone ownership (65.08%) is slightly lower than total ownership figures, and cellular telephone ownership (53.7%) is slightly higher than the total.

The ethnic groups with least penetration are the indigenous American and “other” minority groups. In the first, 52% of households own a fixed-line telephone, and in the second, the figure is close to 46%. The ethnic groups with the greatest ownership of fixed-line telephones are the Chinese (97.4%), the white-Caucasian (90.3%), and the Portuguese (90.6%).

Cellular telephone ownership varies amongst the ethnic groups, from 43% to 77%. The lowest ownership is to be found amongst the indigenous American groups (43%), and the highest amongst the Syrian-Lebanese (77%). The Chinese display an ownership (51.1%) which is higher than the total average, but lower than that of white-Caucasians (65%) and Portuguese (53%).

In **Barbados**, as in Antigua and Barbuda, the most numerous ethnic group is the black population (92.4%), followed by the white (4%) and the mixed (2.5%). In these three majority groups, household ownership of fixed-line telephones is high as compared to the rest of the

groups, in particular in white ethnic group households, in which fixed-line telephone ownership is close to 97%. In “mixed” households, the percentage is 87.5. In minority groups (Chinese, Indians—originally from India—and Arabs), fixed-line telephone ownership is also high (above the total) in all of the groups.

In the case of cellular telephones, ownership is high amongst some of the minority ethnic groups; the Chinese (43%), Arabs (62.1%) and whites (39.2%); and lower amongst Indians (24.6%) and the more populous ethnic group such as the black (11.7%) and mixed (23.7%) groups.

In **Saint Vincent and the Grenadines**, minority ethnic groups (Chinese, Indians, Portuguese, Syrian/Lebanese, whites and indigenous groups) make up only 5% of the households. In these households, access to telephones, both fixed-line and cellular, is much higher than the ownership recorded for the predominant ethnic groups (African descent, mixed and indigenous groups).

In the ethnic group composed of people of African descent, fixed-line telephone ownership in households is close to 52%, amongst the mixed group, it is close to 60% and in indigenous households, 35%. On the other hand, in the minority groups, fixed-line telephone ownership in households is higher than 70% in all the groups.

With regard to cellular telephones, the pattern is very similar; the indigenous group stands out with the lowest ownership (1.7%), and the white ethnic group with the highest (14.8%).

In **Saint Lucia**, the composition of the ethnic groups is very similar to that of Saint Vincent and the Grenadines. However, there are significant differences as regards the total ownership of fixed-line and cellular telephones, and, in addition, the levels of access to telephones are higher in indigenous households and lower in Indian households.

In Saint Lucia’s indigenous households, access to telephones is higher than the total ownership (78.8% for fixed-line telephones and 28.03% for cellular telephones), whereas in Saint Vincent and the Grenadines households, the same ownerships are inferior to the total (34.9% and 1.7% respectively).

In Saint Lucia’s Afro-American and mixed households, as in Saint Vincent and the Grenadines, there is less access both to fixed-line and to cellular telephones, and there is a predominance of access to both types of telephone service in Asian (Chinese), white, Syrian/Lebanese and Portuguese households.

In the case of **Trinidad and Tobago**, data are available only with regard to access in households to fixed-line telephones, which is singularly high in the households of minority ethnic groups, and close to the total ownership figures in the households of the more numerous ethnic groups (African descent, Indian descent, and mixed groups).

Ownership of Computers and Access to the Internet

In **Antigua and Barbuda**, the highest computer ownership was recorded for the households of the third predominating group, the white population (66%), in which ownership is close to three times higher than total ownership (21.4%). Amongst the population of African descent and the mixed groups, first and second in size, computer ownership is lower (19.4% and 32.3% respectively)

In the remaining minority groups, computer ownership is, with the exception of Indian and indigenous households, higher than that of the Afro-American and mixed groups. The

Portuguese households, in particular, display a 50% ownership, the Chinese, 34.2% and the Syrian/Lebanese, 44%.

Access to the Internet varies amongst the ethnic groups, from 59.8% to 10.7%. The lowest ownership is to be found amongst the indigenous American group (10.7%), and the highest amongst the white group (59.8%). Next in size are Portuguese households (42.5%) and Syrian/Lebanese households (close to 40%).

In **Barbados**, computer and Internet access ownership are also high amongst the minority group households. Indian households are the exception to this tendency, with less than 1% of the total figure for households, but their computer ownership level (39.9%) and Internet access (31.9%) are very similar to those recorded, for example, for the mixed ethnic group (38% for computers and 31.9%) with a more numerous percentage of households (2.5%).

There are different scenarios in the households of the predominant ethnic group (African descent, white and mixed) as regards ownership and access to the Internet. Lower than average computer ownership and Internet access in the households of Afro-American groups, an intermediate level in mixed groups' households and a higher than average ownership and access in white groups' households.

In **Saint Vincent and the Grenadines** and **Saint Lucia**, as opposed to Antigua and Barbuda, indigenous groups are more numerous; in both countries they are the third group as regards size. In addition, it should be pointed out that both in Saint Vincent and the Grenadines and in Saint Lucia, white households are less numerous than in Antigua and Barbuda, Barbados, and Trinidad and Tobago.

As in most of the countries in the Caribbean, in Saint Lucia and Saint Vincent and the Grenadines the predominant ethnic groups are those of African descent and the mixed group population. In these countries, the households of African descendants are three quarters of the total number of households, whereas the mixed population is in both countries the second ethnic group in size; 11% in Saint Lucia and 16.8% in Saint Vincent and the Grenadines.

However, in both these ethnic scenarios—Saint Lucia and Saint Vincent and the Grenadines—it is possible to note that indigenous households display very different conditions of computer ownership and Internet access. In Saint Lucia's indigenous households, the percentage of households with computers (27.11%) is higher than the total ownership, whereas in Saint Vincent and the Grenadines, this percentage is much lower than the total ownership (2.54%). With regard to Internet access, the situation is very similar; an access percentage which is higher than the total access in Saint Lucia (20.6%), and a lower percentage (1.55%) in Saint Vincent and the Grenadines.

Of the two majority groups (African descent and mixed), the mixed households display better computer ownership and Internet access, whereas in both countries, as compared to the other ethnic groups, the households of Afro-American groups show lower ownership and Internet access levels.

In **Trinidad and Tobago**, the ethnic composition shows, as opposed to the rest of the Caribbean countries, a predominance of Indians, who, together with African descent and mixed groups, are the most significant population in point of size. With regard to the ownership of computers and Internet access, the mixed population displays higher ownership percentages than those recorded for the African descent and Indian populations. The latter groups, however, show very similar conditions, both as regards computer ownership (close to 10%) and Internet access (close to 6%).

5.2 Continental Countries: Middle America and South America

Bolivia is one of the countries in the region in which the population is mainly composed of indigenous ethnic groups. The two main groups are the Quechua (35.3% of households) and the Aymara (31.9% of households). Next in size are the Chiquitan (2%) and the Guarani (1.4%). In addition, there are a number of households (approximately 27% of the total) that do not belong to any of these indigenous groups.

Ownership of fixed-line or cellular telephones in Bolivian households is lower amongst the indigenous groups than amongst the non-indigenous groups. Thus, for example, it is possible to find that 35.5% of non-indigenous households have access to some type of telephone service, whereas amongst the indigenous population the highest percentage, close to 28%, is among the Mojeños. Lowest access (17.7 % and 14.4 %) was recorded for the most numerous groups, the Quechua and the Aymara.

Brazil stands out for the fact that its small Asian population, that is, the Japanese, Chinese, Korean and other Asian groups (0.6% of the total number of households), displays a very high ownership of fixed-line telephones (80%) and computers (41%), much higher than the majority white group (49 and 15% respectively). At the same time, in the households of other ethnic groups, there is an average of close to 25% of fixed-line telephones and only 4% own a computer.

The ownership of ICT appliances in **Chile** is lower amongst the indigenous population, as it is in the other countries. In this case, it should be noted that cellular telephone ownership in households with indigenous heads is higher than fixed-line telephone ownership. The widest gaps are to be found in computer ownership (9% in indigenous households, as opposed to 21% in the remaining households) and particularly in the access to the Internet in households (3% as opposed to 11%).

The case of **Costa Rica** is somewhat similar to the case of Brazil: a very small group, the Chinese (only about 0.3% of the total number of households) display the highest indices as regards fixed-line telephone and computer ownership (85% and 39%, respectively), far higher than the figures for the majority group (94% of households) amongst those who are not considered to belong to indigenous ethnic groups, in which fixed-line telephone ownership is 55% and computer ownership is 14%. The lowest penetration of these appliances is to be found amongst the indigenous population, with barely 16% and 3%, respectively.

In **Ecuador**, the two most numerous ethnic groups (*mestizos*—of mixed European and Amerindian ancestry—and whites) show the highest percentages of fixed-line telephone possession, particularly in the case of households of people who call themselves “white”, in which there is an ownership of 47.7%. Among the *mestizos*, this percentage is close to 33%. In the households of indigenous groups, mulatto groups and Afro-American groups, ownership figures are lower, particularly in the case of indigenous households, in which only 8% of households own a fixed-line telephone.

In **Honduras**, indigenous groups have a relatively low incidence on the total number of households (under 7%). Of these, the Lencas are the largest group (4.21%); as regards the remainder, in no case does the percentage of households reach 1% of the total number of households. With regard to fixed-line telephone ownership in households, the English-speaking black population stands out with the highest ownership of fixed-line telephones (31.1%), followed by the Guarifuna ethnic group with a fixed-line telephone ownership (15.58%) which is very similar to that of non-indigenous households (16.55%), whereas the percentage amongst all other indigenous groups together is only 4%. Computer ownership in the country as a whole is

very low: under 4%, and again, the highest ownership is amongst the black population, where 7% of households own a computer.

In **Mexico**, there is a clear gap between indigenous and non-indigenous populations, as regards fixed-line telephone or computer ownership. Whereas in households with non-indigenous heads, 38% own telephones and 10% own computers, the figures for indigenous households are only 7 and 2% respectively.

In **Panama**, the small Bri-Bri ethnic group (only 0.1% of the total number of households) displays the highest relative ownership, both as regards fixed-line and cellular telephones, and computers. In most of the households, those which do not belong to an indigenous ethnic group, ownership is somewhat lower. In this group, 43% own a fixed-line telephone, 24% own a cellular telephone and 9% own a computer. On the other hand, the largest indigenous ethnic group, the Ngobe (close to 4% of the total number of households), has the lowest ownership rates as regards these appliances; very few of their households own a fixed-line telephone (2%) and there are practically no computers.

6. ICT Penetration and Occupation Characteristics of Heads of Household

The criteria generally used to establish the economic activity profile of households, are based on the occupation and economic activity of the head of household. These characteristics are closely linked to a household's level of income, and, therefore, to its consumer capacity. By linking ICT goods and services possession to each of these variables, it is possible to obtain a ratio between the ownership of these goods and socio-economic groups with different levels of purchasing power.

The following tables summarize the ownership of each ICT appliance and service, by country, for countries in which data are available. They show ownership patterns for ICT goods and services, according to the activity and the occupation of the head of household. The activity field has been broken down into summary tables such as those found in Appendix II, but they have not been included, due to their size. However, this information may be found amongst the indicators on the OSILAC website⁸, as well as in the appendices to this book which are published on the site.

6.1 Head of Household Activity Status

Table 12 shows the fixed-line telephone ownership profile in households, according to the head of household's activity. Households which display the highest percentages of ownership are those in which the heads are employed, students or retired.

Cellular telephone ownership profiles show a similar pattern, with the exception of the retired category, in which cellular telephone penetration is generally much lower than fixed-line telephone penetration. However, there are wider gaps between the categories according to activity, probably because the appliance has been more recently introduced (Table 13).

Even wider gaps are apparent between categories with regard to computer ownership and access to the Internet. Computer ownership and Internet access appears particularly in households in which the head is only a student, which may include cases of students receiving parental assistance, whereas Internet access is particularly low among the unemployed. Lastly, it should be

⁸ www.eclac.org/socinfo/osilac

pointed out that in some countries, computer ownership is relatively high amongst retired persons. It is very likely that this is connected to the fact that in some countries it is considered a privilege to be able to think of oneself as retired (Tables 14 and 15).

6.2 Occupation Categories of Heads of Household

In consonance with household levels of income and consumer capacity, the employer and employee categories show the highest levels of penetration for all of the ICT goods and services, whereas the lowest levels were recorded for self-employed workers and family workers. Radio and television penetration does not display significant differences between the occupation categories in most countries. The greatest were recorded in Bolivia and Honduras, where the penetration levels for television in households in which the heads are self-employed workers, are 35 and 43% respectively (Summary 8, Appendix II).

With regard to fixed-line telephones, differences between occupation categories are accentuated in countries with the lowest total penetration (Table 16). Thus, for example, Paraguay, with a 17% fixed-line telephone penetration, displays a wide gap between employers and self-employed workers for fixed-line telephone ownership. Significant gaps in these two categories can also be observed in countries such as Brazil, Honduras, Mexico and Panama, in which less than 40% of households own a fixed-line telephone. On the other hand, in countries where over half of the households own a fixed-line telephone, the gap is narrower, particularly in the Caribbean countries.

With regard to mobile telephony, the pattern is similar to that of fixed-line telephones. Chile and Paraguay are particularly noticeable: penetration for cellular telephones as compared to fixed-line telephones is greater in every occupation category (Table 17).

Lastly, in the case of computer ownership and Internet access, the widest gaps were recorded between employers and employees on the one hand and self-employed workers and family workers on the other (Tables 18 and 19).

TABLE 12
PERCENTAGE OF HOUSEHOLDS WITH FIXED-LINE TELEPHONES, ACCORDING TO THE ACTIVITY STATUS OF THE HEAD OF HOUSEHOLD AND OWNERSHIP GAP BY ACTIVITY STATUS AS COMPARED TO TOTAL OWNERSHIP

Activity Status	Antigua & Barbuda	Argentina	Barbados	Brazil ^b	Chile	Costa Rica	Ecuador	Honduras	Mexico	Panama	Paraguay	Saint Lucia	Saint Vincent and the Grenadines	Trinidad and Tobago ^b	Venezuela
Employed	68.46 %	47.90 %	83.18 %	NA	53.12 %	54.51 %	31.70 %	15.50 %	36.18 %	38.17 %	19.89 %	65.12 %	56.25 %	NA	34.95 %
Unemployed	42.54 %	48.11 %	65.63 %	NA	37.84 %	31.77 %	30.03 %	14.26 %	29.66 %	31.87 %	18.81 %	42.85 %	30.52 %	NA	25.59 %
Only Studies	57.14 %	48.04 %	NA 2/	NA	47.64 %	65.25 %	40.31 %	29.09 %	46.69 %	68.13 %	18.29 %	73.35 %	66.40 %	NA	43.70 %
Retired	76.44 %	48.17 %	84.99 %	NA	60.93 %	68.88 %	69.64 %	59.51 %	68.73 %	44.26 %	46.95 %	68.40 %	67.43 %	NA	67.65 %
Other Activity	61.92 %	46.84 %	78.87 %	NA	44.67 %	47.26 %	29.92 %	14.48 %	32.46 %	29.33 %	12.12 %	52.05 %	49.56 %	NA	32.55 %
TOTAL	67.41 %	47.88 %	83.01 %	39.18 %	51.53 %	54.17 %	32.19 %	15.79 %	36.17 %	39.97 %	17.74 %	61.54 %	53.96 %	62.13 %	35.66 %
Gap^a															
Employed	1.02	1.00	1.00	NA	1.03	1.01	0.98	0.98	1.00	0.96	1.12	1.06	1.04	NA	0.98
Unemployed	0.63	1.00	0.79	NA	0.73	0.59	0.93	0.90	0.82	0.80	1.06	0.70	0.57	NA	0.72
Only Studies	0.85	1.00	NA	NA	0.92	1.20	1.25	1.84	1.29	1.70	1.03	1.19	1.23	NA	1.23
Retired	1.13	1.01	1.02	NA	1.18	1.27	2.16	3.77	1.90	1.11	2.65	1.11	1.25	NA	1.90
Other Activity	0.92	0.98	0.95	NA	0.87	0.87	0.93	0.92	0.90	0.73	0.68	0.85	0.92	NA	0.91
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Summary 7, Appendix II. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a The gap has been calculated as the quotient between the fixed-line telephone ownership percentage in households in each category of the activity status variable and the total ownership percentage.

^b It has not been possible to obtain data for this category or variable from the census data available.

TABLE 13
PERCENTAGE OF HOUSEHOLDS WITH CELLULAR TELEPHONES, ACCORDING TO THE ACTIVITY STATUS OF THE HEAD OF HOUSEHOLD AND OWNERSHIP GAP BY ACTIVITY STATUS AS COMPARED TO TOTAL OWNERSHIP

Activity Status	Antigua & Barbuda	Argentina	Barbados	Chile	Panama	Paraguay	Saint Lucia	Saint Vincent and the Grenadines	Venezuela
Employed	47.30 %	35.61 %	17.52 %	59.22 %	23.96 %	36.45 %	18.19 %	6.01 %	34.38 %
Unemployed	32.21 %	16.28 %	4.76 %	43.34 %	17.38 %	37.75 %	7.28 %	1.22 %	27.48 %
Only Studies	42.86 %	36.22 %	NA 2/	69.50 %	22.54 %	34.25 %	19.48 %	4.00 %	34.34 %
Retired	18.43 %	14.05 %	5.50 %	33.27 %	32.62 %	41.09 %	8.14 %	2.99 %	32.32 %
Other Activity	27.73 %	16.02 %	6.53 %	39.40 %	11.40 %	26.00 %	5.64 %	1.86 %	23.48 %
TOTAL	41.90 %	27.09 %	13.36 %	51.04 %	22.01 %	33.26 %	14.16 %	4.29 %	31.70 %
Gap ^a									
Employed	1.13	1.31	1.31	1.16	1.09	1.10	1.29	1.40	1.08
Unemployed	0.77	0.60	0.36	0.85	0.79	1.13	0.51	0.28	0.87
Only Studies	1.02	1.34	NA	1.36	1.02	1.03	1.38	0.93	1.08
Retired	0.44	0.52	0.41	0.65	1.48	1.24	0.57	0.70	1.02
Other Activity	0.66	0.59	0.49	0.77	0.52	0.78	0.40	0.43	0.74
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Summary 7, Appendix II. Produced on the basis of National Population and Housing Censuses in each country.

TABLE 14
PERCENTAGE OF HOUSEHOLDS WITH COMPUTERS, ACCORDING TO THE ACTIVITY STATUS OF THE HEAD OF HOUSEHOLD AND OWNERSHIP GAP BY ACTIVITY STATUS AS COMPARED TO TOTAL OWNERSHIP

Activity Status	Antigua & Barbuda	Argentina	Barbados	Brazil ^b	Chile	Costa Rica	Dominican Republic	Honduras	Mexico	Panama	Paraguay	Saint Lucia	Saint Vincent and the Grenadines	Trinidad and Tobago ^b	Venezuela
Employed	24.41 %	27.36 %	26.98 %	NA	25.68 %	15.62 %	6.46 %	4.08 %	10.17 %	9.19 %	8.62 %	17.10 %	11.46 %	NA	15.15 %
Unemployed	8.52 %	11.27 %	8.94 %	NA	12.10 %	4.63 %	3.50 %	2.80 %	4.45 %	5.34 %	6.10 %	4.67 %	2.39 %	NA	8.78 %
Only Studies	23.81 %	35.26 %	NA 2/	NA	42.15 %	37.38 %	5.41 %	8.79 %	30.21 %	10.85 %	8.05 %	28.15 %	12.80 %	NA	24.03 %
Retired	13.28 %	10.38 %	12.02 %	NA	12.92 %	14.76 %	5.48 %	12.44 %	12.70 %	17.13 %	14.89 %	10.77 %	6.88 %	NA	20.22 %
Other Activity	13.08 %	10.89 %	13.58 %	NA	11.38 %	6.55 %	2.67 %	2.01 %	4.33 %	3.21 %	3.65 %	5.10 %	3.56 %	NA	6.80 %
TOTAL	21.50 %	20.50 %	21.78 %	10.56 %	20.55 %	13.88 %	5.45 %	3.67 %	9.18 %	8.48 %	7.17 %	13.49 %	8.36 %	11.78 %	13.43 %
Gap^a															
Employed	1.14	1.33	1.24	NA	1.25	1.13	1.18	1.11	1.11	1.08	1.20	1.27	1.37	NA	1.13
Unemployed	0.40	0.55	0.41	NA	0.59	0.33	0.64	0.76	0.48	0.63	0.85	0.35	0.29	NA	0.65
Only Studies	1.11	1.72	NA	NA	2.05	2.69	0.99	2.39	3.29	1.28	1.12	2.09	1.53	NA	1.79
Retired	0.62	0.51	0.55	NA	0.63	1.06	1.01	3.39	1.38	2.02	2.08	0.80	0.82	NA	1.51
Other Activity	0.61	0.53	0.62	NA	0.55	0.47	0.49	0.55	0.47	0.38	0.51	0.38	0.43	NA	0.51
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NA	1.00

Source: Summary 7, Appendix II. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a The gap has been calculated as the quotient between the computer ownership percentage in households in each category of the activity status variable and the total ownership percentage.

^b It has not been possible to obtain data for this category or analysis variable from the census data available.

TABLE 15
PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO THE INTERNET, ACCORDING TO THE ACTIVITY STATUS OF THE HEAD OF HOUSEHOLD AND OWNERSHIP GAP BY ACTIVITY STATUS AS COMPARED TO TOTAL OWNERSHIP

Activity Status	Antigua & Barbuda	Argentina	Barbados	Chile	Dominican Republic	Paraguay	Saint Lucia	Saint Vincent and the Grenadines	Trinidad and Tobago ^b	Venezuela
Employed	15.90 %	12.59 %	18.31 %	13.25 %	3.38 %	2.43 %	11.59 %	7.59 %	NA	5.11 %
Unemployed	3.96 %	3.82 %	5.07 %	4.88 %	1.70 %	1.10 %	2.08 %	0.88 %	NA	2.39 %
Only Studies	11.90 %	15.63 %	NA 2/	21.13 %	2.56 %	1.94 %	18.35 %	4.72 %	NA	6.85 %
Retired	8.81 %	4.16 %	6.89 %	5.87 %	2.68 %	3.87 %	7.18 %	3.98 %	NA	6.78 %
Other Activity	8.06 %	4.27 %	7.79 %	4.75 %	1.39 %	.82 %	2.90 %	1.67 %	NA	1.78 %
TOTAL	13.89 %	9.06 %	14.33 %	10.19 %	2.81 %	1.87 %	8.95 %	5.24 %	NA	4.38 %
Gap^a										
Employed	1.14	1.39	1.28	1.30	1.20	1.30	1.29	1.45	NA	1.16
Unemployed	0.29	0.42	0.35	0.48	0.60	0.59	0.23	0.17	NA	0.55
Only Studies	0.86	1.72	NA	2.07	0.91	1.04	2.05	0.90	NA	1.56
Retired	0.63	0.46	0.48	0.58	0.95	2.07	0.80	0.76	NA	1.55
Other Activity	0.58	0.47	0.54	0.47	0.49	0.44	0.32	0.32	NA	0.41
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NA	1.00

Source: Summary 7, Appendix II. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a The gap has been calculated as the quotient between the ownership percentage for ICT appliance Internet access in households in each category of the activity status variable and the total ownership percentage.

^b It has not been possible to obtain data for this category or analysis variable from the census data available.

TABLE 16
PERCENTAGE OF HOUSEHOLDS WITH FIXED-LINE TELEPHONES, ACCORDING TO THE OCCUPATION OF THE HEAD OF HOUSEHOLD AND OWNERSHIP GAP BY OCCUPATION CATEGORY AS COMPARED TO TOTAL OWNERSHIP

Occupation Category	Antigua & Barbuda	Argentina	Barbados	Brazil	Chile	Costa Rica	Ecuador	Honduras	Mexico	Panama	Paraguay	Saint Lucia ^b	Saint Vincent and the Grenadines	Trinidad and Tobago	Venezuela
Employer	86.68 %	77.90 %	89.50 %	80.42 %	70.67 %	77.31 %	39.73 %	31.79 %	72.00 %	69.30 %	47.42 %	NA	78.57 %	76.14 %	51.41 %
Self-Employed	69.24 %	58.74 %	79.17 %	34.13 %	53.52 %	54.32 %	26.76 %	10.78 %	34.89 %	24.08 %	12.11 %	NA	48.77 %	53.66 %	29.26 %
Wage Earner	67.67 %	55.70 %	83.51 %	39.45 %	49.99 %	52.80 %	37.11 %	20.68 %	35.75 %	45.77 %	19.81 %	NA	55.95 %	60.98 %	34.13 %
Unpaid Family Worker	76.67 %	43.20 %	77.78 %	39.93 %	38.06 %	30.69 %	16.32 %	3.09 %	12.21 %	8.87 %	4.61 %	NA	50.00 %	50.12 %	23.75 %
TOTAL	68.89 %	58.08 %	83.38 %	39.40 %	51.60 %	53.79 %	31.99 %	15.57 %	36.18 %	38.06 %	16.83 %	14.16 %	56.19 %	60.22 %	34.42 %
Gap^a															
Employer	1.26	1.34	1.07	2.04	1.37	1.42	1.24	2.04	1.99	1.82	2.82	NA	1.40	1.26	1.49
Self-Employed	1.01	1.01	0.95	0.87	1.04	1.00	0.84	0.69	0.96	0.63	0.72	NA	0.87	0.89	0.85
Wage Earner	0.98	0.96	1.00	1.00	0.97	0.97	1.16	1.33	0.99	1.20	1.18	NA	1.00	1.01	0.99
Unpaid Family Worker	1.11	0.74	0.93	1.01	0.74	0.56	0.51	0.20	0.34	0.23	0.27	NA	0.89	0.83	0.69
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Summary 8, Appendix II. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a The gap has been calculated as the quotient between the fixed-line telephone ownership percentage in households in each category of the occupation variable and the total ownership percentage.

^b It has not been possible to obtain data for this category or analysis variable from the census data available.

TABLE 17
PERCENTAGE OF HOUSEHOLDS WITH CELLULAR TELEPHONES, ACCORDING TO THE OCCUPATION OF THE HEAD OF HOUSEHOLD AND OWNERSHIP GAP BY OCCUPATION CATEGORY AS COMPARED TO TOTAL OWNERSHIP

Occupation Category	Antigua & Barbuda	Argentina	Barbados	Chile	Panama	Paraguay	Saint Lucia ^b	Saint Vincent and the Grenadines	Venezuela
Employer	69.95 %	55.16 %	39.72 %	73.50 %	54.82 %	61.14 %	NA	18.13 %	39.29 %
Self-Employed	45.85 %	33.06 %	16.22 %	56.99 %	14.43 %	25.85 %	NA	2.94 %	29.08 %
Wage Earner	47.36 %	24.89 %	16.06 %	56.91 %	28.60 %	42.41 %	NA	5.60 %	35.24 %
Unpaid Family Worker	43.33 %	35.61 %	0.00 %	42.93 %	4.87 %	9.13 %	NA	4.09 %	18.95 %
TOTAL	48.36 %	27.36 %	17.58 %	57.63 %	23.70 %	34.24 %	14.16 %	6.01 %	34.02 %
Gap ^a									
Employer	1.45	1.55	2.26	1.28	2.31	1.79	0.00	3.02	1.15
Self-Employed	0.95	1.03	0.92	0.99	0.61	0.75	0.00	0.49	0.85
Wage Earner	0.98	0.93	0.91	0.99	1.21	1.24	0.00	0.93	1.04
Unpaid Family Worker	0.90	0.7	0.00	0.74	0.21	0.27	0.00	0.68	0.56
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Summary 8, Appendix II. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a The gap has been calculated as the quotient between the cellular telephone ownership percentage in households in each category of the occupation variable and the total ownership percentage.

^b It has not been possible to obtain data for this category or analysis variable from the census data available.

TABLE 18
PERCENTAGE OF HOUSEHOLDS WITH COMPUTERS, ACCORDING TO THE OCCUPATION OF THE HEAD OF HOUSEHOLD
AND OWNERSHIP GAP BY OCCUPATION CATEGORY AS COMPARED TO TOTAL OWNERSHIP

Occupation Category	Antigua & Barbuda	Argentina	Barbados	Brazil	Chile	Costa Rica	Dominican Republic	Honduras	Mexico	Panama	Paraguay	Saint Lucia ^b	Saint Vincent and the Grenadines	Trinidad and Tobago	Venezuela
Employer	49.60 %	43.77 %	44.89 %	39.76 %	46.05 %	35.73 %	12.35 %	10.72 %	33.19 %	33.16 %	26.64 %	NA	24.66 %	27.71 %	11.44 %
Self-Employed	22.29 %	27.40 %	19.53 %	9.16 %	23.08 %	12.59 %	4.26 %	2.14 %	8.32 %	4.06 %	4.01 %	NA	4.21 %	7.32 %	2.92 %
Wage Earner	24.06 %	25.53 %	26.78 %	11.69 %	23.29 %	15.04 %	7.41 %	5.93 %	10.05 %	11.67 %	9.03 %	NA	12.14 %	14.73 %	4.88 %
Unpaid Family Worker	30.00 %	16.96	22.22 %	13.22 %	13.06 %	5.79 %	2.85 %	.46 %	1.94 %	2.11 %	2.06 %	NA	4.65 %	10.17 %	2.58 %
TOTAL	25.25 %	27.36 %	27.08 %	12.04 %	24.31 %	15.27 %	6.78 %	4.08 %	10.17 %	9.14 %	7.08 %	13.49 %	11.45 %	13.87 %	4.96 %
Gap^a															
Employer	1.96	1.6	1.66	3.30	1.89	1.42	1.82	2.62	3.26	3.63	3.77	NA	2.15	2.00	2.31
Self-Employed	0.88	1.00	0.72	0.76	0.95	1.00	0.63	0.52	0.82	0.44	0.57	NA	0.37	0.53	0.59
Wage Earner	0.95	0.93	0.99	0.97	0.96	0.97	1.09	1.45	0.99	1.28	1.28	NA	1.06	1.06	0.98
Unpaid Family Worker	1.19	0.62	0.82	1.10	0.54	0.56	0.42	0.11	0.19	0.23	0.29	NA	0.41	0.73	0.52
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Summary 8, Appendix II. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a The gap has been calculated as the quotient between the computer ownership percentage in households in each category of the occupation variable and the total ownership percentage.

^b It has not been possible to obtain data for this category or analysis variable from the census data available.

TABLE 19
PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO THE INTERNET, ACCORDING TO THE OCCUPATION OF THE HEAD OF HOUSEHOLD AND OWNERSHIP GAP BY OCCUPATION CATEGORY AS COMPARED TO TOTAL OWNERSHIP

Occupation Category	Antigua & Barbuda	Argentina	Barbados	Chile	Dominican Republic	Paraguay	Saint Lucia ^b	Saint Vincent and the Grenadines	Trinidad and Tobago	Venezuela
Employer	37.20 %	24.38 %	35.01 %	29.82 %	7.44 %	11.52 %	NA	19.08 %	20.56 %	11.44 %
Self-Employed	13.12 %	13.36 %	12.25 %	11.47 %	2.13 %	0.95 %	NA	2.26 %	4.38 %	2.92 %
Wage Earner	15.66 %	10.99 %	17.99 %	11.55 %	3.74 %	2.20 %	NA	7.90 %	9.17 %	4.88 %
Unpaid Family Worker	21.11 %	6.55 %	22.22 %	5.55 %	1.19 %	0.39 %	NA	2.91 %	5.96 %	2.58 %
TOTAL	16.55 %	12.59 %	18.40 %	12.41 %	3.53 %	1.93 %	8.95 %	7.58 %	8.75 %	4.96 %
Gap ^a										
Employer	2.25	1.94	1.90	2.40	2.11	5.97	NA	2.52	2.35	2.31
Self-Employed	0.79	1.06	0.67	0.92	0.60	0.49	NA	0.30	0.50	0.59
Wage Earner	0.95	0.87	0.98	0.93	1.06	1.14	NA	1.04	1.05	0.98
Unpaid Family Worker	1.28	0.52	1.21	0.45	0.34	0.20	NA	0.38	0.68	0.52
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Summary 8, Appendix II. Produced by OSILAC on the basis of census data available at CELADE and processed by means of REDATAM.

^a The gap has been calculated as the quotient between the Internet access percentage in households in each category of the occupation variable and the total ownership percentage.

^b It has not been possible to obtain data for this category or analysis variable from the census data available.

V. Conclusions and Recommendations

It has been attempted throughout this paper to gather and organize available census data, in order to explore their usefulness in quantifying the penetration of Information and Communication Technology in the households of the countries of Latin America and the Caribbean. We have sought to highlight methodological aspects in connection with the relevance and comparability of the questions included in national censuses in the countries of the region, as well as to provide a regional overview of the state of ICT penetration in households, bearing in mind their socio-demographic and economic characteristics.

From the methodological point of view, it should be pointed out that the data generated by National Population Censuses provide an opportunity to establish territorial penetration profiles for fixed-line and cellular telephones, computer ownership and territorial access to Internet services. It was not possible to make full use of this potential in the censuses of the 2000 decade, due mainly to the fact that interest in measuring penetration of ICT appliances and access to Internet services in households arose in most countries after the preliminary planning stages of the national censuses. Thus, the countries which included questions regarding ownership of digital technology in households did so, not with an aim to provide information about penetration within the framework of the Information Society, but rather in order to obtain a socio-economic discrimination of households.

In this sense, it is possible to state that information derived from the national censuses of the 2000 round for the evaluation of the penetration of ICT in households is limited, since it does not record ownership in households of all of the tools available to obtain access to the networks of knowledge, communication and digital connectivity. There are in particular, significant limitations with regard to the penetration of cellular telephones, since the record of mere ownership is not sufficient to provide an adequate measure of penetration. The ever more generalized use of mobile telephony carries the implication that in households that own cellular telephones, the total number of appliances available is possibly directly proportional to the number of household members.

Planning has begun for the 2010 round of censuses, as have discussions around new content and the modification of existing subjects. It is, therefore, essential to define the scope and utility of censuses in obtaining information with a wide territorial coverage, in relation not only to the penetration of telephone services, but also of other means and tools, such as for example,

cable and satellite television, and the use of these as a form of access to the Internet. In this sense, we consider it necessary to reach regional agreements with regard to methodological issues which will make it possible to endow the ICT data obtained during the 2010 round with greater relevance and to make progress in connection with comparability between the countries in Latin America and the Caribbean, as has been possible in the case of household surveys.

Some lines of action emerge from the methodological analysis carried out during this investigation, which we consider worth bearing in mind in forthcoming census rounds.

- Establish a basic group of tools and means of access to ICT, whose presence in a household is an indication of the level and type of equipment owned by the household. This basic group of tools should include the traditional means of communication, fixed-line and mobile telephony, as well as more recent technology (computers and access to the Internet).
- In terms of mobile telephone ownership, it is necessary to record the number of cell phones available in the household, in any of their forms of use (via contract or pre-paid).
- It is also important to record the number of computers in a household.
- Lastly, it would be advisable, in the case of the Internet, to record the type of connection technology used (modem, ADSL, cable) as well as the bandwidth.

On a different note, it should be pointed out that this quantification of telephone and digital technology penetration is the first comprehensive attempt carried out in the region to achieve an overall view of the situation as regards the tendencies of access in households, and without a doubt this first study is a point of reference, containing full information coverage, which will constitute a significant parameter for future research.

From the results obtained from the analysis of the census data available, it emerges that between 2000 and 2003 there were significant inequalities between countries as regards the penetration of modern digital technology, particularly in relation to Internet access and computers.

Furthermore, computer ownership and access to Internet services display the greatest ownership asymmetry between urban and rural areas, with the existence of a clearly urban profile in computer ownership and Internet access, closely linked to households with better-educated members.

In the case of telephone services, it is noticeable that ownership of fixed-line telephones is at a standstill as compared to the more universal penetration of mobile telephony. In many countries of the region for which data are available, there is an evident increase in the penetration of cellular telephones in rural households and in households with younger heads, an outcome which appears to bear out the hypothesis that young people adapt much more easily to new technology and that mobile telephony provides households with lower incomes, which are mostly younger households, with greater means of access.

As regards ownership of fixed-line telephones, discrepancies according to educational levels increase considerably as the head of household's level of education increases. In most countries greater fixed-line telephone ownership was recorded in households in which the head has completed secondary education, or has begun higher education. This information would appear to indicate that in Latin America and the Caribbean, fixed-line telephones are a means of communication associated with urban households with higher incomes.

Finally, the census data available in the region show evidence of a high and generalized rate of access to radio and television ownership in households, both in urban and in rural areas.

For countries in which data are available, an overall view reveals that although radio ownership shows a slight predominance amongst urban households, the differences with regard to rural households are minimal.

Similarly, television also displays a high rate of penetration in the households of the region. In countries in which there are data, 70% or more urban households own at least one television set. In rural households, television ownership is lower than the ownership recorded for urban areas. The most significant differences were recorded in Bolivia and Honduras.

Although National Population Censuses do not, in general, record a household's income, differences observed in connection with ownership of ICT goods and services in households according to the education and age of the head of household, make it possible to state that an important limitation to increasing access to digital technology is a low level of income in the household. As surveys devoted to measuring income levels show, these levels tend to be lower in households in which the level of education is lower, and whose heads are younger. However, it is necessary to complement available data with information derived from household surveys, which do record information regarding a household's income.

In conclusion, the usefulness of census data in measuring territorial gaps or disparities (urban, rural and sub-national levels), and in evaluating penetration levels of digital technology among social groups with low population representativeness, such as migrant households and certain ethnic group households, should be underscored. In this sense, it is important to generate methodologies which will enable a more thorough measurement of inequality or disparity as regards the ownership of ICT goods and services in households, according to geographical areas and groups. In this study, an analysis was carried out based mainly on the comparison of penetration percentages of ICT goods and services in households, between categories of demographic, social and economic variables, or with regard to the total penetration of each ICT appliance and service, but it is possible to incorporate into the analysis, additional macro-economic, economic and territorial variables which will enable a better interpretation of disparities. There are widely used methodologies in the health area, based mainly on the work carried out by Mackenbach and Kunst, and Wagstaff et al., which could be adapted and used for this purpose.

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Appendices

Appendix I

TABLE 1
COUNTRIES WHICH CARRIED OUT POPULATION AND HOUSING CENSUSES – ROUND 2000, BY TYPE OF QUESTION, TO
RECORD ICT GOODS AND SERVICES OWNERSHIP

Country	Radio					Television					Computer	Internet	Fixed-line telephone	Cellular Telephone	Fixed-Line or Cellular Telephone
	Radio	Mini Hi-Fi	Sound Equipment	Radio, Radio-cassette recorder	Radio-cassette recorder	Television	Color TV Bl/wh	Color Television	Cable Television	Parabolic antenna					
Argentina	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Household Q24.11	Household Q24.10	Household Q24.07	Household Q24.06	NA
Bolivia	Cha. C.1	NA	NA	NA	NA	Cha. C.2	NA	NA	NA	NA	NA	NA	NA	NA	Cha. C.7
Brazil	2.14	NA	NA	NA	NA	2.21(num)	NA	NA	NA	NA	2.20	NA	2.19	NA	NA
Chile	NA	NA	NA	NA		NA	C.15.1*	C.15.2	C.15.4	NA	C.15.15	C.15.16	C.15.14	C.15.13	NA
Costa Rica	NA	NA	NA	NA	NA	NA	NA	hsg.16.1	NA	NA	hsg.16.8	NA	hsg.16.2	NA	NA
Dominican Rep	NA		NA	IV.f	NA	IV.d	NA	NA	NA	NA	IV. i	IV.m	NA	NA	IV.l
Ecuador	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	II.07	NA	NA
Guatemala	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Honduras	NA	NA	NA	C.8.c	NA	C.8.e	NA	NA	NA	NA	C.8.g	NA	C.8.h	NA	NA
Mexico	NA	NA	NA	NA	I.14.1	I.14.2	NA	NA	NA	NA	I.14.10	NA	I.14.7	NA	NA
Panama	III.19.b	NA	NA	NA	NA	III.19.a	NA	NA	NA	NA	III.19.k	NA	III.19.c	III.19.d	NA
Paraguay	NA	NA	NA	NA	NA	Cha. C.01	NA	NA	Cha.C.12	Cha. C.11	Cha. C.14	Cha. C.15	Cha.C.03	Cha.C.04	NA
Venezuela	V.09.03	NA	NA	NA	NA	V.09.04	NA	NA	V.09.11	NA	V.09.12	V.09.13	II.13.b	V.09.10	NA
Antigua & Barbuda	2.33.3	NA	NA	NA	NA	2.33.2	NA	NA	2.33.3	NA	2.33.14	2.34	2.33.10	2.33.11	NA
Belize	1..20a	NA	NA	NA	NA	1..20b	NA	NA	NA	NA	1..20d	NA	1..21	NA	NA
Saint Lucia	33.05	NA	NA	NA	NA	33.02	NA	NA	33.03	NA	33.13	34	33.09	33.10	NA
Trinidad and Tobago	NA	NA	NA	60.04 a/	NA	NA	60.07	NA	60.08	NA	60.05	60.06	60.01	NA	NA
Saint Vincent and the Grenadines	33.05	NA	NA	NA	NA	33.02	NA	NA	33.03	NA	33.13	34	33.09	33.10	NA
Barbados	NA	NA	NA	19.06	NA	19.03	NA	NA	19.16	NA	19.19	20	19.12	19.11	NA
Colombia	NA	NA	B.18.3	NA	NA	NA	NA	B.18.10 (num)	NA	NA	B.18.11 (num)	NA	NA	NA	NA
Haiti	C.18.b	NA	NA	NA	NA	C.18.c	NA	NA	NA	NA	C.18.j	NA	C.18.a	NA	NA
Peru	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aruba	NA	NA	NA	NA	NA	NA	NA	NA	26.4	NA	27.1(num)	26.5	26.3	NA	NA
Bahamas	NA	NA	NA	NA	NA	H.18.B	NA	NA	NA	NA	H.18.D	H.18.E	NA	NA	
Guyana	16.a	NA	NA	NA	NA	16.b	NA	NA	NA	NA	16.d	17	16.j	16.k	NA
Jamaica	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.15	3.16	3.17.a	3.17.b	NA
Grenada b/	33.05	NA	NA	NA	NA	33.02	NA	NA	33.03	NA	33.13	34	33.09	33.10	NA

Source: Produced by the author on the basis of the census forms in each country.

* Black and white television set; a/ Refers to radio with cd player or stereo; b/ Grenada/Carriacou & Petite Martinique; num = number of appliances; cha = chapter; hsg = housing questions section; NA = Not available.

Appendix II

Summary 1: Percentages of households with ICT goods and services according to existence of basic electricity and sewerage system services, by country

A. Antigua & Barbuda

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	64.46 %	17.95 %	6.81 %	12.24 %	.36 %	0	1,027	5.04 %
Sewerage, No electricity	85.43 %	86.24 %	43.83 %	32.47 %	5.04 %	1.89 %	176	.86 %
Electricity, No sewerage	72.73 %	49.43 %	31.29 %	31.82 %	12.50 %	7.95 %	4,543	22.28 %
Electricity + Sewerage	90.86 %	94.61 %	79.22 %	46.80 %	28.07 %	18.56 %	14,642	71.82 %
TOTAL	88.08 %	88.23 %	67.13 %	41.63 %	21.33 %	13.77 %	20,388	100.00 %

Source: Produced by author on the basis of census data available at CELADE and processed through REDATAM.

B. Argentina

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity			16.83 %	16.61 %	5.18 %	1.72 %	408,187	4.05 %
Sewerage, No electricity			50.75 %	27.39 %	18.64 %	8.46 %	57,153	0.57 %
Electricity, No sewerage			43.62 %	20.75 %	11.94 %	3.79 %	4,157,021	41.27 %
Electricity + Sewerage			70.35 %	32.72 %	28.20 %	13.64 %	5,451,264	54.11 %
TOTAL			57.04 %	27.09 %	20.50 %	9.06 %	10,073,625	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

C. Barbados

Basic Services	With Radio	With Televisión	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	53.70 %	10.29 %	5.88 %	0.74 %	0.12 %		2,620	3.16 %
Sewerage, No electricity	67.27 %	39.32 %	32.50 %	5.00 %	7.05 %	5.00 %	440	0.53 %
Electricity, No sewerage	88.81 %	89.83 %	57.67 %	3.61 %	3.54 %	1.34 %	12,606	15.18 %
Electricity + Sewerage	93.15 %	96.79 %	90.36 %	15.59 %	25.87 %	17.20 %	67,360	81.13 %
TOTAL	91.20 %	92.89 %	82.60 %	13.27 %	21.61 %	14.22 %	83,026	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

D. Bolivia

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	57.96 %	5.56 %	0.47 %				660,227	33.47 %
Sewerage, No electricity	36.07 %	11.20 %	1.82 %				42,665	2.16 %
Electricity, No sewerage	81.19 %	69.19 %	14.33 %				546,198	27.69 %
Electricity + Sewerage	90.19 %	90.33 %	50.52 %				723,280	36.67 %
TOTAL	75.74 %	54.39 %	22.69 %				1,972,370	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

E. Brazil

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	64.34 %	16.98 %	0.27 %		-		823,421	1.99 %
Sewerage, No electricity	61.92 %	31.30 %	2.30 %		-		91,541	0.22 %
Electricity, No sewerage	84.98 %	87.01 %	19.73 %		2.70 %		12,412,755	30.04 %
Electricity + Sewerage	92.35 %	95.54 %	53.80 %		15.65 %		27,988,997	67.74 %
TOTAL	89.51 %	91.27 %	42.38 %		11.41 %		41,316,714	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

F. Chile

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity		-	0.34 %	9.43 %	-	-	105,270	2.53 %
Sewerage, No electricity		-	4.36 %	20.72 %	-	-	28,300	0.68 %
Electricity, No sewerage		87.37 %	6.48 %	35.34 %	1.79 %	0.56 %	301,043	7.24 %
Electricity + Sewerage		95.71 %	56.75 %	53.48 %	22.71 %	11.29 %	3,723,624	89.55 %
TOTAL		92.03 %	51.33 %	50.83 %	20.47 %	10.15 %	4,158,237	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

G. Costa Rica

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity		3.88 %	0.17 %		-		24,767	2.58 %
Sewerage, No electricity		10.59 %	1.78 %		-		6,225	0.65 %
Electricity, No sewerage		57.47 %	8.03 %		0.96 %		77,314	8.06 %
Electricity + Sewerage		90.23 %	60.32 %		15.56 %		850,838	88.71 %
TOTAL		84.84 %	54.17 %		13.88 %		959,144	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

H. Ecuador

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity			2.90 %				213,446	7.41 %
Sewerage, No electricity			28.36 %				82,299	2.86 %
Electricity, No sewerage			8.92 %				732,903	25.45 %
Electricity + Sewerage			44.94 %				1,851,287	64.28 %
TOTAL			32.19 %				2,879,935	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

I. Honduras

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	63.82 %	22.13 %	3.17 %		0.24 %		112,307	10.40 %
Sewerage, No electricity	77.46 %	59.00 %	19.99 %		4.26 %		239,416	22.16 %
Electricity, No sewerage	63.76 %	25.46 %	2.88 %		0.28 %		235,797	21.83 %
Electricity + Sewerage	79.09 %	58.20 %	22.05 %		5.57 %		492,678	45.61 %
TOTAL	73.79 %	47.48 %	15.45 %		3.57 %		1,080,198	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

J. Mexico

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	42.91 %	15.56 %	0.55 %		0.08 %		1,042,148	4.60 %
Sewerage, No electricity	54.16 %	36.89 %	4.12 %		0.72 %		160,054	0.71 %
Electricity, No sewerage	75.18 %	70.82 %	6.52 %		0.69 %		4,703,583	20.78 %
Electricity + Sewerage	90.22 %	94.61 %	47.03 %		12.21 %		16,734,023	73.91 %
TOTAL	84.67 %	85.62 %	36.17 %		9.18 %		22,639,808	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

K. Panama

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	68.39 %	11.35 %	0.34 %	0.96 %	0.01 %		125,440	17.93 %
Sewerage, No electricity	70.31 %	38.62 %	6.65 %	6.61 %	0.94 %		2,543	0.36 %
Electricity, No sewerage	80.73 %	84.90 %	22.21 %	10.77 %	1.40 %		208,802	29.85 %
Electricity + Sewerage	89.59 %	95.44 %	64.20 %	35.95 %	15.61 %		362,680	51.85 %
TOTAL	83.07 %	77.01 %	40.00 %	22.05 %	8.52 %		699,465	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

L. Paraguay

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity		6.23 %	0.01 %	0.82 %	0.00 %	-	110,009	9.91 %
Sewerage, No electricity		21.48 %	0.11 %	6.06 %	0.01 %	0.01 %	11,760	1.06 %
Electricity, No sewerage		62.83 %	1.00 %	12.07 %	0.22 %	0.03 %	300,423	27.08 %
Electricity + Sewerage		88.07 %	26.31 %	46.28 %	10.20 %	2.71 %	687,344	61.95 %
TOTAL		72.95 %	16.80 %	32.45 %	6.47 %	1.71 %	1,109,536	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

M. Dominican Republic

Basic Services	With Radio	With Television	With Fixed-Line or Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	28.17 %	4.41 %	1.09 %	0.01 %	0.05 %	145,901	6.65 %
Sewerage, No electricity	32.87 %	24.97 %	14.75 %	1.13 %	0.40 %	6,015	0.27 %
Electricity, No sewerage	39.32 %	61.65 %	12.45 %	0.25 %	0.22 %	858,227	39.15 %
Electricity + Sewerage	58.88 %	81.40 %	54.08 %	9.92 %	5.05 %	1,182,266	53.93 %
TOTAL	49.11 %	68.39 %	34.15 %	5.45 %	2.81 %	2,192,409	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

O. Saint Lucia

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	55.78 %	9.83 %	7.59 %	1.47 %	0.31 %	0.13 %	2,087	5.79 %
Sewerage, No electricity	67.03 %	48.93 %	35.00 %	5.78 %	4.66 %	2.89 %	168	0.47 %
Electricity, No sewerage	85.92 %	79.76 %	45.47 %	5.91 %	2.11 %	0.84 %	13,701	38.01 %
Electricity + Sewerage	93.30 %	94.87 %	83.27 %	22.39 %	23.87 %	16.26 %	20,092	55.74 %
TOTAL	86.64 %	80.43 %	61.64 %	14.20 %	13.52 %	8.95 %	36,048	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

P. Saint Vincent and the Grenadines

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	58.59 %	7.75 %	3.99 %	0.22 %	0.10 %	.06 %	5,059	16.72 %
Sewerage, No electricity	73.36 %	36.02 %	23.75 %	1.93 %	5.79 %	3.80 %	263	0.87 %
Electricity, No sewerage	85.52 %	76.35 %	40.16 %	0.88 %	1.02 %	0.31 %	9,465	31.28 %
Electricity + Sewerage	92.56 %	91.40 %	79.13 %	7.73 %	15.58 %	9.95 %	15,475	51.14 %
TOTAL	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %	30,262	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Q. Trinidad and Tobago

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	33.98 %	22.95 %	4.05 %		0.17 %	0.10 %	21,661	7.61 %
Sewerage, No electricity	40.18 %	41.90 %	22.15 %		3.72 %	3.51 %	2,795	0.98 %
Electricity, No sewerage	62.39 %	86.09 %	37.18 %		1.34 %	0.49 %	58,384	20.51 %
Electricity + Sewerage	74.21 %	94.70 %	76.14 %		16.15 %	10.18 %	201,810	70.90 %
TOTAL	68.39 %	86.96 %	62.13 %		11.78 %	7.36 %	284,650	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

R. Venezuela

Basic Services	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
No sewerage, No electricity	54.42 %	17.08 %	0.59 %	2.87 %	0.07 %	0.03 %	134,507	2.57 %
Sewerage, No electricity	71.74 %	66.10 %	7.40 %	24.66 %	2.10 %	0.40 %	34,482	0.66 %
Electricity, No sewerage	69.77 %	71.90 %	3.36 %	11.72 %	0.40 %	0.10 %	606,802	11.57 %
Electricity + Sewerage	86.95 %	93.55 %	41.32 %	35.30 %	15.67 %	5.12 %	4,467,497	85.20 %
TOTAL	84.03 %	88.90 %	35.66 %	31.67 %	13.41 %	4.38 %	5,243,288	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Summary 2: Percentages of households with ICT goods and services, according to age of the head of household, by country

A. Antigua and Barbuda

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	81.77 %	78.78 %	36.19 %	50.19 %	11.36 %	6.99 %	801	3.93 %
25 to 34	87.29 %	89.37 %	53.74 %	51.06 %	18.90 %	11.91 %	4,232	20.76 %
35 to 44	89.97 %	90.88 %	65.60 %	47.16 %	23.59 %	14.91 %	5,634	27.63 %
45 to 54	89.56 %	89.83 %	75.45 %	43.81 %	28.46 %	18.96 %	4,072	19.97 %
55 to 64	89.73 %	89.57 %	80.90 %	36.25 %	24.02 %	16.04 %	2,444	11.99 %
65 to 74	88.01 %	87.17 %	79.11 %	24.21 %	15.49 %	9.88 %	1,801	8.83 %
75 and over	84.12 %	78.77 %	71.21 %	13.75 %	8.55 %	5.34 %	1,404	6.89 %
Total	88.40 %	88.56 %	67.39 %	41.78 %	21.41 %	13.82 %	20,388	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

B. Argentina

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25			47.59 %	25.63 %	13.91 %	5.76 %	408,342	4.1%
25 to 34			47.86 %	34.60 %	19.50 %	8.93 %	1,644,335	16.3%
35 to 44			47.68 %	33.46 %	26.89 %	11.26 %	2,112,237	21.0%
45 to 54			47.68 %	30.23 %	27.52 %	12.16 %	2,095,529	20.8%
55 to 64			47.77 %	24.96 %	20.51 %	9.64 %	1,635,246	16.2%
65 to 74			48.18 %	16.41 %	11.31 %	5.07 %	1,302,120	12.9%
75 and over			48.76 %	10.72 %	6.91 %	2.99 %	875,816	8.7%
Total			47.88 %	27.09 %	20.50 %	9.06 %	10,073,625	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

C. Barbados

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	92.62 %	96.63 %	85.05 %	14.37 %	24.01 %	15.03 %	203	0.25%
25 to 34	92.44 %	96.01 %	85.05 %	16.86 %	23.81 %	15.51 %	4,913	5.93%
35 to 44	92.82 %	95.82 %	86.24 %	16.41 %	27.07 %	17.33 %	16,985	20.50%
45 to 54	93.18 %	95.53 %	88.44 %	16.71 %	29.07 %	19.88 %	22,966	27.72%
55 to 64	92.67 %	94.87 %	88.82 %	13.08 %	23.75 %	16.00 %	20,034	24.19%
65 to 74	91.80 %	93.25 %	88.50 %	7.74 %	15.00 %	9.12 %	15,947	19.25%
75 and over	89.82 %	89.79 %	84.72 %	5.62 %	11.34 %	6.43 %	1,787	2.16%
Total	91.20 %	95.6 %	82.4 %	13.3 %	21.6 %	14.2 %	82,835	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

D. Bolivia

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	72.34 %	48.97 %	13.23 %			231,720	11.7%
25 to 34	76.16 %	58.67 %	20.04 %			443,786	22.5%
35 to 44	79.58 %	60.28 %	25.85 %			462,219	23.4%
45 to 54	79.03 %	56.76 %	27.67 %			356,837	18.1%
55 to 64	75.24 %	49.91 %	25.32 %			236,686	12.0%
65 to 74	68.93 %	42.87 %	21.29 %			159,719	8.1%
75 and over	61.69 %	38.18 %	19.44 %			81,403	4.1%
Total	75.74 %	54.39 %	22.69 %			1,972,370	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

E. Brazil

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	78.84 %	78.10 %	15.74 %		4.26 %		2,625,697	5.86%
25 to 34	86.73 %	87.25 %	30.19 %		7.86 %		9,697,536	21.66%
35 to 44	90.40 %	89.79 %	42.07 %		12.99 %		11,285,205	25.20%
45 to 54	90.76 %	89.35 %	46.83 %		15.31 %		8,905,844	19.89%
55 to 64	88.32 %	86.72 %	44.41 %		10.73 %		6,120,910	13.67%
65 to 74	85.95 %	85.49 %	43.26 %		6.82 %		4,056,296	9.06%
75 and over	81.21 %	80.71 %	38.90 %		4.32 %		2,085,252	4.66%
Total	87.88 %	87.23 %	39.18 %		10.56 %		44,776,740	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

F. Chile

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25		83.40 %	22.90 %	57.39 %	13.69 %	6.09 %	137,957	3.33%
25 to 34		92.02 %	37.31 %	62.08 %	18.86 %	9.14 %	727,971	17.58%
35 to 44		93.60 %	49.61 %	56.86 %	24.60 %	11.48 %	1,063,618	25.69%
45 to 54		93.63 %	58.84 %	54.93 %	26.91 %	14.09 %	869,788	21.01%
55 to 64		92.50 %	59.92 %	45.62 %	19.75 %	10.57 %	626,543	15.13%
65 to 74		91.58 %	58.85 %	32.75 %	11.78 %	5.70 %	452,721	10.93%
75 and over		90.54 %	57.02 %	25.05 %	8.35 %	3.92 %	261,569	6.32%
Total		92.41 %	51.53%	51.04%	20.55 %	10.19 %	4,140,167	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

G. Costa Rica

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25		73.93 %	25.55 %		5.80 %		55,299	5.77%
25 to 34		85.22 %	41.91 %		10.49 %		214,248	22.34%
35 to 44		87.87 %	57.21 %		16.30 %		264,383	27.56%
45 to 54		87.37 %	63.64 %		19.42 %		185,051	19.29%
55 to 64		84.40 %	63.14 %		15.04 %		114,916	11.98%
65 to 74		81.20 %	60.82 %		9.99 %		79,465	8.28%
75 and over		75.93 %	56.18 %		7.00 %		45,782	4.77%
Total		84.84 %	54.17 %		13.88 %		959,144	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

H. Ecuador

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25			19.30 %				235,783	8.19%
25 to 34			24.96 %				650,412	22.58%
35 to 44			33.99 %				709,621	24.64%
45 to 54			38.79 %				547,701	19.02%
55 to 64			37.63 %				353,540	12.28%
65 to 74			35.91 %				237,906	8.26%
75 and over			32.38 %				144,972	5.03%
Total			32.19 %				2,879,935	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

I. Honduras

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	66.14 %	42.79 %	6.68 %		1.55 %		112,982	9.33%
25 to 34	73.45 %	48.96 %	11.79 %		2.86 %		283,956	23.45%
35 to 44	76.72 %	51.01 %	17.66 %		4.64 %		292,739	24.17%
45 to 54	78.00 %	50.52 %	20.45 %		5.19 %		227,825	18.81%
55 to 64	74.78 %	45.75 %	18.90 %		3.90 %		144,933	11.97%
65 to 74	70.40 %	42.84 %	17.66 %		2.77 %		93,360	7.71%
75 and over	64.63 %	39.10 %	15.63 %		2.02 %		55,357	4.57%
Total	73.94 %	47.87 %	15.84 %		3.69 %		1,211,152	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

J. Mexico

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	78.33 %	77.53 %	17.02 %		3.90 %		1,520,636	6.75%
25 to 34	85.29 %	87.11 %	27.57 %		6.53 %		5,338,866	23.69%
35 to 44	88.57 %	88.87 %	38.54 %		11.99 %		5,673,514	25.18%
45 to 54	87.97 %	87.86 %	44.14 %		13.55 %		4,175,847	18.53%
55 to 64	83.78 %	84.71 %	43.32 %		9.21 %		2,892,628	12.84%
65 to 74	78.40 %	81.36 %	41.24 %		5.84 %		1,848,075	8.20%
75 and over	71.44 %	75.24 %	35.96 %		4.13 %		1,085,164	4.82%
Total	84.72 %	85.70 %	36.24 %		9.20 %		22,534,730	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

K. Panama

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	72.61 %	64.13 %	17.15 %	18.73 %	3.94 %		39,319	102.18%
25 to 34	81.61 %	77.40 %	29.64 %	24.73 %	6.32 %		149,777	389.23%
35 to 44	85.39 %	80.49 %	41.45 %	24.73 %	9.68 %		171,104	444.66%
45 to 54	86.22 %	79.56 %	48.30 %	25.13 %	12.22 %		140,496	365.11%
55 to 64	83.90 %	75.32 %	46.27 %	19.66 %	9.22 %		98,426	255.78%
65 to 74	81.45 %	73.53 %	44.37 %	14.06 %	6.44 %		61,859	160.76%
75 and over	78.23 %	73.77 %	43.92 %	10.76 %	4.66 %		38,480	100.00%
Total	83.07 %	77.01 %	40.00 %	22.05 %	8.52 %		699,461	1817.73%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

L. Paraguay

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25		54.40 %	5.22 %	28.29 %	3.22 %	0.62 %	64,982	5.87%
25 to 34		70.72 %	9.06 %	35.06 %	4.79 %	1.22 %	231,371	20.90%
35 to 44		75.66 %	16.71 %	35.27 %	7.08 %	1.82 %	287,725	25.99%
45 to 54		76.02 %	20.94 %	34.50 %	8.69 %	2.35 %	227,811	20.58%
55 to 64		74.44 %	22.56 %	30.73 %	7.59 %	2.20 %	149,103	13.47%
65 to 74		71.22 %	21.49 %	23.11 %	4.90 %	1.38 %	91,665	8.28%
75 and over		66.72 %	19.13 %	17.45 %	3.05 %	0.71 %	54,469	4.92%
Total		72.33 %	16.57 %	32.09 %	6.38 %	1.69 %	1,107,126	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

M. Dominican Republic

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	37.33 %	53.91 %	19.79 %	2.65 %	1.16 %	160,181	7.31%
25 to 34	47.81 %	69.08 %	29.68 %	4.50 %	2.03 %	497,774	22.70%
35 to 44	53.00 %	73.02 %	36.92 %	6.64 %	3.33 %	539,585	24.61%
45 to 54	53.44 %	71.50 %	39.52 %	7.85 %	4.43 %	410,291	18.71%
55 to 64	49.76 %	67.62 %	37.24 %	5.55 %	3.07 %	278,142	12.69%
65 to 74	45.75 %	64.92 %	35.30 %	3.40 %	1.88 %	194,635	8.88%
75 and over	41.30 %	60.31 %	31.86 %	2.41 %	1.23 %	111,801	5.10%
Total	49.11 %	68.39 %	34.15 %	5.45 %	2.81 %	2,192,409	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

N. Saint Lucia

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	78.69%	69.33 %	42.33 %	13.88 %	8.17 %	4.48 %	2,612	6.87%
25 to 34	86.05%	81.66 %	55.92 %	17.70 %	12.24 %	8.06 %	8,202	21.57%
35 to 44	88.41%	83.80 %	63.43 %	16.45 %	15.72 %	10.34 %	9,362	24.62%
45 to 54	89.67%	84.54 %	70.60 %	16.44 %	20.42 %	13.75 %	6,502	17.10%
55 to 64	87.13%	81.29 %	67.65 %	11.35 %	13.80 %	10.01 %	4,577	12.03%
65 to 74	86.12%	76.96 %	65.29 %	7.25 %	8.52 %	5.45 %	3,653	9.61%
75 and over	81.20%	68.32 %	53.40 %	5.29 %	5.17 %	3.01 %	3,124	8.21%
Total	86.48%	80.24 %	61.44 %	14.13 %	13.45 %	8.91 %	38,032	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

O. Saint Vincent and the Grenadines

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	73.49 %	51.73 %	26.20 %	2.20 %	3.31 %	1.15 %	1,826	6.03%
25 to 34	82.23 %	66.00 %	38.07 %	4.42 %	6.35 %	3.87 %	5,732	18.94%
35 to 44	85.74 %	73.24 %	50.50 %	4.71 %	9.62 %	6.07 %	8,073	26.68%
45 to 54	88.24 %	79.61 %	65.20 %	5.68 %	13.20 %	8.78 %	5,396	17.83%
55 to 64	86.22 %	77.66 %	66.58 %	4.42 %	8.98 %	5.68 %	3,749	12.39%
65 to 74	86.40 %	77.17 %	68.67 %	3.19 %	5.76 %	3.67 %	3,216	10.63%
75 and over	80.57 %	67.67 %	59.32 %	1.99 %	4.02 %	1.89 %	2,270	7.50%
Total	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %	30,262	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

P. Trinidad and Tobago

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	60.85 %	67.56 %	27.19 %		4.67 %	2.70 %	8,215	2.80%
25 to 34	66.79 %	83.32 %	46.27 %		9.54 %	5.79 %	42,776	14.56%
35 to 44	69.57 %	87.20 %	57.12 %		13.34 %	8.02 %	75,721	25.77%
45 to 54	71.26 %	88.98 %	67.06 %		15.26 %	9.59 %	67,823	23.09%
55 to 64	69.43 %	89.50 %	72.23 %		12.37 %	8.38 %	46,264	15.75%
65 to 74	65.06 %	88.53 %	72.43 %		8.04 %	5.06 %	32,297	10.99%
75 and over	61.22 %	84.46 %	69.36 %		5.09 %	3.07 %	20,691	7.04%
Total	68.21 %	86.81 %	61.92 %		11.67 %	7.29 %	293,787	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Q. Venezuela

Age	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Under 25	70.18 %	78.33 %	15.53 %	23.51 %	5.11 %	1.41 %	290,568	5.54%
25 to 34	81.07 %	88.75 %	22.28 %	33.34 %	9.46 %	1.04 %	1,094,833	20.88%
35 to 44	86.38 %	91.30 %	33.66 %	35.58 %	15.06 %	11.55 %	1,386,677	26.45%
45 to 54	87.68 %	91.13 %	42.78 %	34.44 %	18.06 %	28.35 %	1,152,928	21.99%
55 to 64	85.77 %	88.71 %	46.91 %	29.14 %	15.28 %	30.37 %	678,629	12.94%
65 to 74	82.98 %	86.21 %	48.50 %	23.27 %	11.01 %	18.10 %	421,215	8.03%
75 and over	79.72 %	82.41 %	44.84 %	18.72 %	8.18 %	7.63 %	218,438	4.17%
Total	83.41 %	88.24 %	35.39 %	31.44 %	13.32 %	2.96 %	5,243,288	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Summary 3: percentages of households with ICT goods and services, according to head of household gender, by country

A. Antigua and Barbuda

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male	89.32 %	87.73 %	89.32 %	45.56 %	24.53 %	16.80 %	11,531	56.56 %
Female	87.22 %	89.65 %	87.22 %	36.86 %	17.34 %	9.94 %	8,857	43.44 %
Total	88.40 %	88.56 %	88.40 %	41.78 %	21.41 %	13.82 %	20,388	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

A. Argentina

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male			47.83 %	29.45 %	22.18 %	9.84 %	7,285,942	72.33 %
Female			48.02 %	20.95 %	16.13 %	7.03 %	2,787,683	27.67 %
Total			47.88 %	27.09 %	20.50 %	9.06 %	10,073,625	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

B. Bolivia

Gender	With Radio	With Television	With Fixed-Line or Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male	77.22 %	54.18 %	22.94 %			1,364,320	69.17 %

Female	72.42 %	54.84 %	22.13 %			608,050	30.83 %
Total	75.74 %	54.39 %	22.69 %			1,972,370	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

C. Chile

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male		91.99 %	50.33 %	53.43 %	22.15 %	11.16 %	2,836,120	68.48 %
Female		93.32 %	54.15 %	45.84 %	17.08 %	8.08 %	1,305,307	31.52 %
Total		92.41 %	51.53 %	51.04 %	20.55 %	10.19 %	4,141,427	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

D. Costa Rica

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male		84.94 %	52.70 %		14.36 %		741,275	77.29 %
Female		84.52 %	59.16 %		12.24 %		217,869	22.71 %
Total		84.84 %	54.17 %		13.88 %		959,144	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

E. Ecuador

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male			31.51 %				2,148,160	74.59 %
Female			34.17 %				731,775	25.41 %
Total			32.19 %				2,879,935	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

F. Honduras

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male	74.5 %	45.3 %	14.6 %		3.77 %		907,609	74.93 %
Female	72.2 %	55.5 %	19.6 %		3.42 %		303,698	25.07 %
Total	73.9 %	47.9 %	15.8 %		3.69 %		1,211,307	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

G. Panama

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male	83.39 %	74.96 %	37.23 %	21.93 %	8.64 %		528,571	75.57 %
Female	82.10 %	83.34 %	48.58 %	22.43 %	8.13 %		170,894	24.43 %
Total	83.07 %	77.01 %	40.00 %	22.05 %	8.52 %		699,465	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

H. Paraguay

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male		72.19 %	16.49 %	32.52 %	6.78 %	1.86 %	820,219	74.08 %
Female		73.32 %	16.94 %	31.14 %	5.28 %	1.22 %	287,034	25.92 %
Total		72.48 %	16.61 %	32.16 %	6.39 %	1.69 %	1,107,253	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

I. Saint Lucia

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male	87.1%	78.88 %	59.58 %	16.53 %	14.99 %	10.42 %	21,864	57.49 %
Female	85.6%	82.09 %	63.96 %	10.90 %	11.39 %	6.88 %	16,168	42.51 %
Total	86.5%	80.24 %	61.44 %	14.13 %	13.46 %	8.92 %	38,032	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

J. Saint Vincent and the Grenadines

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male	84.85 %	70.48 %	50.67 %	5.14 %	9.60 %	6.28 %	18,195	60.12 %
Female	84.03 %	74.93 %	58.73 %	2.98 %	6.47 %	3.64 %	12,067	39.88 %
Total	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %	30,262	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

K. Trinidad and Tobago

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male	70.07 %	87.4 %	61.5 %	-	13.02 %	8.32 %	201,963	70.08%
Female	66.73 %	88.45 %	64.6 %	-	9.04 %	5.35 %	86,242	29.92%
Total	69.07 %	87.71 %	62.5 %	-	11.83 %	7.43 %	288,205	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

L. Venezuela

Gender	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Male	84.36 %	88.39 %	34.11 %	32.41 %	14.01 %	4.76 %	3,702,365	70.61 %
Female	83.24 %	90.12 %	39.37 %	29.90 %	11.98 %	3.48 %	1,540,923	29.39 %
Total	84.03 %	88.90 %	35.66 %	31.67 %	13.41 %	4.38 %	5,243,288	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Summary 4: Percentages of households with ICT goods and services, according to level of education of the head of household, by country

A. Antigua and Barbuda

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	84.17 %	83.33 %	60.00 %	19.58 %	9.58 %	4.17 %	240	1.37 %
Basic, incomplete	86.05 %	83.93 %	62.59 %	28.40 %	9.55 %	4.05 %	4,243	24.28 %
Basic, complete	86.60 %	86.60 %	65.71 %	31.06 %	10.69 %	4.89 %	1,880	10.76 %
Secondary, incomplete	89.72 %	87.47 %	58.72 %	43.37 %	13.90 %	6.75 %	1,245	7.12 %
Secondary, complete	89.04 %	90.98 %	64.80 %	47.51 %	21.59 %	13.81 %	6,207	35.52 %
Has begun higher education, university or technical	90.34 %	92.19 %	76.66 %	50.14 %	34.23 %	24.51 %	3,187	18.24 %
Total	88.15 %	88.46 %	66.07 %	41.63 %	21.33 %	13.77 %	17,477	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

B. Argentina

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None			30.0%	9%	3.39%	1.05%	424,729	4.22%
Basic, incomplete			37.2%	11.43 %	4.20 %	1.03 %	1,842,095	18.29%
Basic, complete			52.3%	18.42 %	9.75 %	2.55 %	3,186,841	31.64%
Secondary, incomplete			57.5%	28.86 %	18.74 %	5.75 %	1,453,385	14.43%
Secondary, complete			71.7%	36.73 %	30.26 %	12.01 %	1,411,118	14.01%
Has begun higher education, technical			75.1%	45.39 %	42.20 %	19.98 %	596,560	5.92%

Has begun higher education, university			83.8%	59.27 %	61.42 %	37.61 %	1,158,897	11.50%
Total			57.0%	27.09%	20.50 %	9.06 %	10,073,625	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

C. Barbados

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	84.2 %	85.7 %	72.9 %	1.5 %	7.4 %	3.4 %	203	0.25 %
Basic, incomplete	91.0 %	89.6 %	79.6 %	5.1 %	8.7 %	4.2 %	4,913	5.93 %
Basic, complete	90.0 %	90.0 %	80.4 %	4.8 %	8.1 %	3.9 %	16,985	20.50 %
Secondary, incomplete	90.9 %	92.4 %	78.4 %	9.0 %	12.5 %	6.8 %	22,966	27.72 %
Secondary, complete	91.9 %	95.0 %	83.0 %	14.7 %	22.0 %	13.5 %	20,034	24.19 %
Has begun higher education, or technical	94.7 %	97.4 %	93.8 %	30.0 %	54.2 %	40.9 %	15,947	19.25 %
Total	91.2 %	95.6 %	82.4 %	13.3 %	21.6 %	14.2 %	82,835	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

D. Bolivia

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	56.68 %	21.14 %	3.46 %				265,102	13.50 %
Basic	73.20 %	43.97 %	11.09 %				941,503	47.96 %
Secondary	82.47 %	74.48 %	31.63 %				466,889	23.78 %
Has begun higher education, technical	89.55 %	82.62 %	54.92 %				135,712	6.91 %
Has begun university	92.37 %	90.87 %	72.11 %				154,070	7.85 %
Total	75.81 %	54.50 %	22.76 %				1,963,276	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

E. Brazil

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	77.44 %	67.47 %	11.60 %		0.91 %		6,735,720	15.04 %
Basic, incomplete	86.93 %	86.83 %	30.39 %		3.46 %		22,122,827	49.41 %
Basic, complete	91.79 %	94.81 %	48.14 %		8.84 %		3,974,283	8.88 %
Secondary, incomplete	91.11 %	94.90 %	47.93 %		10.40 %		1,710,582	3.82 %
Secondary, complete	93.98 %	97.29 %	64.76 %		20.36 %		5,719,928	12.77 %
Has begun higher education	95.77 %	96.36 %	79.79 %		48.88 %		4,513,401	10.08 %
Total	87.88 %	87.23 %	39.18 %		10.56 %		44,776,740	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

F. Chile

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None		79.91 %	25.94 %	26.37 %	2.65 %	0.81 %	219,275	5.29 %
Basic, incomplete		86.15 %	30.77 %	33.04 %	3.68 %	1.13 %	788,571	19.04 %
Basic, complete		92.02 %	42.29 %	40.80 %	7.09 %	2.19 %	619,358	14.96 %
Secondary, incomplete		94.08 %	52.20 %	47.43 %	12.81 %	4.47 %	731,766	17.67 %
Secondary, complete		95.61 %	58.56 %	59.31 %	23.59 %	9.42 %	899,637	21.72 %
Has begun higher education, technical		96.59 %	67.75 %	70.67 %	38.55 %	18.61 %	316,475	7.64 %
Has begun university		96.78 %	79.38 %	77.41 %	60.81 %	39.09 %	566,345	13.68 %
Total		92.41 %	51.53 %	51.04 %	20.55 %	10.19 %	4,141,427	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

G. Costa Rica

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None		57.59 %	23.18 %		1.41 %		64,667	6.74 %
Basic, incomplete		74.64 %	38.14 %		3.35 %		211,099	22.01 %
Basic, complete		85.37 %	47.18 %		5.70 %		293,516	30.60 %
Secondary, incomplete		91.32 %	59.84 %		10.86 %		149,199	15.56 %

Secondary, complete		95.05 %	72.88 %		21.04 %		86,911	9.06 %
Has begun higher education, technical		96.40 %	82.24 %		34.12 %		17,265	1.80 %
Has begun university		97.35 %	87.01 %		49.86 %		136,487	14.23 %
Total		84.84 %	54.17 %		13.88 %		959,144	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

H. Ecuador

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None			8.25 %				277,615	11.72 %
Basic, incomplete			18.86 %				536,917	22.67 %
Basic, complete			24.90 %				658,129	27.79 %
Secondary, incomplete			34.98 %				428,932	18.11 %
Secondary, complete			47.16 %				210,114	8.87 %
Has begun higher education, technical			45.81 %				16,869	0.71 %
Has begun university			73.67 %				240,057	10.13 %
Total			30.47 %				2,368,633	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

I. Honduras

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	64.01 %	21.86 %	3.95 %		0.44 %		334,957	27.65 %
Basic, incomplete	72.26 %	37.10 %	7.84 %		0.72 %		363,746	30.03 %
Basic, complete	76.67 %	59.95 %	14.01 %		1.55 %		266,091	21.97 %
Secondary, incomplete	82.13 %	78.50 %	26.46 %		4.32 %		52,703	4.35 %
Secondary, complete	86.42 %	85.49 %	41.61 %		9.13 %		129,448	10.69 %
Has begun higher education, technical	88.48 %	89.71 %	55.12 %		17.72 %		10,295	0.85 %
Has begun university	92.55 %	93.94 %	72.78 %		37.93 %		54,067	4.46 %
Total	73.93 %	47.86 %	15.84 %		3.69 %		1,211,307	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

J. Mexico

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	69.91 %	65.22 %	13.39 %		0.78 %		2,282,900	10.5%
Basic	81.94 %	82.56 %	26.34 %		2.65 %		9,730,939	44.6%
Secondary	90.00 %	93.53 %	40.28 %		7.98 %		6,050,797	27.7%
Has begun higher education, technical	93.93 %	97.57 %	63.38 %		17.50 %		1,029,454	4.7%
Has begun university	95.84 %	97.75 %	76.50 %		40.89 %		2,736,184	12.5%
Total	84.76 %	85.77 %	36.28 %		9.21 %		21,830,274	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

K. Panama

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	66.36 %	32.88 %	1.89 %	1.08 %	0.62 %		57,415	8.24 %
Basic, incomplete	76.33 %	57.47 %	7.79 %	4.40 %	1.21 %		109,145	15.65 %
Basic, complete	81.48 %	72.72 %	17.13 %	11.14 %	2.10 %		161,346	23.14 %
Secondary, incomplete	84.12 %	87.30 %	23.40 %	21.91 %	4.78 %		154,108	22.10 %
Secondary, complete	88.86 %	92.58 %	20.24 %	22.75 %	9.90 %		106,497	15.27 %
Has begun higher education, technical	91.30 %	94.42 %	2.00 %	2.48 %	20.28 %		8,494	1.22 %
Has begun university	94.21 %	96.58 %	27.55 %	36.24 %	34.32 %		100,197	14.37 %
Total	83.07 %	77.01 %	40.00 %	22.05 %	8.52 %		699,465	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

L. Paraguay

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None		49.76 %	6.40 %	14.81 %	1.49 %	0.43 %	76,665	6.9%
Basic, incomplete		61.41 %	5.92 %	17.52 %	0.93 %	0.10 %	405,479	36.6%
Basic, complete		74.30 %	10.89 %	27.95 %	1.98 %	0.22 %	244,128	22.0%
Secondary, incomplete		82.36 %	19.43 %	41.55 %	4.98 %	0.75 %	179,626	16.2%

Secondary, complete		91.00 %	36.00 %	57.88 %	14.01 %	2.87 %	95,775	8.6%
Has begun higher education, technical		89.36 %	34.53 %	54.18 %	15.84 %	3.34 %	24,500	2.2%
Has begun university		94.93 %	62.29 %	76.59 %	42.94 %	15.50 %	81,124	7.3%
Total		72.33 %	16.57 %	32.09 %	6.38 %	1.69 %	1,107,297	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

M. Dominican Republic

Level of Education	With Radio	With Television (TV)	With Fixed-Line or cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	39.52 %	58.16 %	22.79 %	2.50 %	1.37 %	34,090	1.83 %
Basic, incomplete	44.46 %	63.56 %	24.98 %	1.24 %	0.53 %	627,377	33.61 %
Basic, complete	48.08 %	70.59 %	31.31 %	1.99 %	0.80 %	418,189	22.40 %
Secondary, incomplete	51.39 %	74.24 %	37.86 %	3.68 %	1.53 %	294,466	15.77 %
Secondary, complete	57.07 %	78.97 %	47.62 %	7.09 %	3.00 %	189,416	10.15 %
Has begun higher education, university	68.91 %	85.90 %	68.40 %	25.07 %	14.13 %	303,302	16.25 %
Total	51.52 %	71.91 %	37.74 %	6.28 %	3.22 %	1,866,840	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

N. Saint Lucia

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	77.08%	59.40 %	40.42%	3.29 %	2.57 %	1.34 %	2,461	7.2%
Basic, incomplete*	83.89%	74.88 %	53.33%	6.83 %	4.89 %	2.32 %	16,616	48.9%
Basic, complete	88.31%	83.48 %	63.12%	11.97 %	8.56 %	4.42 %	5,695	16.8%
Secondary, incomplete	87.01%	83.23 %	59.99%	16.21 %	10.09 %	5.13 %	2,261	6.7%
Secondary, complete	91.76%	91.51 %	74.51%	25.63 %	23.66 %	15.20 %	3,769	11.1%
Has begun higher or technical education	94.15%	95.01 %	86.84%	35.36 %	42.96 %	31.43 %	3,150	9.3%
Total	86.48 %	80.24 %	61.44 %	14.13 %	13.45 %	8.91 %	33,952	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM. An individual who has attended primary school, without certification, is considered to have received a basic education.

O. Saint Vincent and the Grenadines

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	71.87 %	55.96 %	40.55%	1.22 %	1.53 %	0.91 %	329	1.14 %
Basic, incomplete*	82.10 %	66.77 %	47.34%	1.71 %	2.75 %	1.23 %	19,875	68.80 %
Basic, complete	89.59 %	82.88 %	66.27%	5.79 %	11.09 %	5.31 %	923	3.19 %
Secondary, incomplete	85.38 %	74.61 %	50.67%	3.87 %	6.21 %	3.14 %	2,997	10.37 %
Secondary, complete	91.61 %	86.48 %	69.32%	10.68 %	18.55 %	11.47 %	2,083	7.21 %
Has begun higher or technical education	93.97 %	92.83 %	83.20%	13.40 %	32.49 %	22.22 %	2,196	7.60 %
Total	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %	28,890	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

* An individual who has attended primary school, without certification, is considered to have received a basic education.

P. Trinidad and Tobago

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	62.10 %	81.74 %	56.16 %		2.28 %		219	0.08 %
Basic, incomplete	61.26 %	82.96 %	54.39 %		3.31 %	1.65 %	62,907	24.15 %
Basic, complete	65.01 %	84.81 %	58.31 %		4.38 %	2.08 %	76,643	29.42 %
Secondary, incomplete	66.00 %	84.17 %	51.99 %		7.34 %	3.74 %	21,843	8.39 %
Secondary, complete	74.30 %	91.11 %	67.53 %		16.84 %	10.09 %	82,573	31.70 %
Higher education, incomplete	80.43 %	91.10 %	81.32 %		40.55 %	27.87 %	1,349	0.52 %
Higher education, complete	85.37 %	96.53 %	92.41 %		56.93 %	44.45 %	14,959	5.74 %
Total	68.38 %	87.01 %	61.83 %		11.52 %	7.22 %	260,493	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Q. Venezuela

Level of Education	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
None	71.72 %	71.72 %	15.24 %	13.53 %	1.74 %	0.38 %	568,619	11.3%
Basic, incomplete	83.65 %	83.65 %	27.14 %	21.41 %	3.57 %	0.69 %	796,476	15.7%
Basic, complete	91.41 %	91.41 %	33.03 %	28.86 %	6.21 %	1.25 %	1,088,139	21.5%
Secondary, incomplete	93.82 %	93.82 %	33.21 %	35.24 %	8.14 %	1.56 %	1,062,397	20.9%
Secondary, complete	96.62 %	96.62 %	45.80 %	42.87 %	18.77 %	5.17 %	755,325	14.9%

Has begun higher education, technical	98.10 %	98.10 %	56.96 %	49.51 %	35.43 %	12.68 %	216,799	4.3%
Has begun university	98.59 %	98.59 %	72.04 %	48.48 %	50.02 %	29.66 %	578,638	11.5%
Total	90.35 %	90.35 %	35.39 %	32.52 %	13.85 %	4.79 %	5,066,393	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Summary 5: Percentages of households with goods and services providing access to means of communication (radio and TV) and digital telecommunications (fixed-line and cellular telephones, computers and the Internet), by educational level of the household⁹

A. Antigua and Barbuda

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	87.08 %	84.62 %	64.96 %	37.02 %	18.15 %	12.30 %	12,130	59.50 %
Primary	82.78 %	89.40 %	70.67 %	41.72 %	22.52 %	15.23 %	151	0.74 %
Secondary	95.19 %	93.27 %	79.02 %	53.37 %	39.90 %	25.00 %	208	1.02 %
Primary and Secondary	90.15 %	94.38 %	69.56 %	48.17 %	24.03 %	14.09 %	7,523	36.90 %
University	94.52 %	97.26 %	93.55 %	59.82 %	65.75 %	53.88 %	219	1.07 %
University and Primary	66.67 %	100.00 %	100.00 %	66.67 %	33.33 %	33.33 %	3	0.01 %
University and Secondary	60.00 %	60.00 %	100.00 %	60.00 %	60.00 %	40.00 %	5	0.02 %
University, Primary and Secondary	96.64 %	96.64 %	95.27 %	63.09 %	60.40 %	46.31 %	149	0.73 %
Total	88.40 %	88.56 %	67.39 %	41.78 %	21.41 %	13.82 %	20,388	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

B. Argentina

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student			57.4%	22.36 %	12.48 %	6.18 %	4,634,827	46.01 %
Primary			44.9%	27.21 %	16.95 %	6.67 %	2,328,259	23.11 %
Secondary			62.3%	27.64 %	26.67 %	9.75 %	766,361	7.61 %
Primary and Secondary			52.3%	26.01 %	22.57 %	7.49 %	713,564	7.08 %

⁹ The educational level of the household is in accordance with a household typology established according to the level of the education received by members who are students and who attend an educational institution.

University			79.3%	45.75 %	50.64 %	26.50 %	1,077,254	10.69 %
University and Primary			74.5%	43.92 %	46.10 %	20.11 %	187,272	1.86 %
University + Secondary			83.4%	43.45 %	56.29 %	26.44 %	238,240	2.36 %
University, Primary and Secondary			74.3%	39.18 %	47.16 %	19.07 %	127,899	1.27 %
Total			57.0%	27.03 %	20.46 %	9.04 %	10,073,676	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

C. Barbados

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	89.44 %	89.71 %	78.48 %	11.05 %	15.41 %	10.35 %	48,457	58.50 %
Primary	92.49 %	96.98 %	84.23 %	14.62 %	20.79 %	12.76 %	11,070	13.36 %
Secondary	93.90 %	97.34 %	88.61 %	13.03 %	27.06 %	16.98 %	8,862	10.70 %
Primary and Secondary	93.06 %	97.15 %	85.39 %	13.08 %	23.14 %	12.99 %	5,895	7.12 %
University	95.24 %	97.53 %	95.30 %	25.47 %	51.24 %	37.70 %	4,621	5.58 %
University and Primary	95.19 %	99.06 %	95.32 %	22.58 %	46.56 %	29.19 %	1,497	1.81 %
University + Secondary	96.00 %	98.43 %	97.15 %	25.20 %	54.94 %	38.70 %	1,651	1.99 %
University, Primary and Secondary	95.40 %	98.72 %	95.79 %	21.07 %	51.21 %	33.72 %	783	.95 %
Total	91.20 %	92.89 %	82.60 %	13.27 %	21.61 %	14.22 %	82,836	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

D. Bolivia

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line or Cellular Telephone	With Cellular Telephone	With Computer (PC)	With Inter. Access	Number of Households	Household Percentages
No member currently a student	49.35 %	19.62 %	5.51 %				3,084	0.2%
Primary	71.60 %	45.78 %	16.56 %				1,419,755	72.0%
Secondary	75.97 %	46.67 %	12.01 %				15,159	0.8%
Primary and Secondary	84.64 %	72.13 %	29.27 %				353,972	17.9%
University								0.0%
University and Primary	90.23 %	86.31 %	58.30 %				119,592	6.1%
University and Secondary								0.0%
University, Primary and Secondary	93.47 %	92.85 %	61.14 %				60,808	3.1%
Total	75.74 %	54.39 %	22.69 %				1,972,370	100.0%

Source: Produced by author on the basis of census data available at CELADE and processed through REDATAM.

E. Brazil

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	85.37 %	83.32 %	36.42 %		7.03 %		17,644,090	39.4%
Primary	87.18 %	86.48 %	31.02 %		6.85 %		18,070,365	40.4%
Secondary	93.45 %	95.59 %	54.62 %		15.61 %		2,657,024	5.9%
Primary and Secondary	92.88 %	95.15 %	49.15 %		13.28 %		3,882,766	8.7%
University	96.72 %	98.92 %	85.90 %		52.88 %		1,192,696	2.7%
University and Primary	96.71 %	98.99 %	82.01 %		47.71 %		642,177	1.4%
University and Secondary	98.09 %	99.31 %	89.63 %		58.91 %		439,591	1.0%
University, Primary and Secondary	96.87 %	99.07 %	83.96 %		49.51 %		248,031	0.6%
Total	87.88 %	87.23 %	39.18 %		10.56 %		44,776,740	100.0%

Source: Produced by author on the basis of census data available at CELADE and processed through REDATAM.

F. Costa Rica

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student		77.95 %	45.42 %		7.43 %		387,042	40.4%
Primary		83.26 %	42.94 %		7.49 %		221,359	23.1%
Secondary		91.11 %	63.41 %		13.36 %		86,314	9.0%
Primary and Secondary		90.19 %	57.94 %		12.34 %		107,548	11.2%
University		96.33 %	82.84 %		40.66 %		70,403	7.3%
University and Primary		97.33 %	82.55 %		36.68 %		27,579	2.9%
University and Secondary		97.74 %	87.70 %		43.77 %		34,915	3.6%
University, Primary and Secondary		97.24 %	83.29 %		37.32 %		23,984	2.5%
Total		84.84 %	54.17 %		13.88 %		959,144	100.0%

Source: Produced by author on the basis of census data available at CELADE and processed through REDATAM.

G. Ecuador

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student			28.95 %				1,263,506	43.9%
Primary			25.34 %				692,306	24.0%
Secondary			41.90 %				360,810	12.5%
Primary and Secondary			33.37 %				384,347	13.3%
University			60.65 %				74,539	2.6%
University and Primary			56.80 %				34,670	1.2%

University and Secondary			62.42 %				40,909	1.4%
University, Primary and Secondary			55.05 %				28,848	1.0%
Total			32.19 %				2,879,935	100.0%

Source: Produced by author on the basis of census data available at CELADE and processed through REDATAM.

H. Honduras

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	68.19 %	39.78 %	11.25 %		2.66 %		524,730	43.3%
Primary	73.73 %	37.92 %	8.98 %		1.69 %		386,955	31.9%
Secondary	83.09 %	74.52 %	31.40 %		7.63 %		85,897	7.1%
Primary and Secondary	82.06 %	66.24 %	23.20 %		4.94 %		122,356	10.1%
University	87.17 %	86.64 %	46.81 %		13.64 %		29,467	2.4%
University and Primary	87.66 %	83.85 %	42.57 %		10.67 %		19,943	1.6%
University and Secondary	90.07 %	90.10 %	53.11 %		15.25 %		21,065	1.7%
University, Primary and Secondary	88.59 %	86.14 %	44.31 %		10.30 %		20,894	1.7%
Total	73.93 %	47.86 %	15.84 %		3.69 %		1,211,307	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

I. Mexico

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	80.31 %	81.31 %	32.95 %		5.60 %		9,106,599	40.2%
Primary	84.14 %	84.41 %	27.25 %		5.41 %		7,070,562	31.2%
Secondary	91.60 %	93.69 %	51.10 %		14.75 %		2,019,634	8.9%
Primary and Secondary	89.39 %	90.51 %	38.24 %		10.73 %		2,913,354	12.9%
University	94.37 %	96.49 %	73.70 %		37.73 %		676,323	3.0%
University and Primary	94.33 %	96.30 %	67.22 %		31.52 %		242,959	1.1%
University and Secondary	96.10 %	97.95 %	77.43 %		42.53 %		397,093	1.8%
University, Primary and Secondary	94.70 %	96.87 %	68.18 %		34.49 %		213,284	0.9%
Total	84.67 %	85.62 %	36.17 %		9.18 %		22,639,808	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

J. Panama

Household Educational Level	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Intern.	Number of Households	Household Percentages
No member currently a student	79.00 %	70.72 %	34.00 %	17.87 %	5.63 %		317,682	45.4%
Primary	80.56 %	67.93 %	27.54 %	15.52 %	4.51 %		118,303	16.9%
Secondary	87.46 %	86.97 %	45.43 %	22.91 %	8.54 %		82,098	11.7%
Primary and Secondary	84.95 %	79.32 %	35.00 %	17.77 %	6.15 %		73,319	10.5%
University	92.90 %	96.03 %	71.84 %	47.15 %	24.63 %		54,112	7.7%
University and Primary	92.72 %	96.62 %	68.11 %	41.40 %	18.63 %		13,605	1.9%
University and Secondary	94.25 %	97.16 %	72.61 %	42.00 %	24.57 %		27,699	4.0%
University, Primary and Secondary	92.56 %	95.33 %	63.26 %	35.43 %	17.21 %		12,647	1.8%
Total	83.07 %	77.01 %	40.00 %	22.05 %	8.52 %		699,465	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

K. Dominican Republic

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line or Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	43.18 %	57.39 %	26.39 %	3.01 %	1.77 %	759,288	34.6%
Primary	45.56 %	67.11 %	24.62 %	2.48 %	1.27 %	592,850	27.0%
Secondary	52.80 %	74.83 %	40.56 %	6.01 %	2.93 %	258,052	11.8%
Primary and Secondary	52.77 %	77.50 %	38.52 %	4.62 %	2.16 %	274,541	12.5%
University	64.35 %	83.56 %	62.66 %	19.18 %	9.86 %	120,790	5.5%
University and Primary	61.09 %	83.97 %	57.48 %	12.73 %	5.80 %	61,817	2.8%
University and Secondary	66.75 %	85.70 %	66.47 %	20.42 %	10.91 %	75,740	3.5%
University, Primary and Secondary	63.76 %	85.47 %	61.68 %	14.53 %	6.98 %	49,331	2.3%
Total	49.11 %	68.39 %	34.15 %	5.45 %	2.81 %	2,192,409	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

L. Saint Lucia

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	83.15 %	71.23 %	53.02 %	12.12 %	10.04 %	6.92 %	18,885	49.6%
Primary	87.49 %	85.91 %	62.19 %	13.31 %	10.31 %	6.34 %	9,482	24.9%
Secondary	92.55 %	93.51 %	80.09 %	20.14 %	26.08 %	16.90 %	4,018	10.6%
Primary and Secondary	91.16 %	91.28 %	73.36 %	15.55 %	16.85 %	10.30 %	5,001	13.1%

University	97.32 %	95.65 %	91.28 %	37.63 %	56.23 %	43.90 %	287	0.8%
University and Primary	96.58 %	97.97 %	95.27 %	37.67 %	56.76 %	40.14 %	142	0.4%
University and Secondary	96.38 %	100.00 %	94.93 %	34.81 %	64.23 %	50.75 %	134	0.4%
University, Primary and Secondary	94.74 %	97.89 %	94.74 %	47.83 %	57.45 %	42.22 %	90	0.2%
Total	86.48 %	80.24 %	61.44 %	14.13 %	13.45 %	8.91 %	38,039	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

M. Saint Vincent and the Grenadines

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	80.45 %	61.81 %	45.73 %	4.04 %	6.43 %	4.11 %	14,778	48.8%
Primary	86.03 %	76.71 %	52.67 %	3.33 %	6.03 %	3.64 %	8,629	28.5%
Secondary	91.83 %	89.96 %	77.02 %	6.52 %	16.78 %	10.77 %	2,451	8.1%
Primary and Secondary	90.36 %	87.54 %	67.75 %	4.23 %	10.50 %	5.86 %	3,939	13.0%
University	97.67 %	98.26 %	93.02 %	19.77 %	52.91 %	40.12 %	172	0.6%
University and Primary	94.74 %	100.00 %	96.88 %	14.58 %	46.88 %	31.25 %	96	0.3%
University and Secondary	100.00 %	99.03 %	100.00 %	18.63 %	54.90 %	37.86 %	103	0.3%
University, Primary and Secondary	97.87 %	95.74 %	95.74 %	17.02 %	39.36 %	28.72 %	94	0.3%
Total	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %	30,262	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

N. Trinidad and Tobago

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	63.83 %	81.11 %	57.73 %		7.70 %	5.31 %	128,698	45.2%
Primary	67.76 %	88.91 %	55.82 %		9.32 %	5.32 %	61,329	21.5%
Secondary	75.59 %	94.10 %	75.46 %		18.12 %	10.90 %	46,239	16.2%
Primary and Secondary	72.66 %	92.57 %	65.02 %		13.95 %	7.34 %	41,293	14.5%
University	83.98 %	95.74 %	92.31 %		49.91 %	37.52 %	3,214	1.1%
University and Primary	84.47 %	97.18 %	92.12 %		51.06 %	36.82 %	850	0.3%
University and Secondary	86.13 %	98.05 %	94.65 %		58.20 %	43.20 %	2,206	0.8%
University, Primary and Secondary	85.38 %	98.54 %	92.20 %		53.59 %	36.91 %	821	0.3%
Total	68.39 %	86.96 %	62.13 %		11.78 %	7.36 %	284,650	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

O. Venezuela

Household Educational Level	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
No member currently a student	78.52 %	80.78 %	31.64 %	24.66 %	8.11 %	3.39 %	1,737,278	33.13%
Primary	84.21 %	91.07 %	28.00 %	31.54 %	9.01 %	2.56 %	2,294,933	43.77%
Secondary	89.95 %	95.12 %	49.89 %	39.37 %	20.59 %	6.36 %	177,597	3.39%
Primary and Secondary	89.77 %	95.54 %	41.57 %	39.52 %	16.80 %	4.23 %	350,387	6.68%
University	92.46 %	96.80 %	68.11 %	42.73 %	40.26 %	15.04 %	283,772	5.41%
University and Primary	92.99 %	97.53 %	60.95 %	44.43 %	35.02 %	10.20 %	275,607	5.26%
University and Secondary	94.45 %	97.81 %	70.63 %	45.02 %	44.40 %	14.88 %	58,975	1.12%
University, Primary and Secondary	93.52 %	97.39 %	62.00 %	45.74 %	36.17 %	9.83 %	64,739	1.23%
Total	84.03 %	88.90 %	35.66 %	31.67 %	13.41 %	4.38 %	5,243,288	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Summary 6: percentages of households with ICT goods and services, according to head of household's ethnic group, by country

A. Antigua and Barbuda

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
African/Black	88.51 %	88.48 %	66.85 %	40.22 %	19.40 %	11.65 %	18,456	90.5%
Indigenous	87.69 %	87.69 %	52.31 %	43.08 %	20.00 %	10.77 %	65	0.3%
Indian	87.23 %	88.65 %	63.77 %	51.06 %	25.53 %	18.44 %	141	0.7%
Chinese	78.95 %	97.37 %	97.37 %	44.74 %	34.21 %	28.95 %	38	0.2%
Portuguese	96.30 %	96.30 %	90.57 %	53.70 %	50.00 %	42.59 %	54	0.3%
Syrian/Lebanese	87.50 %	96.09 %	87.40 %	76.56 %	43.75 %	39.84 %	128	0.6%
White/Caucasian	91.96 %	92.55 %	90.30 %	65.88 %	66.08 %	59.80 %	510	2.5%
Mixed	85.93 %	88.47 %	65.08 %	53.61 %	32.32 %	25.73 %	789	3.9%
Other	83.02 %	77.99 %	45.81 %	47.17 %	22.01 %	18.24 %	159	0.8%
Unknown	72.92 %	79.17 %	63.41 %	37.50 %	25.00 %	25.00 %	48	0.2%
Total	88.40 %	88.56 %	67.39 %	41.78 %	21.41 %	13.82 %	20,388	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

B. Argentina

Information unavailable.

C. Barbados

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Black	91.2 %	92.7 %	81.7 %	11.7 %	19.4 %	12.1 %	76,578	92.4 %
White	91.6 %	96.4 %	97.0 %	39.2 %	57.0 %	48.5 %	3,324	4.0 %
Chinese	92.9 %	100.0 %	95.2 %	42.9 %	64.3 %	57.1 %	42	0.1 %
Indian	90.4 %	88.3 %	87.5 %	24.6 %	39.9 %	31.9 %	711	0.9 %
Arab	96.6 %	93.1 %	93.1 %	62.1 %	75.9 %	72.4 %	29	0.0 %
Mixed	92.5 %	95.5 %	89.8 %	23.7 %	38.0 %	28.6 %	2,088	2.5 %
Other	84.4 %	96.9 %	87.5 %	42.2 %	51.6 %	45.3 %	64	0.1 %
Total	91.2 %	95.6 %	82.4 %	13.3 %	21.6 %	14.2 %	82,836	100.0 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

D. Bolivia

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Quechua	75.09 %	47.09 %	17.73 %				533,146	35.3%
Aymara	74.81 %	46.85 %	14.40 %				481,012	31.9%
Guaraní	70.52 %	51.13 %	23.70 %				21,799	1.4%
Chiquitano	68.41 %	54.71 %	23.16 %				29,980	2.0%
Mojeño	70.96 %	59.08 %	27.73 %				11,226	0.7%
Other indigenous	66.54 %	44.29 %	20.78 %				22,011	1.5%
Non-indigenous	78.66 %	69.36 %	35.35 %				410,962	27.2%
Total	78.37 %	58.17 %	24.37 %				1,510,136	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

E. Brazil

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
White	91.21 %	92.05 %	49.28 %		15.26 %		24,758,505	55.3%
Black	85.07 %	80.91 %	24.92 %		3.89 %		3,263,915	7.3%
Asian	92.73 %	96.26 %	79.73 %		40.51 %		246,331	0.6%
Mulatto	83.47 %	81.27 %	26.20 %		4.32 %		16,079,780	35.9%
Indigenous	74.91 %	67.88 %	23.80 %		4.68 %		201,205	0.4%
Unknown	85.08 %	32.12 %	32.24 %		7.95 %		227,005	0.5%
Total	87.88 %	87.23 %	39.18 %		10.56 %		44,776,740	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

F. Chile

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Non-indigenous		93.03 %	52.56 %	51.73 %	21.12 %	10.52 %	190,471	4.6%
Indigenous		79.57 %	30.35 %	36.61 %	8.74 %	3.32 %	3,950,956	95.4%
Total		92.41 %	51.53%	51.04%	20.55 %	10.19 %	4,141,427	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

G. Costa Rica

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Indigenous		46.87 %	16.00 %		3.35 %		13,770	1.44 %
Black or Afro-Costa Rican		84.83 %	48.43 %		9.78 %		20,664	2.15 %
Chinese		94.09 %	84.62 %		39.28 %		2,640	.28 %
None of the above		85.40 %	54.82 %		14.08 %		901,518	93.99 %
Unknown		84.77 %	52.87 %		13.10 %		20,552	2.14 %
Total		85.75 %	53.92 %		14.03 %		959,144	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

H. Ecuador

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Indigenous			8.08 %				189,102	6.57 %
Black (Afro-American)			18.71 %				70,094	2.43 %
<i>Mestizo</i>			32.81 %				2,216,435	76.96 %
Mulatto			23.74 %				80,194	2.78 %
White			47.49 %				313,193	10.88 %
Other			33.20 %				10,917	0.38 %
TOTAL			32.19 %				2,879,935	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

I. Honduras

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Garifuna	74.41 %	60.07 %	15.58 %		2.89 %		10,889	0.90 %

Black English	79.95 %	73.61 %	31.14 %		7.21 %		3202	0.26 %
Tolupán	53.91 %	8.10 %	2.28 %		0.51 %		1,753	0.14 %
Pech (Paya)	67.02 %	21.98 %	4.43 %		2.29 %		655	0.05 %
Misquito	29.78 %	7.10 %	1.98 %		0.51 %		8,621	0.71 %
Lenca	68.72 %	12.00 %	3.72 %		0.76 %		51,052	4.21 %
Tawahka (sumo)	62.78 %	31.39 %	7.17 %		2.47 %		446	0.04 %
Chortí	69.77 %	14.41 %	4.42 %		0.80 %		6,636	0.55 %
Non-indigenous	74.55 %	49.89 %	16.55 %		3.86 %		1,128,053	93.13 %
Total	73.93 %	47.86 %	15.84 %		3.69 %		1,211,307	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

J. Mexico

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Belongs to an indigenous group	65.92 %	46.06 %	7.28 %		1.54 %		1,390,643	6.14 %
Does not belong to an indigenous group	85.96 %	88.29 %	38.14 %		9.71 %		20,853,804	92.11 %
Unspecified	82.34 %	83.75 %	33.72 %		8.08 %		395,361	1.75 %
Total	84.67 %	85.62 %	36.17 %		9.18 %		22,639,808	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

K. Panama

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
Kuna	69.43%	42.1%	12.58%	611%	1.9%		8,410	1.26%
Ngobe	59.31%	15.0%	2.03%	0.78%	0.2%		24,030	3.61%
Bugle	65.59%	22.8%	3.42%	1.78 %	0.6%		2,781	0.42%
Teribe	62.85%	38.5%	11.13%	5.24 %	2.8%		611	0.09%
Bokota	54.97%	26.7%	10.47%	3.66 %	1.6%		191	0.03%
Embera	58.16%	28.5%	5.62%	2.09 %	0.5%		4,058	0.61%
Wounaan	59.55%	31.0%	6.89%	3.40 %	1.1%		1,147	0.17%
Bri-Bri	84.78%	77.9%	45.06%	28.66 %	12.6%		506	0.08%
None	84.82%	80.5%	42.61%	23.54 %	9.2%		624,504	93.74%
Total	83.39%	76.9%	40.28%	22.22%	8.71%		666,238	100.00%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

L. Dominican Republic

Information unavailable.

M. Saint Lucia

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
African descent	86.07 %	79.23 %	59.10 %	12.11 %	11.12 %	6.89 %	29,426	76.0%
Indigenous	89.77 %	88.31 %	78.84 %	28.03 %	27.11 %	20.60 %	1,291	3.3%
Indian	85.95 %	81.87 %	65.56 %	16.46 %	18.33 %	13.24 %	1,344	3.5%
Chinese	92.96 %	91.70 %	83.55 %	30.71 %	29.49 %	24.87 %	985	2.5%
Portuguese	94.44 %	94.44 %	88.89 %	61.11 %	35.29 %	42.86 %	14	0.0%
Syrian/Lebanese	88.24 %	92.51 %	85.33 %	33.89 %	35.48 %	29.56 %	159	0.4%
White	95.13 %	85.87 %	87.45 %	32.83 %	54.10 %	47.49 %	259	0.7%
Mixed	88.17 %	84.79 %	68.25 %	20.12 %	19.38 %	13.68 %	4,408	11.4%
Other	89.93 %	88.63 %	81.82 %	26.37 %	30.30 %	26.48 %	253	0.7%
Unknown	84.34 %	80.92 %	61.47 %	14.35 %	13.93 %	8.57 %	595	1.5%
Total	86.70 %	80.83 %	62.25 %	14.13 %	13.45 %	8.91 %	38,734	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

N. Saint Vincent and the Grenadines

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
African descent	84.31 %	71.46 %	52.13 %	3.53 %	6.83 %	4.11 %	22,732	75.1%
Indigenous	76.22 %	58.83 %	34.96 %	1.66 %	2.54 %	1.55 %	1,030	3.4%
Indian	84.45 %	80.25 %	70.94 %	6.15 %	18.23 %	11.85 %	557	1.8%
Chinese	66.67 %	66.67 %	66.67 %	11.11 %	44.44 %	44.44 %	9	0.0%
Portuguese	89.00 %	82.76 %	70.45 %	11.72 %	17.30 %	13.06 %	291	1.0%
Syrian/Lebanese	91.30 %	91.30 %	95.65 %	13.64 %	47.83 %	34.78 %	23	0.1%
White	86.24 %	82.60 %	82.80 %	14.81 %	39.07 %	29.17 %	408	1.3%
Mixed	86.73 %	75.86 %	59.75 %	6.59 %	11.78 %	7.49 %	5,073	16.8%
Other	82.00 %	88.00 %	84.00 %	8.00 %	30.00 %	24.00 %	50	0.2%
Unknown	88.24 %	82.93 %	67.07 %	3.53 %	9.76 %	3.37 %	89	0.3%
Total	84.52 %	72.26 %	53.89 %	4.28 %	8.35 %	5.22 %	30,262	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

O. Trinidad and Tobago

Ethnic Group	With Radio	With Television (TV)	With Fixed-Line Telephone	With Cellular Telephone	With Computer (PC)	With Internet Access	Number of Households	Household Percentages
African	69.03 %	85.68 %	60.64 %	-	10.08 %	5.78 %	121,328	41.53 %
Indian	65.64 %	87.56 %	61.32 %	-	10.12 %	6.22 %	116,671	39.94 %
Chinese	78.14 %	93.96 %	88.58 %	-	40.38 %	31.32 %	1,523	0.52 %
Syrian/Lebanese	80.57 %	93.63 %	89.49 %	-	47.45 %	42.04 %	314	0.11 %
Caucasian	85.40 %	95.45 %	93.48 %	-	55.11 %	47.94 %	2,747	0.94 %
Mixed	70.86 %	87.11 %	63.43 %	-	15.37 %	9.99 %	48,803	16.71 %
Other	72.15 %	90.22 %	75.00 %		27.45 %	21.60 %	736	0.25 %
Total	68.20 %	86.82 %	61.90 %	-	11.64 %	7.27 %	292,122	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

P. Venezuela

Information unavailable. The 2001 National Census does not include all of the indigenous population.

Summary 7: Percentages of households with ICT goods and services, according to head of household's activity status, by country

A. Antigua and Barbuda

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	89.45 %	90.48 %	68.46 %	47.30 %	24.41 %	15.90 %	15,331	76.00 %
Unemployed	83.15 %	79.78 %	42.54 %	32.21 %	8.52 %	3.96 %	1,009	5.00 %
Only studies	90.48 %	83.33 %	57.14 %	42.86 %	23.81 %	11.90 %	42	0.21 %
Retired	87.15 %	83.78 %	76.44 %	18.43 %	13.28 %	8.81 %	2,078	10.30 %
Other	85.11 %	84.35 %	61.92 %	27.73 %	13.08 %	8.06 %	1,713	8.49 %
Total	88.53 %	88.72 %	67.41 %	41.90 %	21.50 %	13.89 %	20,173	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

B. Argentina

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed			47.90 %	35.61 %	27.36 %	12.59 %	5,779,966	57.38 %

Unemployed			48.11 %	16.28 %	11.27 %	3.82 %	1,339,361	13.30 %
Only studies			48.04 %	36.22 %	35.26 %	15.63 %	87,385	0.87 %
Retired			48.17 %	14.05 %	10.38 %	4.16 %	1,912,650	18.99 %
Other			46.84 %	16.02 %	10.89 %	4.27 %	954,263	9.47 %
Total			47.88 %	27.09 %	20.50 %	9.06 %	10,073,625	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

C. Barbados

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	92.37 %	94.83 %	83.18 %	17.52 %	26.98 %	18.31 %	53,021	64.87 %
Unemployed	86.24 %	86.18 %	65.63 %	4.76 %	8.94 %	5.07 %	1,577	1.93 %
Only studies								
Retired	90.34 %	90.53 %	84.99 %	5.50 %	12.02 %	6.89 %	21,270	26.02 %
Other	89.94 %	90.69 %	78.87 %	6.53 %	13.58 %	7.79 %	5,863	7.17 %
Total	91.55 %	93.25 %	83.01 %	13.36 %	21.78 %	14.33 %	81,731	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

D. Bolivia

Information unavailable.

E. Brazil

Information unavailable.

F. Chile

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed		93.66 %	53.12 %	59.22 %	25.68 %	13.25 %	2,482,734	59.95 %
Unemployed		90.16 %	37.84 %	43.34 %	12.10 %	4.88 %	291,132	7.03 %
Only studies		86.02 %	47.64 %	69.50 %	42.15 %	21.13 %	44,882	1.08 %
Retired		92.84 %	60.93 %	33.27 %	12.92 %	5.87 %	571,836	13.81 %
Other		89.18 %	44.67 %	39.40 %	11.38 %	4.75 %	750,843	18.13 %
Total		92.41 %	51.53 %	51.04 %	20.55 %	10.19 %	4,141,427	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

G. Costa Rica

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed		86.96 %	54.51 %		15.62 %		690,134	71.95 %
Unemployed		71.92 %	31.77 %		4.63 %		22,546	2.35 %
Only studies		87.29 %	65.25 %		37.38 %		2,817	0.29 %
Retired		85.49 %	68.88 %		14.76 %		88,837	9.26 %
Other		76.85 %	47.26 %		6.55 %		154,810	16.14 %
Total		84.84 %	54.17 %		13.88 %		959,144	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

H. Ecuador

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed			31.70 %				2,169,110	77.26 %
Unemployed			30.03 %				53,414	1.90 %
Only studies			40.31 %				23,836	0.85 %
Retired			69.64 %				61,665	2.20 %
Other			29.92 %				499,392	17.79 %
Total			32.19 %				2,807,417	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

I. Honduras

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	75.32 %	47.19 %	15.50 %		4.08 %		861,065	71.93 %
Unemployed	70.98 %	55.43 %	14.26 %		2.80 %		13,337	1.11 %
Only studies	77.39 %	65.32 %	29.09 %		8.79 %		9,921	0.83 %
Retired	83.32 %	86.33 %	59.51 %		12.44 %		12,118	1.01 %
Other	69.57 %	47.04 %	14.48 %		2.01 %		300,644	25.11 %
Total	73.92 %	47.79 %	15.79 %		3.67 %		1,197,085	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

J. Mexico

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	86.17 %	86.67 %	36.18 %		10.17 %		17,421,459	76.95 %
Unemployed	76.86 %	78.50 %	29.66 %		4.45 %		2,343,346	10.35 %
Only studies	89.88 %	85.52 %	46.69 %		30.21 %		81,238	0.36 %
Retired	89.39 %	95.91 %	68.73 %		12.70 %		675,535	2.98 %
Other	79.17 %	81.56 %	32.46 %		4.33 %		2,118,010	9.36 %
Total	84.67 %	85.62 %	36.17 %		9.18 %		22,639,588	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

K. Panama

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	83.81 %	76.25 %	38.17 %	23.96 %	9.19 %		500,851	71.70 %
Unemployed	78.80 %	75.74 %	31.87 %	17.38 %	5.34 %		41,157	5.89 %
Only studies	88.77 %	93.08 %	68.13 %	22.54 %	10.85 %		73,704	10.55 %
Retired	81.52 %	77.91 %	44.26 %	32.62 %	17.13 %		2,603	0.37 %
Other	75.49 %	67.58 %	29.33 %	11.40 %	3.21 %		80,237	11.49 %
Total	83.08 %	77.01 %	39.97 %	22.01 %	8.48 %		698,552	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

M. Dominican Republic

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	51.41 %	70.02 %		35.43 %	6.46 %	3.38 %	1,417,803	64.67 %
Unemployed	44.82 %	63.92 %		28.43 %	3.50 %	1.70 %	225,782	10.30 %
Only studies	48.48 %	70.62 %		36.19 %	5.41 %	2.56 %	184,644	8.42 %
Retired	54.49 %	75.02 %		49.47 %	5.48 %	2.68 %	10,002	0.46 %
Other	42.81 %	63.39 %		31.16 %	2.67 %	1.39 %	354,178	16.15 %
Total	49.11 %	68.39 %		34.15 %	5.45 %	2.81 %	2,192,409	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

N. Saint Lucia

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	89.1%	84.56 %	65.12 %	18.19 %	17.10 %	11.59 %	24,318	83.15 %
Unemployed	78.7%	65.84 %	42.85 %	7.28 %	4.67 %	2.08 %	2,457	1.50 %
Only studies	87.8%	90.57 %	73.35 %	19.48 %	28.15 %	18.35 %	327	1.77 %
Retired	86.8%	79.24 %	68.40 %	8.14 %	10.77 %	7.18 %	3,454	7.32 %
Other	80.4%	71.03 %	52.05 %	5.64 %	5.10 %	2.90 %	7,308	6.26 %
Total	86.5%	80.31 %	61.54 %	14.16 %	13.49 %	8.95 %	37,864	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

O. Saint Vincent and the Grenadines

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	87.81 %	76.95 %	56.25 %	6.01 %	11.46 %	7.59 %	16,953	56.24 %
Unemployed	75.60 %	54.84 %	30.52 %	1.22 %	2.39 %	0.88 %	2,727	9.05 %
Only studies	95.16 %	84.92 %	66.40 %	4.00 %	12.80 %	4.72 %	127	0.42 %
Retired	85.74 %	75.57 %	67.43 %	2.99 %	6.88 %	3.98 %	3,872	12.85 %
Other	78.81 %	65.37 %	49.56 %	1.86 %	3.56 %	1.67 %	6,465	21.45 %
Total	84.54 %	72.32 %	53.96 %	4.29 %	8.36 %	5.24 %	30,144	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

P. Trinidad and Tobago

Information unavailable.

Q. Venezuela

Activity Status	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employed	85.28 %	89.65 %	34.95 %	34.38 %	15.15 %	5.11 %	3,616,928	69.13 %
Unemployed	80.04 %	88.08 %	25.59 %	27.48 %	8.78 %	2.39 %	241,919	4.62 %
Only studies	82.60 %	87.33 %	43.70 %	34.34 %	24.03 %	6.85 %	34,554	0.66 %
Retired	91.03 %	95.48 %	67.65 %	32.32 %	20.22 %	6.78 %	253,841	4.85 %
Other	79.56 %	85.52 %	32.55 %	23.48 %	6.80 %	1.78 %	1,084,562	20.73 %
Total	84.11 %	88.99 %	35.66 %	31.70 %	13.43 %	4.38 %	5,231,804	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Summary 8: Percentages of households with ICT goods and services, and head of household employed, according to head of household's occupation, by country

A. Antigua and Barbuda

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	92.45 %	96.09 %	86.68 %	69.95 %	49.60 %	37.20 %	742	5.25 %
Self-Employed	89.63 %	87.82 %	69.24 %	45.85 %	22.29 %	13.12 %	1,494	10.57 %
Wage Earner	89.49 %	91.34 %	67.67 %	47.36 %	24.06 %	15.66 %	11,803	83.54 %
Unpaid Family Worker	86.67 %	90.00 %	76.67 %	43.33 %	30.00 %	21.11 %	90	0.64 %
Total	89.65 %	91.21 %	68.89 %	48.36 %	25.25 %	16.55 %	14,129	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

B. Argentina

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer			77.90 %	55.16 %	43.77 %	24.38 %	471,021	8.1%
Self-Employed			58.74 %	36.60 %	27.40 %	13.36 %	1,386,341	24.0%
Wage Earner			55.70 %	33.06 %	25.53 %	10.99 %	3,849,103	66.6%
Unpaid Family Worker			43.22 %	24.89 %	16.96 %	6.55 %	73,501	1.3%
Total			58.08 %	35.61 %	27.36 %	12.59 %	5,779,966	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

C. Barbados

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	93.39 %	95.62 %	89.50 %	39.72 %	44.89 %	35.01 %	3,268	6.39 %
Self-Employed	91.11 %	92.00 %	79.17 %	16.22 %	19.53 %	12.25 %	6,072	11.88 %
Wage Earner	92.65 %	95.36 %	83.51 %	16.06 %	26.78 %	17.99 %	41,781	81.72 %
Unpaid Family Worker	100.00 %	88.89 %	77.78 %		22.22 %	22.22 %	9	0.02 %
Total	92.52 %	94.97 %	83.38 %	17.58 %	27.08 %	18.40 %	51,130	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

D. Bolivia

Occupation Category	With Radio	With Television	With Fixed-Line or Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer		82.37 %	57.97 %			49,184	3.74 %
Self-Employed		43.85 %	16.62 %			739,360	56.22 %
Wage Earner		72.16 %	31.21 %			500,310	38.04 %
Unpaid Family Worker		28.15 %	10.54 %			26,229	1.99 %
Total		54.32 %	22.75 %			1,315,083	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

E. Brazil

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	95.46 %	97.89 %	80.42 %		39.76 %		1,332,000	4.28 %
Self-Employed	86.24 %	81.06 %	34.13 %		9.16 %		10,562,201	33.91 %
Wage Earner	90.08 %	90.95 %	39.45 %		11.69 %		19,145,520	61.47 %
Unpaid Family Worker	86.39 %	81.18 %	39.93 %		13.22 %		106,043	0.34 %
Total	88.99 %	87.86 %	39.40 %		12.04 %		31,145,764	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

F. Chile

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer		95.97 %	70.67 %	73.50 %	46.05 %	29.82 %	140,694	5.09 %
Self-Employed		91.94 %	53.52 %	56.99 %	23.08 %	11.47 %	530,036	19.19 %
Wage Earner		93.61 %	49.99 %	56.91 %	23.29 %	11.55 %	2,063,057	74.70 %
Unpaid Family Worker		85.29 %	38.06 %	42.93 %	13.06 %	5.55 %	27,862	1.01 %
Total		93.33 %	51.60 %	57.63 %	24.31 %	12.41 %	2,761,649	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

G. Costa Rica

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer		94.80 %	77.31 %		35.73 %		42,419	6.15 %
Self-Employed		84.14 %	54.32 %		12.59 %		174,945	25.35 %
Wage Earner		87.56 %	52.80 %		15.04 %		467,208	67.70 %
Unpaid Family Worker		65.28 %	30.69 %		5.79 %		5,562	0.81 %
Total		86.96 %	54.51 %		15.62 %		690,134	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

H. Ecuador

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer			39.73 %				238,288	11.23 %
Self-Employed			26.76 %				889,097	41.88 %
Wage Earner			37.11 %				884,745	41.68 %
Unpaid Family Worker			16.32 %				110,657	5.21 %
Total			31.99 %				2,122,787	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

I. Honduras

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	82.42 %	66.24 %	31.79 %		10.72 %		28,236	3.19 %
Self-Employed	73.63 %	35.01 %	10.78 %		2.14 %		374,380	42.35 %
Wage Earner	77.44 %	62.40 %	20.68 %		5.93 %		417,555	47.23 %
Unpaid Family Worker	67.69 %	13.57 %	3.09 %		0.46 %		63,902	7.23 %
Total	75.28 %	47.39 %	15.57 %		4.08 %		884,073	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

J. Mexico

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	93.92 %	96.53 %	72.00 %		33.19 %		648,420	3.8%
Self-Employed	83.55 %	81.90 %	34.89 %		8.32 %		4,978,507	29.1%
Wage Earner	87.55 %	89.38 %	35.75 %		10.05 %		11,069,202	64.8%

Unpaid Family Worker	72.28 %	60.93 %	12.21 %		1.94 %		386,385	2.3%
Total	86.17 %	86.67 %	36.18 %		10.17 %		17,082,514	100.0%

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

K. Panama

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	91.10 %	90.34 %	69.30 %	54.82 %	33.16 %		6,303	1.23 %
Self-Employed	78.76 %	57.79 %	24.08 %	14.43 %	4.06 %		186,987	36.41 %
Wage Earner	86.72 %	86.84 %	45.77 %	28.60 %	11.67 %		318,905	62.10 %
Unpaid Family Worker	66.93 %	24.78 %	8.87 %	4.87 %	2.11 %		1,376	0.27 %
Total	83.83 %	76.14 %	38.06 %	23.70 %	9.14 %		513,571	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

L. Paraguay

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer		89.09 %	47.42 %	61.14 %	26.64 %	11.52 %	37,602	4.37 %
Self-Employed		66.53 %	12.11 %	25.85 %	4.01 %	0.95 %	465,057	54.03 %
Wage Earner		80.66 %	19.81 %	42.41 %	9.03 %	2.20 %	357,029	41.48 %
Unpaid Family Worker		24.04 %	4.61 %	9.13 %	2.06 %	.39 %	1,019	0.12 %
Total		73.33 %	16.83 %	34.24 %	7.08 %	1.93 %	860,707	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

M. Dominican Republic

Occupation Category	With Radio	With Television	With Fixed-Line or Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	59.34 %	75.77 %	47.61 %	12.35 %	7.44 %	93,858	9.41 %
Self-Employed	50.29 %	68.65 %	31.89 %	4.26 %	2.13 %	257,726	25.85 %
Wage Earner	53.26 %	72.14 %	37.14 %	7.41 %	3.74 %	620,919	62.28 %
Unpaid Family Worker	47.06 %	62.05 %	26.03 %	2.85 %	1.19 %	24,518	2.46 %
Total	52.51 %	70.94 %	36.02 %	6.78 %	3.53 %	997,021	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

N. Saint Lucia

Information unavailable.

O. Saint Vincent and the Grenadines

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	92.99 %	90.45 %	78.57 %	18.13 %	24.66 %	19.08 %	1,258	7.56 %
Self-Employed	84.85 %	70.13 %	48.77 %	2.94 %	4.21 %	2.26 %	3,277	19.70 %
Wage Earner	88.18 %	77.48 %	55.95 %	5.60 %	12.14 %	7.90 %	11,931	71.71 %
Unpaid Family Worker	78.36 %	66.86 %	50.00 %	4.09 %	4.65 %	2.91 %	172	1.03 %
Total	87.79 %	76.91 %	56.19 %	6.01 %	11.45 %	7.58 %	16,638	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

P. Trinidad and Tobago

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	77.46 %	92.41 %	76.14 %		27.71 %	20.56 %	8,322	4.30 %
Self-Employed	64.96 %	83.03 %	53.66 %		7.32 %	4.38 %	36,801	19.02 %
Wage Earner	71.26 %	88.40 %	60.98 %		14.73 %	9.17 %	147,997	76.48 %
Unpaid Family Worker	66.00 %	76.43 %	50.12 %		10.17 %	5.96 %	403	0.21 %
Total	70.32 %	87.52 %	60.22 %		13.87 %	8.75 %	193,523	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.

Q. Venezuela

Occupation Category	With Radio	With Television	With Fixed-Line Telephone	With Cellular Telephone	With Computer	With Internet Access	Number of Households	Household Percentages
Employer	89.52 %	92.36 %	51.41 %	39.29 %	26.38 %	11.44 %	335,036	8.84 %
Self-Employed	82.63 %	84.94 %	29.26 %	29.08 %	9.82 %	2.92 %	962,330	25.40 %
Wage Earner	85.38 %	91.07 %	34.13 %	35.24 %	15.21 %	4.88 %	2,487,909	65.67 %
Unpaid Family Worker	74.24 %	71.25 %	23.75 %	18.95 %	7.18 %	2.58 %	2,981	0.08 %
Total	85.04 %	89.61 %	34.42 %	34.02 %	14.82 %	4.96 %	3,788,256	100.00 %

Source: Produced by the author on the basis of census data available at CELADE and processed through REDATAM.