The long-term absent residents in Catalonia. Who are they? What are their common characteristics?

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Abstract

This paper aims to estimate and examine the common sociodemographic characteristics of long-term absent residents in Catalonia, a subgroup of the population whose individuals live away from the municipality where they are officially registered as residents. The inclusion of long-term absent residents in both the census of population and the local population registers represents a handicap to distribute central government support to municipalities and to deliver a wide range of public services.

This paper describes a methodology to estimate this subgroup of the population by municipalities using the 2001 Census as the main source. In order to describe the common sociodemographic and socioeconomic characteristics of long-term absent residents in Catalonia, a logistic regression has been implemented with the following predictor variables: age, sex, educational attainment, socioeconomic activity, type of tenancy, household surface and number of household members. For this analysis, a 20 per cent microdata sample with information collected about each person and housing unit from the 2001 Census will be used.

1. Introduction

In Spain, the enumeration of the total population is carried out through the census of population every ten years and the local population registers updated yearly. The importance of the latter is crucial in non-census years, as these population statistics are heavily used to distribute central government support to municipalities and to distribute a wide range of public services (public utilities, schools, hospitals, recreation facilities, housing, etc.).

However, these counts have been severely handicapped by the inclusion of long-term absent residents (LTAR), a subgroup of the population whose individuals live away from the municipality where they are officially registered as residents.

Traditionally, both in the census and in the population registers, there has been inflation of numbers, mainly because of the over-enumeration of persons with second residences and the inclusion of people who had already emigrated from one municipality to another. The effectiveness of the system dramatically improved through general computerisation in each municipality and the creation of central registers updated yearly. Despite the fact that these measures have decreased the inflation of population registers, other factors such as the growing number of second homes, and more mobile populations, have contributed to the inclusion of LTARs.

The aim of this paper is twofold. Firstly, it provides an estimate of LTARs in Catalonia. Secondly, it describes the common sociodemographic characteristics of this subgroup of the population.

2. The concept of usual residence

The United Nations defines usual residence as '*the geographical place where the enumerated person usually resides. This may be the same as, or different from, the place where he or she was present at the time of the census or his or her legal residence*' (UN, 1998: 61).

In Spain, where the census population base at enumeration is based on the usually resident population, this concept of usual residence is crucial. Hence, when a census takes place each household is asked to enter on the questionnaire everyone usually resident irrespective whether they are present or absent from that address on census day (INE, 2001). This sometimes means that the enumeration can include some complex residential patterns such as the ones represented by the long-term absent residents.

Despite most people not having difficulty in stating their usual residence as they only have one single address, there are some other situations where this concept can become ambiguous. Table 1 (see below) shows a list of groups of the population where the treatment of usual residence require special consideration. For example, persons who have more than one residence, students who live in a university residence, members of the armed forces living at military installations or, simply, persons who live away from their homes on a regular basis due to work, are cases in which the concept of usual residence is certainly ambiguous.

Table 1 Groups with an ambiguous usual residence

a)	Persons who maintain more than one residence, e.g. a town house and a country house;
b)	Students who live in a school or university residence, as boarders in a household or as a one-person household for part of the year and elsewhere during vacations;
c)	Persons who live away from their homes during the working week and return at weekends;
d)	Persons in compulsory military service;
e)	Members of the regular armed forces who live in a military barrack or camp but maintain a private residence elsewhere;
f)	Persons who have been an inmate of a hospital, welfare institution, prison, etc., for a sufficiently long time to weaken their ties with their previous residence to which they may return eventually;
g)	Persons who have been at the place where they are enumerated for some time but do not consider themselves to be residents of this place because they intend to return to their previous place of residence at some future time;
h)	Persons who have recently moved into an area and may not feel that they have lived there long enough to claim it as their place of usual residence - this may apply in particular to immigrants from abroad;
i)	Persons who have left the country temporarily but are expected to return after some time.

Source: United Nations (1998: 12).

The treatment of all these cases through their estimation when this is feasible is an important step to obtain the information needed for determining the total usually resident population of a given area. The estimation of long-term absent residents in Catalonia represents an example of this type of work.

3. Methodology

Previous attempts to quantify this subgroup of the population were mainly based on finding statistical mismatches of daily commuting distances, which provided a proxy indicator of people whose commuting was considered liable to be erroneous, primarily by the unlikeness of some long-distance journeys reported (Sabater, 2004; Sabater and Ajenjo, 2006). For example, if one person was registered in one municipality in the north-east of Catalonia, and reported a daily commuting to one of the municipalities within the metropolitan area of Barcelona, this journey of more than four hours long was not considered to be commuting between places but LTARs. However, since commuting is also on the increase in Catalonia (Ajenjo, 2005), the validity of the mentioned approach becomes rather restricted, making other approaches necessary to detect the presence/absence of LTARs.

The 2001 Census represented a breakthrough in estimating this subgroup of the population. Due to the importance of second homes and the increasing trend to this type of ownership in Spain, the census questionnaire included a number of questions at individual and household level to establish the relationship of people with this type of homes, thus allowing the provision of information about the residential use of second homes.

In this respect, the main question used to estimate LTARs is included in the individual questionnaire[1] for the population aged 15 and over. This is as follows:

How many displacements do you normally make from this residence to work/study?
☐ None (because I have a second home from which I commute to work/study)
☐ One daily (so two journeys)
☐ Two or more

It is clearly apparent that the choice of 'none' gives a new proxy indicator of this subgroup of the population whose 'usual residence' is fixed at a second home. Although this question has clear advantages to determine a number of LTARs, further development in future questionnaires will be needed since the question is only referred to the population employed and/or studying aged 15. In addition, the way in which the question is laid out can derive to certain confusion as the choice 'none' might also be ticked by people without a second home but whose displacement as telecommuters is not necessary.

4. Estimation and geographical distribution

The next two subsections aim to give an estimate of the LTARs and its geographical distribution. Due to the likely differences between students and employed, these two groups are analysed separately.

4.1. Estimation and geographical distribution among students

The total percentage of students in Catalonia identified as LTARs is relatively high. Overall, a total of 10.4 per cent reported 'none' in question 2 of the individual questionnaire.

As expected, the geographical distribution is far from even, and is clearly defined by the existent map of education centres in Catalonia. In this respect, whilst primary and secondary schools are generally equally distributed as they fall within compulsory education, centres for further education such as universities and professional training institutes are generally concentrated in the main regional cities, thus forcing the population aged 15 and above to move to the main urban areas. Consequently, the higher percentages of LTARs among students are found in rural areas such as the Pyrenees, where more than 60 per cent of students registered in municipalities have been identified as LTARs (see map 1 below).

4.2. Estimation and geographical distribution among employed

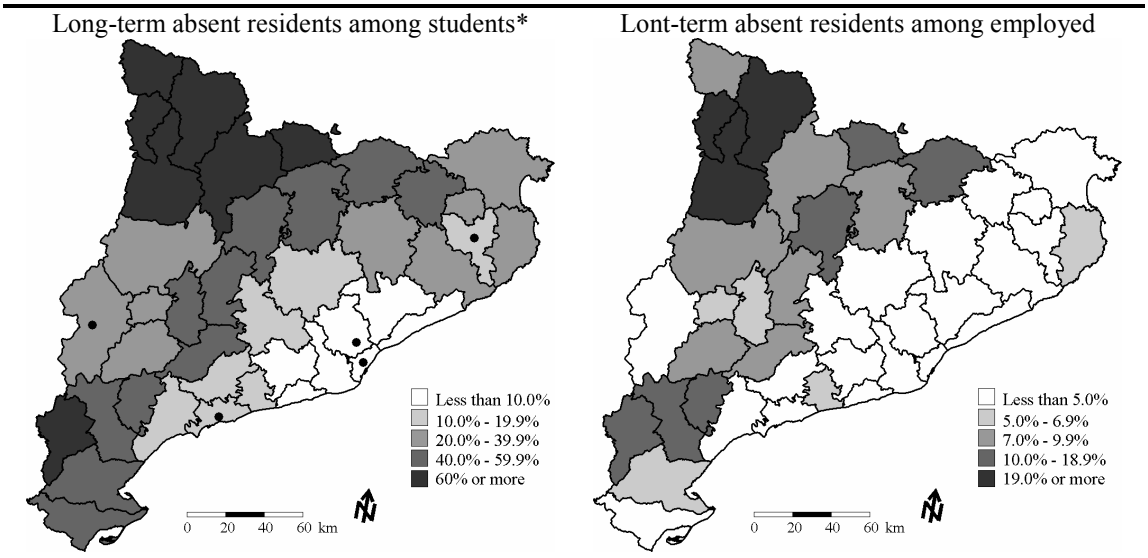
The total percentage of LTARs in Catalonia among employed highlights a lower percentage compared to the total student population. Overall, a total of 2.5 per cent reported having a second home from which they commute to work.

The geographical distribution of LTARs among employed can be principally explained by both the level of depopulation of rural areas and the presence of second homes in

[1] The total reproduction of the 2001 Census questionnaires is available at the Instituto Nacional de Estadística de España (Nacional Statistical Institute of Spain) website: http://www.ine.es/censo2001/cuestionarios.htm

different regions of Catalonia. Hence, the less populated areas in Catalonia, predominantly rural areas, and with a significant number of second homes such as the Pyrenees regions are those areas where the prevalence of LTARs is higher. For example, in Alta Ribagorça, Pallars Sobirà and Pallars Jussà, nearly 20 per cent of the population is registered in a municipality without having their 'usual residence'. These differences are even greater if we take into account some smaller areas, where up to 50 per cent are LTARs. Apart from the Pyrenees, other predominantly rural regions such as those nearby the Montsant range, and those crossed by the Ebre basin have also a considerable number of LTARs, with percentages between 10 and 19 per cent (see map 1 below). Many of these rural areas, once colonies of the principal urban areas such as the metropolitan area of Barcelona, are nowadays growing as rural destinations for weekend holidaymakers and, therefore, the significance of LTARs in these areas could be probably explained by the continuous developments of second homes. On the contrary, the densely populated regions of Barcelona, Girona, Lleida and Tarragona, where 90 per cent of the total population in Catalonia live, are areas with significantly less LTARs (the percentages are generally below 5 per cent).

Map 1 Prevalence and distribution of long-term absent residents —students and employed— within regions in Catalonia, 2001



(*) A dot on the map indicates the location of university centres in the region.
Source: 2001 Census.

5. Sociodemographic and socioeconomic characteristics

The next two subsections give an account of a number of sociodemographic characteristics of the LTARs separately by students and employed.

5.1. Students

The main characteristics of LTARs among students are determined by an age effect. Overall, about 82 per cent of LTARs are between 18 and 25 years old, single and living in a family household where they are not the household reference person. In addition, LTARs in this particular group are female dominated, most likely as a result of their larger presence compared to males in higher education.

Generally, for both males and females, more than a half of LTARs are studying a university degree, and about a quarter have already finished a university degree. Also, a considerable percentage of LTARs among students -about 10 cent- are studying abroad.

Although the census question 2 in the individual questionnaire does not allow estimating LTARs among those younger than 15, it needs to be pointed out that previous studies have indicated the low-level occurrence of this phenomenon at these ages, with percentages lower than 2 per cent (Sabater, 2004).

6. Employed

The main features of LTARs among employed are not as obvious as with the student population. In order to describe their main features we have focused on those regions where the prevalence of LTARs is greater than 7 per cent. In addition, a number of socioeconomic variables have been used for a better description.

6.1. Sex, age and education

Although the majority of LTARs are male -55.4 per cent-, the prevalence of LTARs is slightly higher among females -11.9 per cent-. These results are comprehensible if we take into account that the employment rate is also greater among males than females.

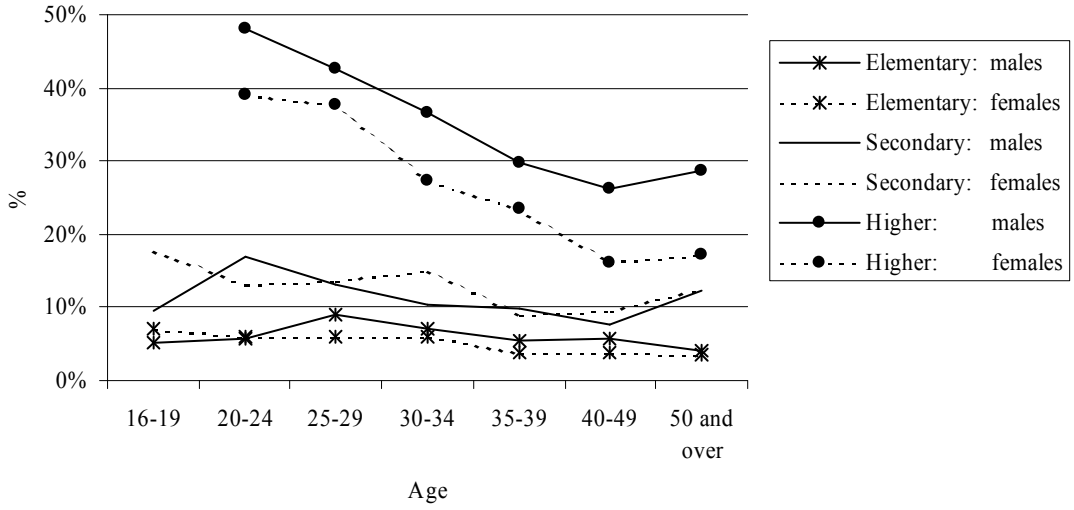
In relation to the variable age, the percentage of LTARs is more significant among young adults, particularly of those aged between 20 and 39 years old. Despite the fact that the percentage is higher among those at younger ages, both this group and older adults show percentages always above 5 per cent.

Educational attainment appears to be a key variable to explain the prevalence of LTARs. Whilst more than 30 per cent of those who have a university degree show this occurrence, only 3 per cent of the population which stated not having any studies are LTARs. This relationship between educational attainment and the prevalence of LTARs is clearly represented by those with different university degrees. Among those with a two-year degree, the percentage of LTARs is about 25 per cent, whereas for those with a four-year degree the percentage is about 36 per cent. The percentage is even higher for those who have a doctoral degree, being 45 per cent LTARs.

If we analyse the three variables together (see graph 1 below), the main conclusions are as follows:

- The prevalence of LTARs is higher among those with higher education;
- The prevalence of LTARs at different ages is highly related to the educational attainment;
- Although there are no clear differences across age groups among those with only compulsory education, the prevalence of LTARs is always higher among those with higher qualifications;
- The overall differences between males and females for those with compulsory education are insignificant; however, the prevalence of LTARs among males is more important for those who have a university degree.

Graph 1 Prevalence of long-term absent residents among employed in relation to sex, age and educational attainment



Source: 2001 Census.

6.2. Residential characteristics

As mentioned earlier on, the main feature of LTARs is that they live away from the municipality where they are officially registered and, therefore, an analysis of their residential characteristics is expected to provide more information about the relationship of this subgroup of the population with the use of second homes.

By using the variables type of tenancy, household surface and number of household members (see Table 1 below), the following characteristics are found:

- First, following the trend of the overall population, the majority of LTARs are owners, and a considerable percentage –more than 15 per cent- have inherited their residence;
- Second, the household surface is generally high, as demonstrated by nearly 15 per cent of households with 135 square meters or more occupied by LTARs;
- Third, the percentage of one member households –18.7 per cent- among LTARs is greater than those containing more members.

Table 2 Prevalence of long-term absent residents in relation to their residential characteristics

Type of tenancy		Household surface (sq. metres)		Household members	
Ownership (fully paid)	12,4%	0-74	10,0%	1 member	18,7%
Ownership (mortgage)	7,1%	75-94	9,1%	2 members	8,6%
Ownership (inherited)	15,5%	95-114	10,5%	3 members	9,8%
No ownership (letting)	7,3%	115-134	11,8%	4 members	9,8%
Other	9,8%	135 or more	14,9%	5 members or more	12,8%

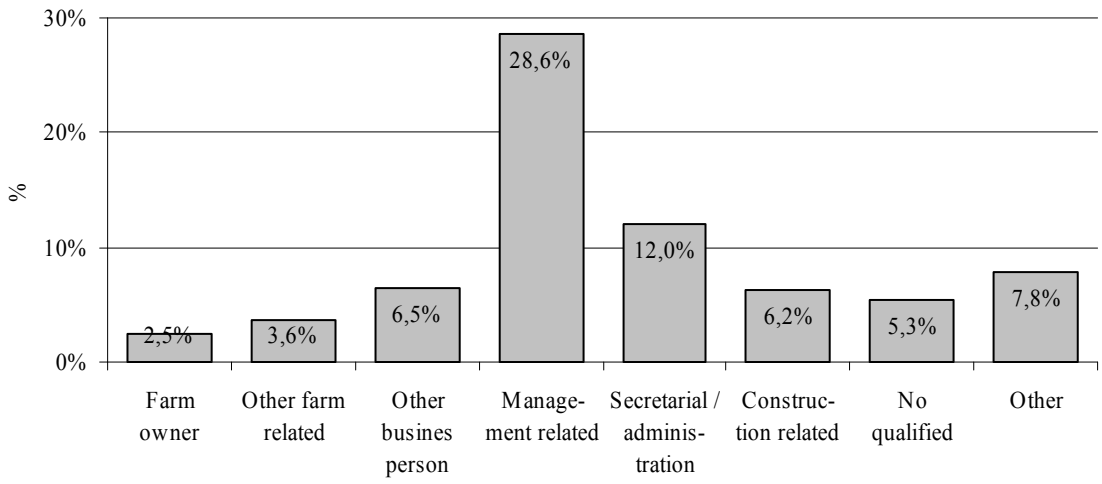
Source: 2001 Census.

6.3. Socioeconomic activity

This type of information is relevant to identify which occupations are mostly undertaken by LTARs. Graph 2 (see below) highlights the main occupational characteristics of LTARs. These are as follows:

- First, the higher percentages of LTARs are found in those undertaking high-skilled activities, such as management-related occupations, with a prevalence of nearly 30 per cent. Those LTARs occupied in administration position have also a significant prevalence.
- Second, the prevalence of LTARs in occupations in which, traditionally, no qualifications are needed such as construction-related is much lower -6.2 per cent-;
- Third, the prevalence of LTARs in farm-related occupations is the least significant.

Graph 2 Prevalence of long-term absent residents by socioeconomic activity among those employed



Source: 2001 Census.

6.4. The use of a logistic model for examining the characteristics of LTARs among employed

In this subsection, logistic regression models are carried out to predict the underlying sociodemographic and socioeconomic characteristics of LTARs. Both bivariable and multivariable logistic regression models were used to examine the presence/absence of LTAR from the following set of variables: sex, age, education attainment, socioeconomic status, tenancy type, household surface and number of household members. For this purpose, a 20 per cent microdata sample with information collected about each person and housing unit from the 2001 Census was used. The main results are as follows (see Table 2 below):

Sex. The bivariable results show that being female raised the odds of being a LTAR, however, the findings differed in the multivariable analysis when the other variables were included in the model. Then, the coefficient for females turned negative, indicating

that being female compared to male lowered the odds of being a LTAR by about 1/3 or by .312.

Age*education attainment. As seen earlier on in the descriptive analysis (see Graph 1 above), these two variables are significantly related to each other. The outcome for those who have a university degree clearly displays how the increase in educational attainment across ages (cohorts) is negatively related. As expected, the effect is less significant among those who have not higher education. The results screened in the bivariable model clearly show how age*education were positively associated with being a LTAR. The relationship was particularly strong among those with a university degree, which raised the odds of being a LTAR significantly. Here, the age effect becomes really important, specifically among ages 16-24, 24-29 and 30-34. Although the introduction of the rest of variables smoothes the overall effect, they are, by far, the most important independent variables in the model. For example, finding a LTAR among those aged 16-24 and with a university degree is seven times more likely than for those with only primary education.

Socioeconomic activity. This appears to be the second most important explicative variable in the model. Generally, LTARs are more likely to be employed in those activities related to a higher socioeconomic status than those which require no qualifications. Nonetheless, there are two main exceptions. First, the bivariable model shows how being occupied in the primary sector either as a farm owner or other farm-related activities lowered the odds of being a LTAR. Second, and according to the results in the multivariable analysis, white-collar activities are also less likely to be LTAR. On the contrary, those who reported being occupied in management-related activities raised the odds of being a LTAR. Within this category, the likelihood of being a LTAR is two-and-a-half times greater than for those within construction-related activities. Due to the fact that socioeconomic status and age*education attainment are a pair of variables expected to be highly correlated, an increase in one variable corresponds directly to an increase in the other.

Type of tenancy. Both the bivariable and multivariable indicate the same result: having an ownership raised the odds of being a LTAR. However, an exception is given with those who are still paying a mortgage where the effect is exactly the opposite. Generally, finding a LTAR among those who have fully paid or inherited an ownership are one-and-a-half times and two times respectively more likely than for those letting out accommodation.

Household surface. In the bivariable model, having more than 135 square meters raised the odds of being LTAR. However, this result appears to be less significant when the multivariable analysis is performed, which also indicate that those living in the smallest households are equally likely to be LTARs.

Household members. The outcome of this variable is only significant for the reference category (one person household), as having more than one member in the household lowered the odds of being LTAR.

To sum up, if we wanted a definition of a LTAR based on the independent variables included in the model, the prototype individual would gather the following characteristics: 1) gender: male; 2) age: less than 40 years old; 3) education: with university degree; 4) socioeconomic status: within management-related activity; 5) type

of tenancy and household surface: ownership, preferably inherited and greater than 135 square metres.

Table 3 Bivariable and multivariable models to predict the response variable (LTARs)

	Bivariable model			Multivariable model		
	ß	Sig.	Exp(ß)	ß	Sig.	Exp(ß)
SEX						
Males		Reference			Reference	
Females	0,161	0,000	1,175	-0,312	0,000	0,732
Constant	-2,159	0,000	0,115			
AGE*EDUCATION						
Primary		Reference			Reference	
Secondary	0,880	0,000	2,411	0,642	0,000	1,900
University: 16-24	2,572	0,000	13,089	1,952	0,000	7,045
University: 25-29	2,485	0,000	12,000	1,849	0,000	6,353
University: 30-34	2,107	0,000	8,227	1,447	0,000	4,251
University: 35-39	1,874	0,000	6,514	1,249	0,000	3,488
University: 40-44	1,670	0,000	5,315	0,940	0,000	2,561
University: 45-49	1,463	0,000	4,320	0,714	0,000	2,042
University: 50-54	1,678	0,000	5,356	0,867	0,000	2,381
University: 55 and over	1,962	0,000	7,115	0,966	0,000	2,626
Constant	-2,914	0,000	0,054			
SOCIOECONOMIC ACTIVITY						
Farm owner	-0,965	0,000	0,381	-1,311	0,000	0,269
Other farm-related	-0,570	0,011	0,566	-0,643	0,004	0,526
Other businessperson	0,043	0,627	1,044	-0,136	0,137	0,873
Management-related	1,797	0,000	6,033	0,987	0,000	2,684
Secretarial / administration	0,719	0,000	2,053	0,525	0,000	1,691
Construction-related		Reference			Reference	
No qualified	-0,162	0,323	0,850	-0,116	0,488	0,891
Other	0,240	0,367	1,271	-0,049	0,858	0,952
Constant	-2,714	0,000	0,066			
TYPE OF TENANCY						
No ownership (letting)		Reference			Reference	
Ownership (fully paid)	0,579	0,000	1,785	0,524	0,000	1,688
Ownership (mortgage)	-0,035	0,695	0,965	-0,163	0,087	0,850
Ownership (inherited)	0,844	0,000	2,326	0,859	0,000	2,361
Other	0,318	0,003	1,375	0,114	0,323	1,121
Constant	-2,536	0,000	0,079			
HOUSEHOLD SURFACE						
0-74	-0,189	0,024	0,828	0,151	0,103	1,163
75-94	-0,299	0,000	0,741	-0,068	0,384	0,934
95-114	-0,140	0,055	0,869	-0,025	0,750	0,975
115-134		Reference			Reference	
135 and more	0,264	0,000	1,302	0,210	0,008	1,234
Constant	-2,007	0,000	0,134			
HOUSESHOLD MEMBERS						
1 member		Reference			Reference	
2 members	-0,892	0,000	0,410	-0,876	0,000	0,417
3 members	-0,745	0,000	0,475	-0,790	0,000	0,454
4 members	-0,743	0,000	0,476	-0,849	0,000	0,428
5 and more members	-0,444	0,000	0,642	-0,535	0,000	0,586
Constant	-1,471	0,000	0,230			
			Constant	-2,584	0,000	0,075
			- 2 Log Likelihood	15.176,7		
			Gains	2.332,9	(15.37%)	

Source: 20 per cent microdata sample from 2001 Census.

7. Discussion

The aim of this final part is to highlight a series of issues where the inclusion of LTARs is likely to create certain statistical bias in population statistics.

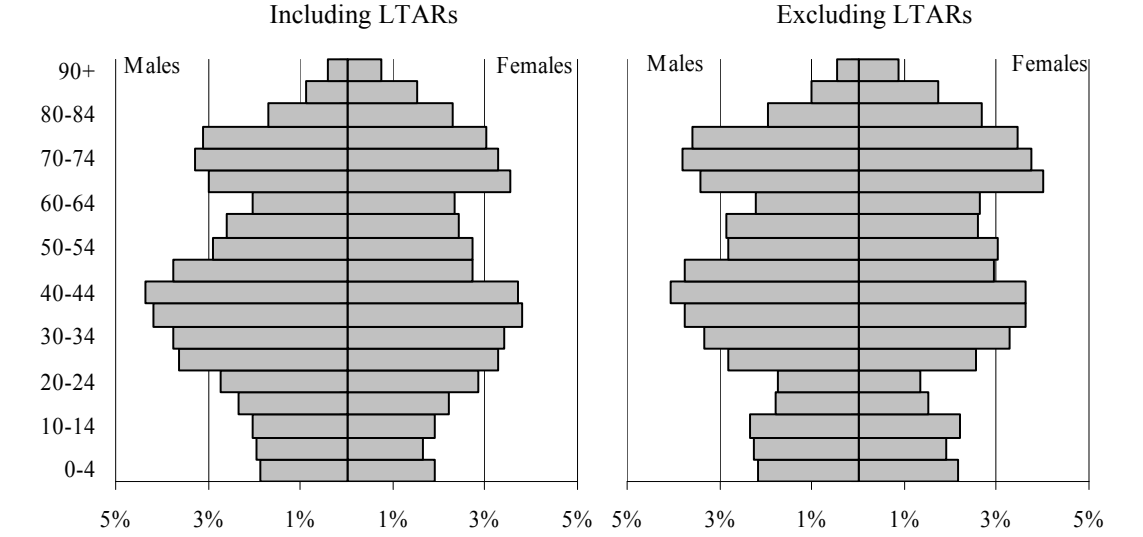
The effect on less populated areas

The inclusion of LTAR leads to the over-enumeration of the population. As such, those areas with a high proportion of LTARs are seriously affected by their inclusion in both the census and the population registers. Since the distribution of LTAR is more concentrated in rural areas, the knock on effect on rural depopulation is expected to be greater.

The effect on population ageing

Due to the ageing population process, which is largely the result of younger people moving out of the countryside for education/work, Catalonia's rural population might be ageing faster in these areas with the inclusion of LTARs. According to the 2001 Census, in Alta Ribagorça, Pallars Sobirà and Pallars Jussà, already in the Catalonian countryside, more than a quarter of residents are aged over 65 years old, thus making up a third of the residents when excluding LTARs (see Graph 3 below). This means that the countryside is soaring at a much faster rate than the rest of the country, posing numerous urgent challenges to the Government and other bodies.

Graph 3 Age-sex pyramids where the presence of LTARs is highest



Source: 2001 Census.

The effect on education attainment

2001 Census figures showed that the ranking of Catalonia's regions with the highest levels of education attainment, where more than 20 per cent of the population aged between 20 and 64 years old have a higher degree, were as follows: Barcelona, Alta Ribagorça and Pallars Sobirà. Although, these results are expected in metropolitan areas such as Barcelona, it is certainly surprising to find the same percentages in rural areas in the Pyrenees. Since the effect is likely to be caused by the presence of LTARs, an

allowance has been made to see the 'true' level of education attainment in these rural areas. After removing the LTARs effect, a five per cent decrease is found, thus situating these two regions at the same level of the rest of rural areas in Catalonia.

The effect on socioeconomic indicators

Similarly, the effect of LTARs is found when reporting socioeconomic indicators in certain areas. For example, the 2001 Census figures showed that more than 20 per cent of the population living in rural areas reported having a management-related occupation. Hence, we can assume that this considerable percentage of management-related activities in rural areas is likely to be biased by the concentration of LTARs in the same areas, thus creating a false increase of jobs generally found in metropolitan areas which offer higher wages and salaries.

The effect on geographical mobility

The study of geographical mobility partly involves the analyses of commuting from the usual residence to the place of work/study to see whether there is stability of spatial mobility trends over time and patterns of long-distance weekly commuting. Although, the latter is undergoing a significant increase, the presence of LTARs might certainly have the capacity to amplify the effect of this trend. For example, according to the 2001 Census, in some remote areas of the Pyrenees such as the Alta Ribagorça and Pallars Sobirà, both with a high concentration of LTARs, the second commuting destination reported by the population was Barcelona, an unlikely scenario considering the quality of transportation facilities between these two areas.

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