

CARMEN DELGADO VIÑAS

University of Cantabria

The COVID-19 pandemic effects in rural areas: Cantabria (Spain) as a case study

I. INTRODUCTION

On March 14, 2020, Royal Decree 463/2020 declared a state of alarm in Spain to deal with the impact of the COVID-19 pandemic caused worldwide by the SARS-CoV-2 coronavirus. Since the initial date, many research papers have been prepared and published on the impact of the pandemic at different scales and under different approaches, one of them territorial. As it could not be otherwise, this subject has also been addressed from Geography, an area of knowledge of proven effectiveness to analyse and interpret the dynamics and spatial patterns of epidemiological spread. The reading of these publications as well as the recent dissemination of numerous and efficient statistical data, mainly health and demographic corresponding to the years of greatest pandemic impact, 2020 and 2021, have prompted me to carry out an analysis of what happened at regional and local level taking as a reference the case of the autonomous community of Cantabria.

II. THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

From a spatial point of view, the impact of COVID-19 has been characterised by its universal condition, but also by a great territorial inequality. It is almost unanimously maintained that urban areas, especially metropolitan areas, have been particularly favourable to the development of infections due to the greater density of the population

and the intensity of personal relationships, so that they have become the main nucleus of the spread of the disease, which is why they present greater morbidity. In the same sense, other authors maintain that rural areas have shown a greater degree of resistance to the transmission of the virus, for all of which it has been interpreted that one of the effects of the pandemic has been the increase in interest in changing the urban habitual residence for housing in smaller rural entities. However, although with exceptions, in general, little attention has been paid to the specific effects of the pandemic crisis in rural areas other than affirming that these have been less affected than urban ones. They have thus attributed the quality of “shelters” with better living conditions thanks to the ease of maintaining greater social distancing, thus underpinning the idea that the COVID-19 crisis is revealing the crucial role of rural spaces in these circumstances.

In relation to all the above, the impact of COVID-19 has opened a new debate in which voices from the political environment and the media seem to be participating, as well as from academic fields linked to social and territorial sciences. For these reasons our starting hypotheses are based on several conditional and prudent questions rather than absolute certainties. The fundamental question should be whether a new situation arising from the impact of the COVID-19 pandemic is really occurring and how it may affect the rural population and its evolution. Another question revolves around the relevance of establishing a temporal approach to answer the question of whether the possible new dynamics of residential dispersion derived from COVID-19 are acquiring suffi-

cient intensity and territorial extension or represent only a parenthesis in the regressive dynamics observed until 2019. If the hypotheses of the change of trend in the distribution of the population between urban and rural areas are confirmed, we would undoubtedly be facing a paradigm mutation that should focus much of future research on the development of rural spaces, particularly small municipalities that have been suffering enormous population losses for decades. If this is not the case, one might wonder whether this supposed “return to the countryside” will not contribute to reinforcing previous trends by benefiting, preferentially, or exclusively, rural areas located in the vicinity of urban spaces and well connected to them.

III. METHODOLOGICAL FOUNDATION AND REFLECTIONS

Most of the studies published on this subject recommend that, to achieve reliable results in the research, many indicators be taken into account and the existence of a large number of local factors of alteration that can hinder the identification of clear patterns in the application of the Pearson correlation coefficient between rural areas and the spread of the virus.

Among the indicators commonly used are those that refer to morbidity (rate of infections with respect to the total population), over-mortality (percentage difference in the mortality rate of a pandemic year with respect to those of the years prior to the incidence of the disease) and lethality (proportion of deaths in relation to the number of cases diagnosed). These indicators are closely consistent with those relating to levels of population ageing assessed based on the percentage quota of the population aged 65 years and over and from the differentiated analysis of persons in this age group.

The socio-economic impact is also based on the study of the sectoral structure of employment and economic activities. Likewise, it is advisable to consider the degrees or levels of urbanisation of the spaces analysed, considered as a determining variable of the behaviour patterns of the pandemic. Residential spatial movements, especially internal migrations, are another essential indicator to be examined as they can respond to the search for safer places to survive the virus.

At present, it is also essential to analyse non-residential mobility, in particular everyday mobility that shows the changes produced in the relations between the place of work and the place of residence and between this and

places of leisure and acquisition of goods and services and, by extension, between urban spaces and rural areas.

In the research on which this article is based, data from official sources, in particular the National Institute of Statistics (INE) and the Cantabrian Institute of Statistics (ICANE), have been used with preference.

In terms of working methods, we have used basic descriptive analytical statistics for the elaboration and presentation of the main results. Its presentation has been made a priority from the thematic cartographic elaborations to facilitate the visualisation of territorial dissimilarities in a more effective and efficient way.

IV. TERRITORIAL CONTEXT: BRIEF APPROACH TO THE EFFECTS OF COVID-19 IN SPAIN

On 3 March 2023, COVID-19 had a balance of 13,770,429 notified and confirmed cases in Spain, of which 3,112,014 were people over 60 years of age (22.59%), and 119,479 deaths, representing 0.86% of lethality (data from the Ministry of Health, Social Services and Equality).

According to some of the studies consulted, the impact of the pandemic has been quite different from several perspectives, especially temporal and territorial.

In the first aspect, from March 2020 to the end of 2022 there have been eight cycles of increase in infections, called “waves”, with different intensities, the largest being the sixth wave, from the end of 2021 to the beginning of 2022, which meant an exponential increase in the number of infections since the beginning of the pandemic.

Likewise, territorial inequalities have been observed at all scales and in all aspects considered. About the incidence of infections, in Spain the highest number of infections has occurred in the metropolitan areas of Madrid and Barcelona, as well as in La Rioja and Álava. Similar territorial differences are observed through the values of excess mortality, or over-mortality, as can be seen in the data represented in the tables of regional statistics. According to data provided by Eurostat, in 2020-2021 excess mortality in Spain ranged between 4.3% in Galicia and 26.4% in the Community of Madrid.

Concerning migration seems that the demographic factor most affected in 2020 was international immigration, with a decrease of -37.65%, while emigration declined by -16.10%. The migratory dynamics have changed radically in 2021: immigration has grown by 13.02% while emigration has increased by 53.20%.

There has also been an increase in migratory departures from cities to rural areas and a decrease in arrivals in urban areas.

In the case of all interior residential changes, the survey of residential variations (EVR) shows that in 2020 changes in interior residence decreased in Spain only by -7.87% while exterior residential variations did so by -52.21% . Residential mobility increased again from the second half of the year until December due to an increase in departures from large cities to rural areas, to those with a significant presence of secondary residences.

Some studies estimate that it is municipalities with less than 10,000 inhabitants that have benefited most from the increase in population as a result, above all, of the decrease in the number of people who have left the rural area (low registers) rather than by the arrival of inhabitants from other municipalities (high registers).

The recently published statistical data confirm that during 2020 the migratory dynamics in Spain were characterised by an increase in the migratory balance of rural spaces, contrary to what happened in urban areas, which present negative balances: the rural population, considering as such that of municipalities with less than 10,000 inhabitants increased 0.56% in 2020 while the urban population decreased 0.31% .

This fact represents an evolution contrary to the trend in force since the mid-twentieth century defined by the rural “exodus”, the continued emigration from the countryside to the cities. However, throughout 2021 the trend has partially changed: rural municipalities have had an average population gain of 0.01% while urban municipalities have gained 0.24% (definitive data as of January 1, 2022). On the other hand, it must be considered that the largest positive internal balances correspond to rural areas located in the vicinity of large cities and have been nourished by the residential outflow of population from these urban areas.

In any case, most of the published analyses agree that the population growth of small rural municipalities has been concentrated in the Mediterranean coastal areas and in the peri-urban environment of cities, particularly in municipalities located in the vicinity of the main communication axes, which does not seem to represent an unusual change with respect to previous demographic dynamics.

V. THE EFFECTS OF COVID-19 IN CANTABRIA

Cantabria, like the rest of the Spanish autonomous communities, has suffered the onslaught of COVID-19

from February-March 2020 to the present with similar features, rhythms and effects. As of March 30, 2022, at the end of what has been called the sixth pandemic wave, according to official data provided by the Ministry of Health, in Cantabria there had been 131,501 cases of infection and 815 deaths, representing a

About the effects of COVID-19 in rural areas of Cantabria, the territorial distribution of morbidity, lethality and mortality data is quite expressive. The result of the elaboration of the incidence data, considering the population size of the municipalities, supports the territorial differences. Small rural municipalities have had a lower proportion of infections while the value is rising as the population size increases until reaching maximums in those of semi-urban character, between 5,000 and 10,000 inhabitants (234.89%), and urban, with more than 10,000 inhabitants (229.08%). Compared to this distribution, mortality and lethality figures are higher in very small municipalities, those with less than 500 inhabitants, (4.71% and 16.04% respectively) and are decreasing as the population size increases (1.29% and 5.35% in those with 5,000 to 10,000 and 1.45% and 6.35% in those with more than 10,000). The incidence of the pandemic in terms of the proportion of infected people in relation to the total population shows, in general, higher values in urban and peri-urban areas. This distribution has a clear link with differences in population density. Lethality, although linked to morbidity, seems to have been more related to the biological structure of the population and to the levels of ageing.

Regarding the population evolution under the impact of the pandemic, there are also divergences between some and other types of territories. Most of the Cantabrian municipalities, 65 out of 102 (63.72%), gained population in the first pandemic year, most of them being rural municipalities, but they lost it again in the second year, 2021. The total balance of the two pandemic years shows that the rural municipalities of the mountain range have continued to lose population to a greater or lesser extent, with most of the municipalities at risk of depopulation (22 of 39, 56.41%).

The last result of the inland residential variations is reflected in the uneven evolution of the internal migratory balance: rural municipalities of smaller demographic sizes went from having negative or slightly positive balances in 2019 to having a notable increase in their migratory balance in 2020. The balance has been significantly reduced in 2021: municipalities with less than 500 inhabitants have returned to negative values and in the others the figures have been reduced signifi-

cantly. External migratory contributions have hardly had any importance in the population dynamics during these years.

COVID-19 has also had significant effects on economic activity and employment. It should also be in mind that the socio-economic impact of the pandemic comes after a decade of economic crisis, since the outbreak of the Great Recession in 2008, when an incipient recovery had already begun, especially since 2017.

In this situation there was the sudden irruption of COVID-19 and its aftermath of social confinement and paralysis of economic activity. The result has been the stagnation of affiliation, which only grew in the whole of Cantabria 0.04% in the two years of the greatest impact, 2020 and 2021. If we consider the distribution of affiliated persons according to their place of residence, it is observed that stagnation was widespread, but the decrease was especially prevalent in inland and mountainous rural areas with few and timid exceptions.

The different evolution of unemployment in the years of the greatest impact of the pandemic is also highly expressive. In 2020 there was a generalised increase in unemployment throughout the autonomous community quantifiable at 14.29% compared to the previous year. The few exceptions are fully rural municipalities, all of them and the causal explanation lies in the short-term registration of a few active persons from elsewhere, which we could qualify as “tactical” registration in relation to the limitations imposed on mobility. On the contrary, throughout 2021 registered unemployment experienced a limited but eloquent decline (−2.16%). The decrease in unemployment occurred in all the municipalities of the region. The largest decline in unemployment occurred in 2022 (−14.45%) so it has almost returned to the values of 2019. The few exceptions recorded correspond to rural mountain municipalities.

Employment in the services sector in Cantabria has not declined, but, on the contrary, has experienced a slight increase (0.29%), but also shows notable territorial contrasts. If it was already a sector with a widespread but very unequal presence, the pandemic seems to have contributed to maintaining and reinforcing the dissimilarities.

Undoubtedly, the economic sector that has been most affected by the impact of the pandemic has been that of tourism services. Although in many territories the tourist activity suffered a significant setback, the same has not happened in Cantabria. On the contrary, the region benefited from the closure of foreign tourist destina-

tions, which made it a highly demanded space for national tourism. While in Spain the number of places in tourist homes fell by −2.56% in Cantabria it increased by 27.33%. And it has done so in a generalised way throughout the regional territory, with special incidence in the coastal areas, especially in the east, but also in many rural municipalities of the intermediate interior valleys and the mountain ridge.

The only sector of activity that has had a significant increase in employment is construction (3.20% in 2020-2021). It is precisely the sector that had served as a refuge activity for many of the inhabitants of rural areas as the process of deagrarianisation progressed and that suffered greater losses during the years of the Great Recession, although it had already begun a remarkable recovery before the impact of the pandemic. The areas that have lost the most jobs in this sector are precisely the most clearly rural.

The economic and labour market dynamics during these years are related to two aspects that have a great impact, particularly in rural areas, and that can help explain territorial differences: physical mobility and the possibility of teleworking.

Considering only non-urban municipalities, in 2019 extraordinary mobility is observed in a large part of the territory, from the rururban and rural areas close to the main road axes, the A-67 and A-8 motorways, and to the main urban spaces. During the confinement period, as is logical, mobility fell to minimum throughout the regional territory, although the mobility figures maintained by some peri-urban municipalities are very expressive. In any case, in 2021 there is a general decrease in mobility and that rural spaces had not recovered normality in terms of the daily displacements of their inhabitants to carry out economic and social activities outside their administrative limits.

In relation to teleworking, all rural areas in Cantabria did not offer the same possibilities during the pandemic. Thirty-four municipalities (33.33% of the total) did not have a single household with access to the required networks and in another twenty the figure did not reach 10%, which means that more than half of the Cantabrian municipalities, practically all the rural ones located in the interior valleys and mountain areas, had little access to networks that would allow their inhabitants to telework effectively. On the contrary, urban and peri-urban municipalities and coastal and pre-coastal rururbans had sufficient coverage, which made them more attractive to accommodate people with teleworking possibilities.

VI. DISCUSSION AND CONCLUSIONS

The way in which COVID-19 has affected the rural areas of Cantabria does not seem to differ much from the way in which the impact has occurred for the Spanish whole, so it is feasible to accept that most of the conclusions obtained from the analysis of this case can be extrapolated to other territorial areas. However, some peculiarities derived from the specific structural characteristics of this territory at regional and local level are perceived.

The analysis of the behaviour of the pandemic from the spatiotemporal point of view reveals the existence of intraregional contrasts, a consequence of the pre-existing imbalances between the central area, where the bulk of the population is concentrated and there are high levels of density and mobility, and the peripheral rural space, characterised by a more dispersed population structure that, in the end, it has become an element capable of moderating the spread of the virus, despite being the areas with the highest rates of ageing.

From the point of view of the incidence of infections, there are differences, although not very pronounced, according to the population density rates since, *grosso modo*, the degrees of incidence have been in accordance with the levels of density and the values of mobility of the population. In this regard, the circumstances of Cantabria support this idea repeated and well supported with statistical data in other territories. This explains the spikes in infections, particularly those that have taken place after the end of summer in both 2020 and 2021, because of the increase in seasonal population and, therefore, of the density in areas with greater tourist dynamism and the presence of secondary residences.

On the contrary, lethality and mortality do not strictly coincide with the levels of over-ageing of the rural population, as would have been expected due to the differentiated age effect of the pandemic, so the relationship between old age and death rates does not provide entirely adjusted and conclusive results.

The distribution of excess mortality caused by the pandemic in 2020 also seems to have been more linked to population density than to age and degree of ageing. Thus, comparing mortality in the last pre-pandemic year, 2019, and the first of the pandemic, 2020, it is observed

that, broadly speaking, the high rates correspond to urban and peri-urban municipalities, although the highest have occurred in some rural areas of very aged areas.

As for population variations at the municipal level, no significant changes can be observed since, despite the general increase in the population of rural areas, the municipalities with the greatest population gains have continued, with few exceptions, the coastal and peri-urban areas, while a good part of the fully rural municipalities have continued to lose population. Therefore, it could hardly be considered that the demographic effects of the pandemic could have had an effective positive character in the face of depopulation.

Consequently, the results of Cantabria allow us to refute some premature and/or overly optimistic approaches, which seek to see in the impact of the pandemic an incipient corrective against depopulation. The data after 2020 force us to question the idea that what happened in that year could be the embryonic beginning of a reversal of the trend in the distribution of the population or it is simply a punctual conjunctural change. The answer will be given by the data on the population evolution of the coming years, although some revealing signs of the dynamics are already beginning to be seen in the data published for 2022.

The demographic and socioeconomic dynamics during the years of greatest pandemic impact are related to three aspects that have had a significant effect, especially in rural areas, and that can help explain territorial differences: the availability of second homes, daily mobility and the possibility of practising teleworking from home. None of the three factors has been particularly conducive to rural areas less close to cities and the coast, except the availability of empty houses arising from rural emigration. On the other hand, the greater deficiencies of physical accessibility seem to have hindered the recovery of the “normality” of previous daily mobility. As for the opportunity to telework, it has not been a circumstance that has taken advantage of rural interior and mountain spaces, among other reasons because of the lack of internet coverage in the necessary conditions. Thus, the limitations of virtual accessibility have also been an added factor of negative discrimination for rural areas compared to urban and peri-urban areas, to the widening of the territorial gap.