

Vecchio, Giovanni

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Ageing, therefore marginal: demographic trends and institutional capacity in marginal Chilean municipalities

Giovanni Vecchio¹

¹ Pontificia Universidad Católica de Chile, Santiago de Chile, Chile

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Abstract. In Global South countries, ageing is an incoming phenomenon with socio-spatial implications that are not much explored yet. Global North countries are already facing ageing trends with significant territorial consequences, such as declining populations that contribute to making certain areas marginal. However, different factors may determine the marginality of a municipality or a region in other settings. Drawing on these premises, the paper discusses whether ageing demographic trends contribute to territorial marginality also in a Global South setting. The paper focuses on the case of Chile, a country characterised by significant territorial inequalities and a population that is becoming older. In doing so, it has a twofold purpose: first, examine census data to define what areas are currently experiencing a demographic decline and if these correspond to the areas that national policies define as marginal; second, examine official documents to consider to what extent both national policies and local development plans define ageing as an element of marginality. The decline of population in Chile defines a geography of marginality that complements and expands the one defined in policy strategies, including more areas. In contrast, institutions at different levels are only partially prepared for dealing with the socio-spatial implications of an increasingly older population.

Key words: ageing, territorial marginality, institutional capacity, Chile

1 Introduction

Ageing is a significant phenomenon that increasingly affects also the Global South. Nowadays, older people are 10% of the world population, and ageing affects mainly Global North countries (United Nations 2019): for example, in 2019, older people were 23.1% of the European population, while in Latin America and the Caribbean, they accounted only for 10% of the overall population. Nonetheless, these proportions are expected to change in the next decades dramatically. While Europe is expected to consolidate as an old continent already in the next few decades (older people will be 39.2% of the population by 2050 and 43.7% by 2100), demographic forecasts indicate that Latin America will experience an even faster ageing process: the elderly population (that is, the amount of people aged 65 years and older) will amount to 23.4% already by 2050 and, at the end of the century, 45.6% of the Latin American population will be 65+ (United Nations 2019). These impressive demographic trends confirm thus that ageing will pose a significant challenge outside the Global North in the next few decades.

Ageing has significant socio-spatial implications for the development of cities and regions that nonetheless seem to have received less attention in Global South countries. For example, in Latin America, more attention has been given to issues such as life expectancy, pensions and welfare services (Bilal et al. 2019, Jeong 2013, Rotarou, Sakellariou 2019), in comparison to the spatial dimensions of ageing (Sánchez González 2015). These involve primarily the need to adapt existing settings to a population that is increasingly old and has different needs, in terms of valued opportunities, available resources and degrees of personal autonomy (Boldy et al. 2011, Chui 2008, Costa-Font et al. 2009). However, another crucial dimension is the impact on general demographic trends and their consequences for territorial development. While ageing is often (and mistakenly) associated with population decline (Jarzebski et al. 2021), the growing presence of older people can be observed in places with both a decreasing or an increasing number of inhabitants, be them shrinking regions or areas that attract retired people. In both cases, the effects on the development patterns, the fiscal autonomy and the overall quality of life of a certain place are significant, determining different ‘urban futures’ and making ageing a possible cause of territorial vulnerability (McCann 2017). Amongst the several consequences that ageing may have for a certain place, the impact on the ‘territorial future’ appears thus to be especially relevant in relation to what institutions can do in order to deal with increasingly older places. In fact, emerging demographic trends may not only determine new needs and opportunities of a changing population, but also affect the resources that are available to face them.

The socio-spatial effects of ageing could be thus stronger in areas that are already stagnating and losing inhabitants, appearing marginal. In Latin America, urban areas concentrate not only most of the population but also wealth, especially in the case of extractivist economies. While peripheral areas provide resources, the value they generate is captured by a few cities that act as gateways to the global economy (Atienza et al. 2021). Therefore, the combined concentration of inhabitants and resources determines significant forms of territorial inequality and may easily configure non-urban areas as “places that don’t matter” (Rodríguez-Pose 2018), lacking opportunities and quality of life for their inhabitants (Collantes 2019, Vendemmia et al. 2021). Considering the future impact that ageing will also have on Latin American populations, it would be relevant to consider if, together with the concentration of wealth and inhabitants, also ageing acts as an additional factor that marginalises a specific territory.

Drawing on these premises, the paper intends to investigate if ageing demographic trends also contribute to determining a condition of territorial marginality in a Global South setting. The analysis focuses on Chile, a Latin American country that well represents some of the issues related to ageing, marginality and territorial inequality: it is a rapidly ageing country, with the highest presence of elderly inhabitants in the region – currently 10.6% of the population, while by 2050 one third of the Chilean inhabitants are expected to be aged 65+; (United Nations 2017); it is a highly unequal country, where economic activities and wealth show high levels of spatial concentration (Aroca et al. 2018, Badia-Miró 2020); and it is a country prone to marginality, due not only to its peculiar geography but also to the strong institutional centralisation (Orellana et al. 2016). Other Latin American countries have high shares of urban population and also show similar ageing trends, as in the case of Uruguay (14.9% of the population is aged 65+) and Brazil (9.3%) (United Nations 2019); nonetheless, these countries are less centralised than Chile or, as in the case of Uruguay, have undergone decentralisation processes (Ruiz Díaz 2018).

The paper focuses on municipalities where ageing processes have a higher incidence and considers how institutions at different levels currently deal with ageing. In particular, the analysis is based on three steps: (1) determine what municipalities are currently more exposed to ageing and to what extent these correspond to areas that national policies define as marginal; (2) consider if local institutions can deal with the needs of ageing local communities, providing basic services and developing plans that frame public action; (3) examine if their current development plans consider ageing as an issue. We hypothesise that ageing defines a different geography of marginality compared to official definitions, and that local institutions only partially address the ongoing demographic transformation despite its relevance for the development of these places.

2 Ageing: a phenomenon affecting territorial marginality and institutional capacity?

Even if territorial marginality is a fuzzy concept that has received quite different definitions (Moscarelli 2021), most definitions do not seem to consider ageing dynamics when defining a territory as marginal. In general, the relationship between a centre and its periphery defines what areas are marginal: those places that are far from a geographical centre, both in spatial and functional terms, are considered marginal since they are distant, dependent and different from the centre (Ferrão, Lopes 2004). Even from a regional perspective, such distance does not simply refer to a spatial dimension but also involves participation in a particular space's social and economic dynamics. If a territory is far from a centre and does not share its social, economic, and institutional features, it can be considered marginal (Copus 2001). A similar approach can also be found in the European Cohesion Policy, which defines as inner peripheries those areas with scarce access and poor socioeconomic conditions (Moscarelli 2021). The current definitions of territorial marginality tend thus to focus on the location of a specific place and its participation in ongoing socioeconomic dynamics but do not seem to address directly any demographic dimension.

Instead, adverse demographic trends may be observed in areas that were already defined as marginal based on other criteria, such as spatial proximity and access to basic opportunities. This is, for example the case of Italy, a country where national strategies define marginal areas according to their (lack of) access to health, education and mobility: the elements that identify such “institutional periphery” are thus mainly spatial features, even if the resulting marginal areas have in common trends such as population degrowth and increasing ageing (Vendemmia et al. 2021). Similarly, several regions of Spain experience the loss of population and a growing presence of older inhabitants, due to historical trend of migration towards urban, developed areas. These ageing trends are the result of a loss of population that occurred already in the central decades of the twentieth century, affecting especially those rural regions closer to developing urban areas (Pinilla, Sáez 2017).

Nonetheless, ageing is not simply a feature found in areas that are already marginal per se, but rather is a phenomenon that may differently impact the development of a specific place. As McCann (2017) discusses in relation to different urban futures, an ageing population may have different consequences on the development of a specific place. An ageing place may have a growing population, as in the case of coastal or rural areas that become destinations for specific forms of amenity-led migration (Gosnell, Abrams 2011): in this case, the impact of ageing can be positive for the local economic development. Instead, in those places that are losing inhabitants and where the remaining population is increasingly older, differences may be observed between urban, former industrial places and remote areas. In these two cases, different can be the implications on local development and the strategies to contrast the adverse effects of such demographic trends – as the different strategies deployed for shrinking areas (Haase et al. 2016) and inner peripheries (De Toni et al. 2021) demonstrate. The different impact that ageing can have on a territorial setting suggests that an increasingly older population is not necessarily observed in contexts that are marginal by definition. On the contrary, ageing can make a certain territory marginal or, under certain circumstances, avoid such conditions.

Ageing also has significant consequences for the institutions in charge of governing a specific territory and responding to its challenges. Institutional capacity is another slippery concept, generically considered as the ability to perform some of the varied tasks that government bodies are in charge of: for example, providing essential services and dealing with existing assets, such as infrastructures (Alm et al. 2021); manage scarce resources, as in the case of water (De Loë et al. 2002, Pirie et al. 2004), or plan and anticipate future threats, for example implementing policy to reduce disasters (McGregor et al. 2021). At least three levels define the capacity of an institution (Rosas Huerta 2008). At a micro level, crucial is the availability of resources, including financial and human ones. At a meso level, the management ability emerges as the element that determines the possibility to use existing resources to perform specific required tasks. Finally, at a

macro level, the capacity of an institution depends on its ability to interact with other significant actors, institutional or not, effectively. Ageing, mainly when observed in a context that is losing population, potentially negatively affects local institutions' capacity. Having a smaller local working population, the fiscal and financial resources available to local institutions in ageing places diminish, affecting the institutional capacity at a micro level. As a consequence, also their capacity to deal with the challenges of ageing (referring thus to the meso level), for example providing the services necessary for an increasingly older population, decreases.

Finally, ageing could further reduce the institutional capacity to deal with territories whose marginal condition poses specific challenges for the government bodies in charge of them. An example in this sense are the so-called 'places that don't matter', declining areas where local discontent has converged into populist electoral results (Rodríguez-Pose 2018). In these places, experiencing economic crises and population losses, only some inhabitants remain: and in many cases, these are the older, retired citizens whose age and emotional attachment to these places make their relocation unlikely (Rodríguez-Pose 2018, p. 201). The marginal nature of these places can affect the action of institutions in at least two senses. First, when the perceived marginality leads to antagonistic electoral results, the political divide between marginal, populist territories and central, "privileged" places can affect institutional capacity at a macro level, reducing one institution's ability to cooperate with other institutional bodies both horizontally and vertically. Second, these revengeful and antagonistic attitudes can affect the administration of marginal places even when electoral results do not reflect a populist shift. For example, marginal places can adopt an antagonistic attitude also in relation to the definition of their local identity and its consequences for planning decisions and processes (Mattila et al. 2020).

3 The case of Chile: ageing in an unequal, centralised country

Territorial marginality is only partially a policy priority in Chile, although several features of the country – geographically, economically and socio-politically – contribute to determining a marginal condition for several areas of the country. First of all, the geography of Chile is unfavourable, or even "crazy", according to a Chilean essayist (Subercaseaux 2005). The country's northern regions are characterised by deserts, while the southern parts of it have a cold climate and are fragmented into several islands, increasing their isolation. As a result, in a country which is 4.270 km long, 90% of its population lives in cities and especially in the Metropolitan Region, which includes the capital city of Santiago: even if the area covers only 2% of the Chilean territory, 40% of the national population lives there (INE 2018). Moreover, Chile's government has traditionally been centralist, struggling with decentralisation and resisting the transfer of attributions to regional and local governments (Orellana et al. 2016). Also economic activities reflect such centralist attitude, showing extractive mechanisms that favour the capital city and do not benefit the territories where these different activities – such as mining, forestry, intensive cultivations and farming – are realised (Atienza et al. 2021). As a consequence, the relevant socioeconomic inequalities of the country (Agostini, Brown 2007) become even stronger in non-metropolitan territories, leading to several socio-territorial conflicts (Delamaza et al. 2017). The geographical, economic, and political features of Chile contributed thus to marginalise vast parts of the country, determining significant forms of territorial inequality that public investments have not been able to address effectively (Orellana-Ossandon et al. 2020).

In a country where territorial disparities are an important public issue, ageing could become an additional determinant of marginality. The proportion of older people in Latin American countries is increasing (Gietel-Basten et al. 2020). This trend is even more intense in Chile, where older people have been 11.4% of the population in 2017, and will be 33% of the total population by 2050 (United Nations 2017). Here, the neoliberal policies that have characterized the country in the last decades determine that the provision of public welfare services is scarce in terms of quality and availability (Jeong 2013, Kurtz 2002, Wigell 2017), affecting mainly the quality of life of older people and configuring ageing as an additional element of fragility. As a result, pensions became one of the most

mentioned elements during the 2019 protests of Chile's *estallido social* and one of the most debated social welfare issues during the COVID-19 pandemic (Heiss 2020). The presence of a fragile group such as older people may affect mainly rural areas, where they prevail (INE 2018). However, their presence seems to have a different effect according to the places taken into account (McCann 2017): seaside or lake locations experiencing forms of internal amenity-led migration may benefit from a growing ageing population (Vecchio et al. 2022), while other places may have an increasingly older population due to the internal migration of younger inhabitants (Rodríguez Vignoli 2019). Ageing appears thus to be a potentially significant and partially overlooked phenomenon that could further affect the development of territories that in Chile are already experiencing significant forms of marginality.

Nonetheless, the existing policy on territorial marginality does not consider ageing as a possible issue. In particular, the convergence policy of Chile defines “left behind regions” (*zonas rezagadas*) according to two criteria: isolation and social gaps. Isolation refers to localities “that have difficulties of accessibility and physical connectivity, have very low population density, present dispersion in the territorial distribution of their inhabitants, and show low presence and coverage of basic and public services, according to the existing relationship between the components of structural isolation and degree of integration” (Ministerio del Interior y de Seguridad Pública 2018). Social gaps instead represent “the distance between communal poverty and regional poverty, which is understood as the difference between the average income poverty rate and the multidimensional poverty rate of each commune, and the regional average of both rates” (Ministerio del Interior y de Seguridad Pública 2018). Other national policies, more generically referred to rural areas (Subsecretaría de Desarrollo Regional 2020), rapidly mention older people as a group that deserves “priority attention” – together with women, youth, indigenous people, disabled people and migrants (Subsecretaría de Desarrollo Regional 2020). Even at a local scale, rural municipalities’ local development plans (PlaDeCo) do not mention ageing as a challenge to be addressed, focusing instead on other relevant issues such as vulnerability, social equity and housing (Orellana-Ossandon et al. 2020). In synthesis, Chile presents significant issues of territorial marginality, and ageing is a potentially more fragile condition than in other countries; nonetheless, these two issues – part of the national policy debate – do not seem to dialogue between each other yet.

4 Methodology

To examine whether ageing demographic trends contribute to determine a condition of territorial marginality also in Chile, the paper draws on a three-steps analysis. These are intended to detect the municipalities that are currently facing intense ageing processes, to synthetically assess their institutional capacity, and to examine to what extent they perceive ageing as a policy issue.

4.1 Definition of ageing municipalities

First, census data from the Chilean censuses of 2002 and 2017 (INE 2003, 2018) are examined to detect which municipalities are currently facing relevant ageing processes. The 2012 census was not considered since it has serious issues of representativeness that affects its validity (Neupert 2017). Although data are available also for previous censuses, the analysis focuses on the first two decades of the twenty-first century since this is the moment in which the Chilean demographic pyramid starts to change and the share of older population increases, showing changes in established demographic trends. The analysis considers 345 Chilean municipalities (excluding the municipality of Antártica, which is not recognised internationally) and first selects those municipalities where in the last census the elderly population was above the national average (11.4%), calculating the ratio between older inhabitants (aged 65+) and the overall municipal population. Then, in the selected municipalities the evolution of the population is considered, examining what municipalities have been losing inhabitants in the last years (comparing the 2002 and the 2017 census). In doing so, those municipalities facing a situation of potential demographic decline are selected. Finally, the set of selected municipalities is compared

Table 1: Variables and indicators used for the synthetic index of institutional capacity

Variable	SINIM indicator	Type of item
Fiscal autonomy	Dependency from the Common municipal Fund	Continuous (%)
Socioeconomic conditions of the population	Percentage of inhabitants under the line of poverty	Continuous (%)
Provision of health services	Number of municipal clinics	Continuous (nr)
	Number of municipal rural clinics	Continuous (nr)
Capacity to plan	Existence of a land use plan	Discrete (yes/no)
	Existence of a community development plan	Discrete (yes/no)
	Antiquity of the community development plan	Continuous (nr years)

Source: own elaboration

to the group of municipalities that are officially defined as isolated zones or as zonas rezagadas – that is, lagging areas for which development strategies are a priority. This last step examines how many municipalities previously selected are also officially defined as lagging or isolated zones.

4.2 Assessment of the municipal institutional capacity

To consider the capacity of local institutions to deal with the needs of their communities – especially in relation to ageing populations – the analysis focuses on the selected municipalities to assess the financial resources available to them and their ability to provide certain essential services. It is important to notice that in Chile, due to profound administrative reforms promoted under Pinochet's military dictatorship, the provision of public services such as health and education is in charge of municipalities. At the same time, the financial resources available to them mainly come from the taxes they can collect. A national fund – Fondo Común Municipal (common municipal fund) – redistributes resources among municipalities so that the dependence from this source is a proxy of the resources (or scarcity of) available to a municipality.

Therefore, a synthetic index of institutional capacity is proposed, considering two dimensions (see Table 1 for a detailed presentation of variables and indicators). On the one hand, the index considers the resources available to the municipality and its population, considering the dependency on the common municipal fund and the percentage of inhabitants in a condition of poverty. On the other hand, the index considers the services that a municipality can provide, focusing on basic health services that can be important for older people (clinics and rural clinics) as well as the planning tools available to the municipality. These include both normative land use planning tools (Plan Regulador Comunal) and strategic planning tools (Plan de Desarrollo Comunitario, community development plan), and reflect the ability of a municipality to project its action on a longer temporal horizon. Data referred to these items are based on data from the Chilean National System of Municipal Information (SINIM – Sistema Nacional de Información Municipal). Depending on the type of item (Table 1), discrete variables can receive 1 or 0 points (if a plan is available or not), while a 0-1 normalisation is applied to continuous variables. The average score of each municipality in relation to these items determines their final institutional capacity score.

4.3 Analysis of community development plans

To consider if the municipalities consider their ageing condition as a policy priority, a content analysis of their community development plans is performed. Being a strategic tool, these plans are usually easier to update compared to land use planning tools, and they can usefully express to what extent a municipality perceives specific issues as a priority. The analysis is performed on 39 plans, examining the plans that municipalities made publicly available on their websites. First, the analysis examines if plans mention ageing as a phenomenon that is affecting the municipality, estimating if and how the plans conceptualise this demographic trend. Second, the analysis focuses on more specific references to older people and demographic issues, determining what the strategies and actions deployed to deal with the needs of this growing population group are.

5 Results

5.1 Marginal and ageing municipalities in Chile: a partially overlapping geography

In Chile, the current definitions of isolated or lagging areas do not cover most municipalities where ageing can determine a condition of marginality. Examining census data for the 345 Chilean municipalities, the majority of them (243) currently shows a number of older people higher than the national average. These involve very different places, from isolated villages to boroughs of Santiago's metropolitan area. However, only 70 of these municipalities are currently experiencing also population loss, and, among them, 48 are small, rural municipalities (with less than 25.000 inhabitants; here we exclude municipalities with more inhabitants and places that are not rural, as per [Berdegué et al. 2010](#)). These places show some differences in relation to the intensity of their demographic decline (Table 2). Some municipalities show a condition of relative stability (-0.6%, Hualañe) of its population over 15 years, while others show a more intense loss of inhabitants (-15.8%, in Lumaco). As for ageing, the incidence of older people ranges from values slightly higher than the national average (12.3%, in Futrono) to a stronger presence (20.5 %, in Curepto). Interestingly, the municipalities where older people are more present are not the places that have lost more inhabitants and vice versa. The preliminary selection of municipalities highlights thus that 14% of Chilean municipalities are currently experiencing demographic trends that may define a potential condition of territorial marginality.

Table 2: Population of the selected ageing municipalities; regions are shown from North to South

Region	Municipality	Inhabi- tants in 2002	Inhabi- tants in 2017	Popula- tion loss (2002-17)	Older in- habitants (2017)	% of older inhabitants (2017)
Atacama	Canela	9.420	9.093	-3.5%	1.821	20.0%
Atacama	Combarbalá	13.531	13.322	-1.5%	2.521	18.9%
Atacama	Río Hurtado	4.770	4.278	-10.3%	843	19.7%
O'Higgins	Paredones	6.656	6.188	-7.0%	1.179	19.1%
O'Higgins	Pumanque	3.477	3.421	-1.6%	649	19.0%
Maule	Curepto	10.712	9.448	-11.8%	1.934	20.5%
Maule	Empedrado	4.203	4.142	-1.5%	525	12.7%
Maule	Chanco	9.423	8.928	-5.3%	1.394	15.6%
Maule	Hualañe	9.720	9.657	-0.6%	1.602	16.6%
Maule	Licantén	6.732	6.653	-1.2%	984	14.8%
Maule	Vichuquén	4.786	4.322	-9.7%	735	17.0%
Biobío	Florida	10.889	10.624	-2.4%	1.796	16.9%
Biobío	Quilleco	10.327	9.587	-7.2%	1.662	17.3%
Biobío	San Rosendo	3.971	3.412	-14.1%	563	16.5%
Ñuble	Cobquecura	5.579	5.012	-10.2%	1.015	20.3%
Ñuble	El Carmen	12.780	12.044	-5.8%	1.910	15.9%
Ñuble	Ninhue	5.737	5.213	-9.1%	987	18.9%
Ñuble	Ñiquén	11.417	11.152	-2.3%	2.005	18.0%
Ñuble	Pemuco	8.788	8.448	-3.9%	1.175	13.9%

Continued on next page

Table 2 – continued from previous page

Region	Municipality	Inhabitants in 2002	Inhabitants in 2017	Population loss (2002-17)	Older inhabitants (2017)	% of older inhabitants (2017)
Ñuble	Portezuelo	5.362	4.862	-9.3%	845	17.4%
La Araucanía	Carahue	25.575	24.533	-4.1%	3.601	14.7%
La Araucanía	Cunco	18.800	17.526	-6.8%	3.055	17.4%
La Araucanía	Freire	25.163	24.606	-2.2%	3.472	14.1%
La Araucanía	Galvarino	12.635	11.996	-5.1%	1.739	14.5%
La Araucanía	Gorbea	15.215	14.414	-5.3%	2.417	16.8%
La Araucanía	Saavedra	13.995	12.450	-11.0%	2.041	16.4%
La Araucanía	Teodoro Schmidt	15.323	15.045	-1.8%	2.513	16.7%
La Araucanía	Toltén	11.201	9.722	-13.2%	1.533	15.8%
La Araucanía	Ercilla	9.131	7.733	-15.3%	1.072	13.9%
La Araucanía	Los Sauces	7.603	7.265	-4.4%	1.114	15.3%
La Araucanía	Lumaco	11.335	9.548	-15.8%	1.405	14.7%
La Araucanía	Purén	12.965	11.779	-9.1%	1.742	14.8%
La Araucanía	Traiguén	19.179	18.843	-1.8%	2.921	15.5%
Los Ríos	Los Lagos	20.117	19.634	-2.4%	2.525	12.9%
Los Ríos	Máfil	7.147	7.095	-0.7%	995	14.0%
Los Ríos	Futrono	14.899	14.665	-1.6%	1.807	12.3%
Los Ríos	Lago Ranco	10.034	9.896	-1.4%	1.473	14.9%
Los Lagos	Cochamó	4.323	4.023	-6.9%	647	16.1%
Los Lagos	Fresia	12.620	12.261	-2.8%	1.832	14.9%
Los Lagos	Mauñín	15.621	14.216	-9.0%	2.339	16.5%
Los Lagos	Puqueldón	4.124	3.921	-4.9%	647	16.5%
Los Lagos	Quemchi	8.553	8.352	-2.4%	1.293	15.5%
Los Lagos	Quinchao	8.932	8.088	-9.4%	1.218	15.1%
Los Lagos	Puerto Octay	10.171	8.999	-11.5%	1.132	12.6%
Los Lagos	Purranque	20.814	20.369	-2.1%	3.038	14.9%
Los Lagos	Río Negro	14.732	14.085	-4.4%	2.159	15.3%
Los Lagos	San Juan	8.782	7.512	-14.5%	1.371	18.3%
Los Lagos	De La Costa					
Los Lagos	San Pablo	10.137	10.030	-1.1%	1.650	16.5%

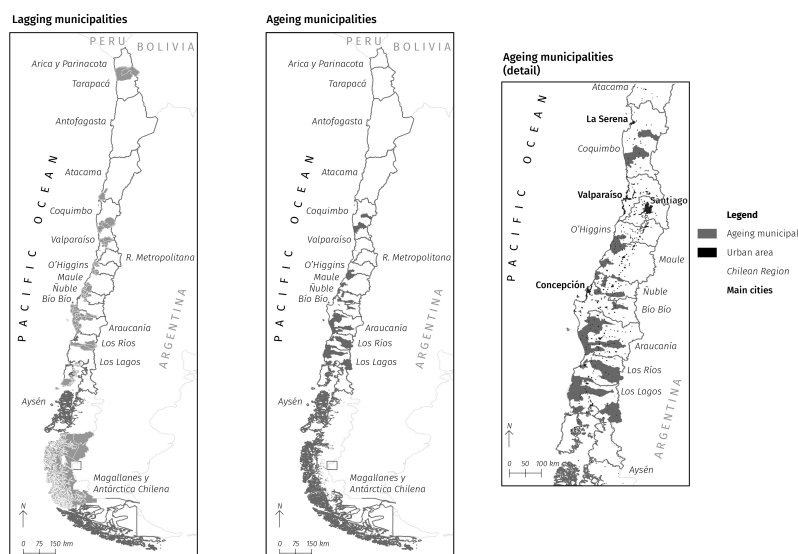
Source: own elaboration on INE, 2003, 2018

These municipalities are concentrated in a relatively limited extension of the Chilean territory, excluding the most extreme regions of the country (Figure 1). These include places ranging from the Region of Coquimbo, in the North, to the Region of Los Lagos, in the South, but some clusters emerge in the central-southern part of Chile: one between the regions of O’ Higgins and Maule, another one in La Araucanía (the most deprived region of Chile), and two in the regions of Los Ríos and Los Lagos. While different are the locations of these municipalities, several of them are located between coastal and rural zones. The distribution of these municipalities seems thus to confirm that internal migration does not affect the most extreme regions of the country (Rodríguez Vignoli 2019).

The resulting geography shows some differences with the municipalities that Chilean national policies identify as lagging areas (Figure 1). The Chilean Subsecretariat for Regional Development currently identifies 66 municipalities as lagging areas, based on their isolation and social deprivation. However, only 23 of the ageing municipalities currently belong to lagging areas. The main overlaps can be observed in the rural regions of Maule and La Araucanía, while in other zones there is a partial correspondence: ageing municipalities are part of wider lagging zones, or instead define autonomous clusters. Moreover, lagging areas also include municipalities in extreme regions of Northern and Southern Chile. Therefore, ageing municipalities in Chile define a geography of marginality that is potentially different from that of lagging areas: in some cases, demographic decline adds to an already recognised condition of socio-spatial marginality; in others, the increasingly older remaining population can determine a situation of fragility despite the good physical connectivity and favourable socioeconomic conditions.

5.2 Municipal institutional capacity: different capacities in deprived settings

The examined municipalities show pretty different levels of institutional capacity (Table 3 and Figure 2). The index of institutional capacity shows the existence of different degrees



Source: own elaboration

Figure 1: Lagging and ageing municipalities in Chile

of capacity when comparing ageing municipalities. Some places show low results (such as the municipalities of Galvarino and Teodoro Schmidt, whose score is 0.27), while others score better (for example, the municipality of Gorbea, with a score of 0.70); interestingly, these municipalities are part of the same deprived region, La Araucanía. Comparing the municipalities that are defined as lagging zones or not, the municipalities with lower and higher capacity shows similar results; instead, the average capacity of the two groups is slightly different, being higher in the case of non-lagging areas. As for the spatial distribution of the municipalities with different scores, apparently, no clear patterns emerge (although an analysis of spatial autocorrelation would be relevant if the index of institutional capacity were available for each municipality of the country). While in some cases neighbouring municipalities show similar levels of institutional capacity (as in the regions of Los Ríos and, partially, Los Lagos), even the main clusters of ageing municipalities show different results: the most evident case is that of La Araucanía, where towns with higher and lower scores are close to each other. As represented in the synthetic index proposed, institutional capacity reflects a territorial multiplicity that does not correspond exactly to existing definitions of marginality (based on geographical distance and socioeconomic deprivation), nor new definitions based on demographic variables.

Considering the elements that constitute the institutional capacity, a more nuanced picture emerges. In relation to the financial resources available to a municipality, the levels of autonomy of each town are quite different: the majority of them – except one – depend on the common municipal fund, and more than half of their resources depend on transfers from the national government; however, on average only 20% of the financial resources is raised locally and, in some cases, there is almost a total dependence from the common fund (as in Saavedra, where 95% of the resources derive from national transfers). In relation to the population above the poverty threshold, more than half of the inhabitants belong to this group in each examined municipality, ranging from 63% in Galvarino to 89% in Gorbea, Pumanque and Purranque. As for the health services provided by municipalities, only in 9 out of 48 a clinic is available. While the availability of this service should depend on the number of inhabitants, no direct correspondence is observed between a higher number of inhabitants and the presence of such service. Different is the situation for rural clinics, basic services in charge of responding to the first health needs of the inhabitants and not able to deal with medical emergencies. In the examined municipalities, the number of rural clinics ranges from 0 to 14, which probably depends on the more or less dispersed spatial distribution of the population, rather than on the simple overall number of inhabitants.

Table 3: Institutional capacity of the selected ageing municipalities: synthetic index and indicators (normalized scores)

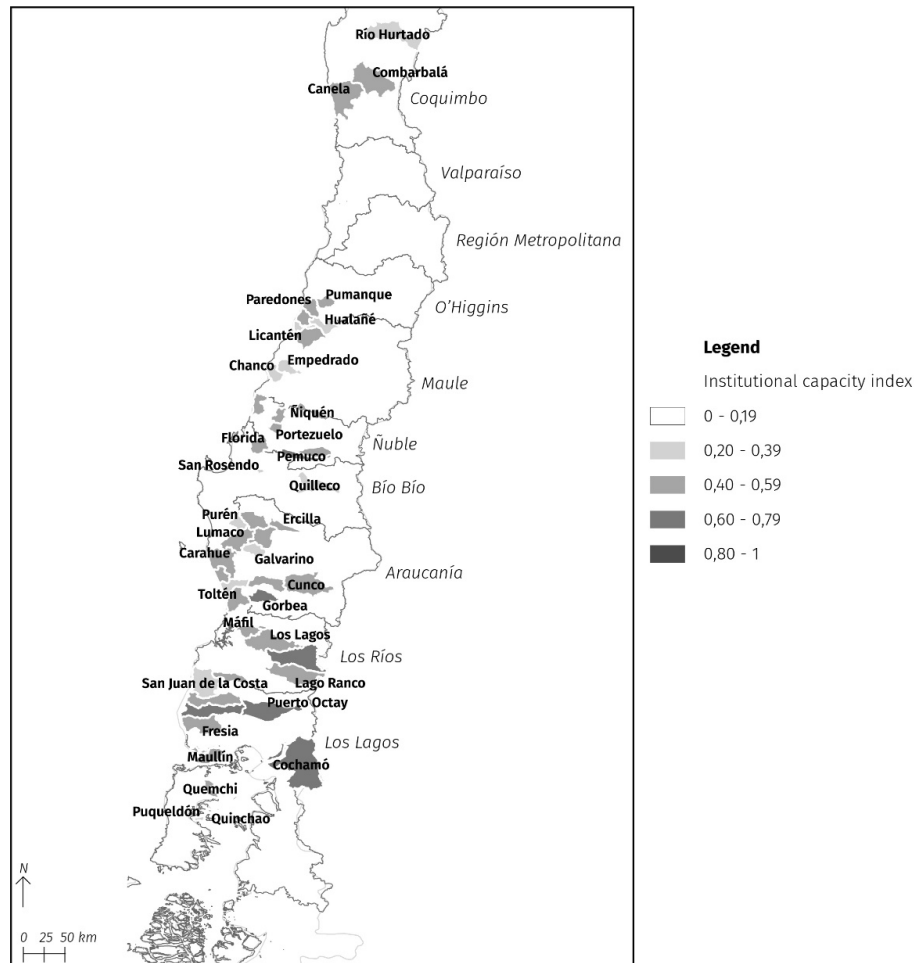
Region	Comuna	Part of a lagging area	Institu- tional capacity – synthetic index	Fiscal auto- nomy	Socioeco- nomic conditions of the population	Number of municipal clinics	Number of municipal rural clinics	Existence of a land use plan	Existence of a community development plan	Antiquity of the community development plan
Atacama	Canela	yes	0.50	0.56	0.46	0.00	0.64	0.00	1.00	0.80
Atacama	Combarbalá	yes	0.48	0.20	0.79	0.00	0.86	0.00	1.00	0.50
Atacama	Río Hurtado	no	0.37	0.30	0.75	0.00	0.43	0.00	1.00	0.10
O'Higgins	Paredones	yes	0.49	0.07	0.84	0.00	0.21	1.00	1.00	0.30
O'Higgins	Pumanque	yes	0.40	0.35	1.00	0.00	0.21	0.00	1.00	0.20
Maule	Curepto	no	0.57	0.29	0.82	0.00	0.57	1.00	1.00	0.30
Maule	Empedrado	yes	0.38	0.10	0.78	0.00	0.07	0.00	1.00	0.70
Maule	Chanco	yes	0.35	0.18	0.64	0.00	0.50	0.00	1.00	0.10
Maule	Hualañe	no	0.38	0.53	0.60	0.00	0.21	0.00	1.00	0.30
Maule	Licantén	no	0.33	0.28	0.53	0.00	0.29	0.00	1.00	0.20
Maule	Vichuquén	no	0.51	1.00	0.76	0.00	0.29	0.00	1.00	0.50
Biobío	Florida	no	0.46	0.14	0.80	0.00	0.29	1.00	1.00	0.00
Biobío	Quilleco	no	0.36	0.29	0.80	0.00	0.21	0.00	1.00	0.20
Biobío	San Rosendo	no	0.31	0.01	0.62	0.00	0.07	0.00	1.00	0.50
Ñuble	Cobquecura	yes	0.45	0.11	0.12	0.00	0.14	1.00	1.00	0.80
Ñuble	El Carmen	no	0.54	0.23	0.32	0.00	0.71	1.00	1.00	0.50
Ñuble	Ninhue	yes	0.47	0.09	0.45	0.00	0.14	1.00	1.00	0.60
Ñuble	Ñiquén	no	0.50	0.23	0.65	0.00	0.00	1.00	1.00	0.60
Ñuble	Pemuco	no	0.62	0.71	0.51	0.00	0.14	1.00	1.00	1.00
Ñuble	Portezuelo	yes	0.48	0.04	0.70	0.00	0.14	1.00	1.00	0.50
La Araucanía	Carahue	yes	0.55	0.07	0.48	0.00	1.00	1.00	1.00	0.30
La Araucanía	Cunco	no	0.53	0.39	0.66	1.00	0.43	0.00	1.00	0.20
La Araucanía	Freire	no	0.53	0.27	0.50	0.00	0.57	1.00	1.00	0.40
La Araucanía	Galvarino	no	0.27	0.09	0.00	0.00	0.71	0.00	1.00	0.10
La Araucanía	Gorbea	no	0.70	0.24	0.98	1.00	0.36	1.00	1.00	0.30
La Araucanía	Saavedra	yes	0.40	0.00	0.07	0.00	1.00	1.00	0.00	0.70
La Araucanía	Teodoro Schmidt	yes	0.27	0.04	0.37	0.00	0.29	0.00	1.00	0.20
La Araucanía	Toltén	yes	0.44	0.11	0.08	0.00	0.50	1.00	1.00	0.40
La Araucanía	Ercilla	yes	0.51	0.21	0.40	1.00	0.29	0.00	1.00	0.70
La Araucanía	Los Sauces	yes	0.51	0.21	0.50	1.00	0.29	0.00	1.00	0.60

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Table 3 – continued from previous page

Region	Comuna	Part of a lagging area	Institu- tional capacity – synthetic index	Fiscal auto- nomy	Socioeco- nomic conditions of the population	Number of municipal clinics	Number of municipal rural clinics	Existence of a land use plan	Existence of a community development plan	Antiquity of the community development plan
La Araucanía	Lumaco	yes	0.40	0.10	0.15	1.00	0.36	0.00	1.00	0.20
La Araucanía	Purén	yes	0.35	0.05	0.74	0.00	0.36	0.00	1.00	0.30
La Araucanía	Traiguén	yes	0.50	0.26	0.60	0.00	0.43	1.00	1.00	0.20
Los Ríos	Los Lagos	no	0.60	0.54	0.82	0.00	0.43	1.00	1.00	0.40
Los Ríos	Máfil	no	0.52	0.32	0.93	0.00	0.07	1.00	1.00	0.30
Los Ríos	Futroneo	yes	0.69	0.51	0.87	1.00	0.36	1.00	1.00	0.10
Los Ríos	Lago Ranco	yes	0.57	0.56	0.85	0.00	0.36	1.00	1.00	0.20
Los Lagos	Cochamó	no	0.67	0.33	0.89	1.00	0.57	0.00	1.00	0.90
Los Lagos	Fresia	no	0.56	0.35	0.72	0.00	0.64	1.00	1.00	0.20
Los Lagos	Maullín	no	0.51	0.20	0.79	1.00	0.36	0.00	1.00	0.20
Los Lagos	Puqueldón	yes	0.39	0.25	0.88	0.00	0.29	0.00	1.00	0.30
Los Lagos	Quemchi	yes	0.60	0.38	0.64	1.00	0.57	0.00	1.00	0.60
Los Lagos	Quinchao	yes	0.50	0.35	0.39	0.00	0.57	1.00	1.00	0.20
Los Lagos	Puerto Octay	no	0.66	0.72	0.87	0.00	0.43	1.00	1.00	0.60
Los Lagos	Purranque	no	0.66	0.59	0.98	0.00	0.57	1.00	1.00	0.50
Los Lagos	Río Negro	no	0.57	0.52	0.83	0.00	0.14	1.00	1.00	0.50
Los Lagos	San Juan De La Costa	no	0.36	0.06	0.19	0.00	0.36	0.00	1.00	0.90
Los Lagos	San Pablo	no	0.47	0.52	0.78	0.00	0.00	1.00	1.00	0.00

Source: own elaboration on SINIM, 2021



Source: own elaboration

Figure 2: Institutional capacity of ageing municipalities in Chile

Finally, as for the availability of planning tools, only 25 out of 48 municipalities have a land use plan. Considering that in Chile these tools include urban areas but not rural ones, municipalities with a mainly rural territory may not consider planning as a priority. Different is the case for community development plans, which are available in all municipalities but one. These are quite recent documents, considering that the newest one was adopted in 2021 and the oldest one in 2011. On average, these plans have an antiquity of four years, something coherent with both the duration of a mayor's term (four years) and with the fact that municipal elections took place in the whole Chilean territory in 2021 and, before, in 2017.

5.3 Community development plans: recognising ageing without tackling it

In the examined community development plans, ageing is mainly recognized as affecting these marginal territories. 29 out of 39 examined plans – that is, three out of four – explicitly mention ageing as a significant phenomenon that municipal institutions need to deal with (Table 4). Among them, ageing is considered in two ways. On the one hand, several municipalities consider it simply as an ongoing phenomenon, mentioning that the number of older inhabitants has grown and highlighting similarities with regional or national demographic trends. On the other hand, other municipalities mention ageing as a threat, for example in SWOT analyses: when considered a negative phenomenon, ageing is mentioned together with issues such as loss of population, diminution of youth, and adverse demographic trends that affect mainly rural areas.

Table 4: Contents referred to ageing in the examined local development plans

Region	Comuna	Part of a lagging area	Has a community development plan	Antiquity of the plan	Acknowledges ageing as an issue	Proposes strategies for ageing	Proposes leisure activities	Proposes active ageing	Proposes care services
Atacama	Canela	yes	yes	8	yes	yes	yes	no	yes
Atacama	Combarbalá	yes	yes	5	no	yes	no	no	no
Atacama	Río Hurtado	no	yes	1	plan not available	-	-	-	-
O'Higgins	Paredones	yes	yes	3	yes	no	no	no	yes
O'Higgins	Pumanque	yes	yes	2	plan not available	-	-	-	-
Maule	Curepto	no	yes	3	yes	no	no	no	yes
Maule	Empedrado	yes	yes	7	yes	yes	no	yes	yes
Maule	Chanco	yes	yes	1	yes	no	no	no	yes
Maule	Hualañe	no	yes	3	yes	no	no	no	no
Maule	Licantén	no	yes	2	no	no	yes	no	no
Maule	Vichuquén	no	yes	5	yes	yes	yes	yes	no
Biobío	Florida	no	yes	0	yes	yes	yes	yes	yes
Biobío	Quilleco	no	yes	2	yes	yes	no	no	yes
Biobío	San Rosendo	no	yes	5	yes	yes	yes	yes	yes
Ñuble	Cobquecura	yes	yes	8	plan not available	-	-	-	-
Ñuble	El Carmen	no	yes	5	plan not available	-	-	-	-
Ñuble	Ninhue	yes	yes	6	yes	no	no	no	yes
Ñuble	Ñiquén	no	yes	6	yes	yes	no	no	no
Ñuble	Pemuco	no	yes	10	no	no	no	no	yes
Ñuble	Portezuelo	yes	yes	5	yes	no	no	no	no
La Araucanía	Carahue	yes	yes	3	no	yes	no	yes	yes
La Araucanía	Cunco	no	yes	2	yes	yes	no	yes	no
La Araucanía	Freire	no	yes	4	plan not available	-	-	-	-
La Araucanía	Galvarino	no	yes	1	yes	no	yes	no	yes

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Table 4 – continued from previous page

Region	Comuna	Part of a lagging area	Has a community development plan	Antiquity of the plan	Acknowledges ageing as an issue	Proposes strategies for ageing	Proposes leisure activities	Proposes active ageing	Proposes care services
La Araucanía	Gorbea	no	yes	3	yes	no	no	no	yes
La Araucanía	Saavedra	yes	no	7	plan not available	-	-	-	-
La Araucanía	Teodoro Schmidt	yes	yes	2	yes	yes	no	no	yes
La Araucanía	Toltén	yes	yes	4	yes	no	no	no	yes
La Araucanía	Ercilla	yes	yes	7	yes	yes	no	yes	no
La Araucanía	Los Sauces	yes	yes	6	plan not available	-	-	-	-
La Araucanía	Lumaco	yes	yes	2	yes	yes	no	yes	no
La Araucanía	Purén	yes	yes	3	yes	yes	yes	yes	yes
La Araucanía	Traiguén	yes	yes	2	yes	yes	yes	yes	no
Los Ríos	Los Lagos	no	yes	4	plan not available	-	-	-	-
Los Ríos	Máfil	no	yes	3	no	yes	yes	no	no
Los Ríos	Futroneo	yes	yes	1	yes	yes	no	no	yes
Los Ríos	Lago Ranco	yes	yes	2	plan not available	-	-	-	-
Los Lagos	Cochamó	no	yes	9	yes	no	no	yes	no
Los Lagos	Fresia	no	yes	2	yes	yes	yes	yes	yes
Los Lagos	Mauñín	no	yes	2	yes	yes	no	no	yes
Los Lagos	Puqueldón	yes	yes	3	no	no	no	no	no
Los Lagos	Quemchi	yes	yes	6	yes	no	no	yes	no
Los Lagos	Quinchao	yes	yes	2	no	no	no	no	no
Los Lagos	Puerto Octay	no	yes	6	yes	no	no	yes	no
Los Lagos	Purranque	no	yes	5	yes	no	no	no	no
Los Lagos	Río Negro	no	yes	5	no	yes	no	no	no
Los Lagos	San Juan De La Costa	no	yes	9	no	no	no	no	yes
Los Lagos	San Pablo	no	yes	-	no	no	no	no	no

Source: own elaboration

Nonetheless, the references to the increasing presence of older people do not necessarily lead to addressing the ongoing demographic decline or the welfare of the elderly population: in fact, 20 municipalities propose measures for their older inhabitants. In doing so, the actions fall into three categories. First, the most common refers to the provision of health care services, including home care, transfer to clinics and medical assistance more in general (found in 20 municipalities). Second, 14 municipalities promote active ageing, proposing measures to prevent or accompany the effects of ageing – for example, programs that focus on older people's physical and mental health. Interestingly, some of the measures for active ageing in rural municipalities also focus on training, so that older inhabitants can continue working in their farms, and in promoting literacy, to facilitate the application of the ageing population to public funds that can support their working activities. Finally, a smaller number of municipalities (10) focuses on leisure activities, promoting trips and other social events to entertain their older inhabitants. However, only four out of 29 examined plans propose actions that refer to these three categories, showing thus partial approaches to the needs of an increasingly older population.

6 Discussion

Considering the current demographic trends of Chile, ageing appears as a condition of potential territorial marginality. In a slowly but increasingly ageing country, the increase in the number of ageing inhabitants and the loss of population affect mainly rural areas. These include places that could be potentially defined as marginal based on spatial proximity and socioeconomic conditions. The selected places are located mainly in the central and southern regions of Chile, excluding the most extreme areas of the country. These places appear to be marginal primarily from a spatial perspective, considering that often they are far from metropolitan areas and from the main longitudinal corridor that connects Chile from North to South. Moreover, these are also excluded from the main socioeconomic processes of the country, that outside the main metropolitan areas are mainly referred to the presence of extractivist industries; as a result, significant flows of internal immigration originate from these regions. It must be noticed that none of the examined municipalities shows more than 30% of older inhabitants, a value that – based on other declining settings (Golini et al. 2000) – can be considered as the threshold determining the possible extinction of a community. Based on these elements, in the case of Chile, ageing seems to reinforce trends of territorial marginalisation that are already ongoing rather than determining new trajectories of development. Moreover, the current demographic trends define ageing as an emerging issue rather than as a structural condition of marginal areas.

Ageing defines a geography of territorial marginality that is different from the institutional one. The institutional definitions, in fact, rely on traditional criteria, focusing on spatial proximity and social deprivation (Ferrão, Lopes 2004, Moscarelli 2021). Moreover, more recent definitions seem to privilege the latter dimension: a 2021 document defines municipalities that could be defined as lagging areas focusing mainly on their socioeconomic condition, leading to the contradictory results of having both rural villages and big cities of the country (such as Valparaíso) within the same category (Subsecretaría de Desarrollo Regional 2021). As a result, the municipalities where ageing is a further determinant of marginality only partially correspond with institutional definitions of lagging areas. More interestingly, ageing municipalities in some cases would expand existing clusters of lagging municipalities. Considering the potential impact of demographic trends on places already left behind (McCann 2017), it would be relevant to include ageing and other demographic dynamics when defining marginal territories, instead of considering ageing simply as an element that characterises areas that are marginal per se.

While the features of demographic decline allow defining an alternative geography of marginality, the institutional capacity does not allow to do so. The institutional capacity of the examined municipalities in fact does not seem to suffer from the ongoing ageing processes, or at least not yet. Despite the lack of a comparison with other, non-ageing places, the selected municipalities show certain differences among them when examining

the resources available to them and the services they can provide (referring thus to the micro and meso level of institutional capacity, according to [Rosas Huerta 2008](#)). The scarcity of financial resources is a common issue among the examined areas, even if the level of poverty of their population is different. The provision of health services demonstrates more significant differences that probably are related to the spatial distribution of a population (i.e., more clinics are necessary to spatially cover a sparser population, living in several rural settlements) rather than to the resources available to a municipality or to the number of inhabitants to be served. These differences suggest the importance of considering the accessibility to certain essential services when defining marginal areas. In other settings, the accessibility to basic services – the possibility to access places such as schools, hospitals or stations within a certain spatial or temporal distance – is a criterion used to define what areas are marginal (see for example [Vendemmia et al. 2021](#)). Instead, in the case of Chile, this issue is considered only in relation to isolated areas, rather than including also lagging areas.

The examined areas show thus the same fragility that is common to other Chilean municipalities, although ageing can potentially expand the definition of institutional capacity in marginal areas. In Chile, both individuals and institutions can be considered as vulnerable: the former are exposed to the structural inequality of the country and the different opportunities available to them, while for the latter, the resources available to provide several essential services are scarce ([Vecchio et al. 2021](#)). Currently, the Chilean Organic Law of Municipalities – a norm that complements the existing Constitution – identifies several fields in which local institutions can or must be active. On the one hand, urban planning (at the local scale) and community development are two functions exclusively in charge of municipalities. On the other hand, municipalities can also develop activities related to several other fields, in which the intervention of other institutions is optional: among them, social welfare, public health, education, social housing, and risk prevention. In settings such as ageing municipalities, the capacity of local institutions can be affected by both the decrease of the available resources and the increase in the needs of the local population, especially in terms of welfare provision. Even if the strengthening of local institutions has been the object of academic and political debate for a long time, local institutions will possibly remain central also in the next decades. For example, the draft for a new Constitution for Chile, elaborated between 2021 and 2022, states that “the basic principle for the municipal government should be the search for harmonious and equitable territorial development, aiming for all people to have equal access to the same level and quality of municipal public services, regardless of where they live” (proposed Chile Const. art. 212, §2).

Right now, ageing does not seem to affect the institutional capacity of the examined municipalities, although an increasingly older population could have a more relevant impact in the following years ([McCann 2017](#)). Moreover, the limited possibility of providing certain services at the municipal level probably requires considering what opportunities are available at a higher scale – for example, groups of neighbouring municipalities located within a certain distance. This focus on the spatial availability of certain opportunities would be relevant not only for those services addressing the needs of an increasingly older population (for example, health services), but also for the services that can prevent younger inhabitants from leaving marginal areas: this could be the case for education, considering that the availability of schools can determine the need to migrate to urban areas where these are more easily available.

The approaches of marginal Chilean municipalities to ageing aim to tackle the specific needs of the elderly population but do not seem to include them within broader strategies to address their demographic decline. The examined plans tend to recognise ageing as an existing condition and, in some cases, as a threat to be considered when planning for a municipality’s development. However, most measures tend to address ageing as a “static” phenomenon that requires granting health and leisure to older people, but without considering the impacts of an increasingly older population on local communities. Interestingly, the municipalities that propose innovative forms of active ageing are mainly rural ones, where the population is potentially more isolated and requires higher levels of autonomy. Nonetheless, while the local plans address the needs of local older people

– among the subjects that are less likely to relocate elsewhere (Rodríguez-Pose 2018) – less attention is provided to measures that could attract new inhabitants and activities. Therefore, considering that national strategies for ageing areas are being developed but that local institutions are struggling in this sense, the existing gap between lagging, ageing areas and other parts of the country could increase when the share of older inhabitants grows in the next years.

The present study is a first exploration of the relationship between ageing and territorial marginality in Chile with a focus on institutional capacity and, therefore, it suffers from some limitations. First, the analysis focuses simply on municipalities that are currently losing inhabitants and showing an increasingly older population. The assessment of their institutional capacity provides a relative evaluation that does not consider places that are currently experiencing other dynamics – such as an increase of the population thanks to the arrival of older inhabitants, or even the loss of population that occurs in places with younger inhabitants. Expanding the sample of examined municipalities would thus allow providing a more solid comparison between municipalities. Moreover, the same index of institutional capacity is a first, limited assessment that could benefit from the inclusion of other variables available in public databases: these could refer to the resources available to municipalities (in terms of available staff, for example) as well as to the services provided by local institutions (including education and social welfare). Expanding the sample of examined municipalities and the set of indicators would probably allow for more robust data analyses, allowing, for example, correlations and regressions. Moreover, the quantitative results could go together with qualitative analyses focusing on specific, representative cases, and complementing thus the content analysis of community development plans. For example, a possible avenue for future research could consider interviewing local decision makers to understand more in depth their perception of the relationship between ageing, marginality, and the resources available to institutions to face them.

7 Conclusions

This exploratory analysis focused on Chile's ongoing ageing demographic trends to consider if these contribute to determining a condition of territorial marginality also in a Global South setting. The results show that forms of population decline can be observed both in contexts already defined as marginal in national policies and areas that are not yet defined as such. Therefore, ageing seems to define an alternative geography of marginality, thus complementing and expanding official definitions of marginal areas. Moreover, the capacity of local institutions to recognise and address the issues of ageing appears to be limited due to the lack of resources required to provide essential services to an increasingly ageing population, and because of the limited set of strategies proposed to face the ongoing demographic decline.

The proposed analysis shows thus that, in line with peripheral settings in Global North contexts (for example, in Europe), areas that are declining in terms of population are also marginal from a spatial and socioeconomic perspective, at least in the case of Chile. The finding can be a first step towards a more systematic approach to the definition of marginal areas in Global South contexts, where territorial peripheries have been widely examined in relation to centralised institutional schemes, intense urbanisation processes and extractivist economies: ageing, an emerging issue that in the next decades will affect most Latin American countries, can emerge as an additional element determining territorial marginality. Further analyses are required to define more precisely what these marginal territories are and the abilities of their institutions to deal with such conditions. Even if ageing does not appear as a phenomenon that determines marginality per se, it is crucial to consider the additional impact it could generate on places already being left behind.

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