

DEMOGRAPHIC TREND AND ECONOMIC STRUCTURE OF THE ITALIAN ALPINE MUNICIPALITIES IN THE PERIOD 1971-2004.

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SUMMARY

The Italian Alpine arc is characterized by the presence, even within a limited distance, of municipalities with a positive demographic balance and a certain generational change, and municipalities which suffer from stagnant or decreasing population, emigration of young people to more dynamic areas. In the latter the permanence of the elderly is made difficult by the closure of many businesses and services. This paper analyses the demographic trend of the Italian Alpine municipalities, decade by decade, from the beginning of the Seventies until our days. It also analyses the relationship between demographic trend and economic structure during the course of the decades. The assumption is that, population is more stable where there is a wider range of income possibilities and people have alternative non-farming job opportunities that allow them part-time farming. In other terms what is expected is that in certain areas economic diversification has allowed avoiding depopulation.

INTRODUCTION

1.1 Polarisation trends and driving forces in the Alps

Covering a surface of over 190,000 km² and inhabited by almost 14 million people, the Alpine arc is a very heterogeneous area both in terms of landscape and in terms of wealth, culture and demographic trends. With reference to the latter according to some authors (Pfefferkorn et al., 2005) there is a significant polarization trend of spatial development between areas with population growth and certain generational change and municipalities which suffer from stagnant or decreasing population and pronounced over-ageing. If the former are typically located in the most easily accessible valleys, the latter are usually in peripheral areas some distance away from the urban centres and badly connected to these. However, although accessibility facilitates individual mobility and, other things being equal, easily accessible areas attract more investments than peripheral areas (Linneker, 1997), the empirical evidence suggests that accessibility alone is no guarantee of either a balanced demographic structure or of economic prosperity (REGALP, 2004). As a Swiss study confirms (SAB, 2003) the dynamic of labour market and the availability of services and cultural and recreational opportunities strongly influence the population trend and the process of ageing. The presence of a wide range of income possibilities, in particular, is an important way to avoid the negative consequences connected to depopulation and over-ageing such as lack of the population density necessary to maintain the vital infrastructures and services, lower attractivity as a place to live and conduct business and furthering economic decline, increase in the costs per capita to provide needed services, brain drain, farm abandonment, forest expansion and land degradation (Baur, 2004; Gellrich et al., 2007; Troeger-Weiß, 2008).

1.2 Objectives and methods

The first objective of this work is to analyse the demographic trend of the Italian Alpine municipalities from the beginning of the 1970s until 2004 in terms of number of inhabitants and old age index (hereafter OAI). It complements previous studies with demographic content on alpine wide level (Bätzing, 1992, 1993, 2002; Zanolli et al. 2007a and 2007b; CIPRA, 2007; DIAMONT, 2008) and on the level of the Italian alpine arc Farina, 2002; Varotto & Psenner 2003, Varotto, 2004; Zanolli et al., 2007c) encompassing a wider time frame and is aimed at putting into evidence the patterns of demographic development. The second

objective is to analyse the relationship between demographic trend and economic structure during the course of the decades. What is expected is that in certain areas economic diversification has contributed to avoid depopulation over the decades.

Data refer to Population and Housing and Industry and Services and Agriculture Censuses of 1971, 1981, 1991, 2001 and to the Statistical Atlas of Municipalities 2004 of the National Institute of Statistics. By using GIS applications data are illustrated in thematic maps and statistically analysed with the aim of obtaining a detailed picture of the demographic and economic development of the Italian Alpine arc.

1.3 Research area

The 1,756 Italian municipalities object of study are the ones included in the Alpine Convention area based on a proposal by Ruffini et al., 2004. The “Alpine Convention” is an international agreement, whose purpose is to safeguard the natural ecosystem of the Alps and promote sustainable development, protecting the economic and cultural interests of the resident population in the signatory countries. The agreement, which was signed in 1991, includes the objective of simultaneously favouring a balanced economic development and an even distribution of the population in the Alpine territory, as well as equal opportunities for the resident population in terms of social, cultural and economic development. The Alpine Convention covers an area of over 190,000 km², which includes 5,954 municipalities of eight different countries, inhabited by some 14 million persons, of which almost one third are in Italy (fig. 1).

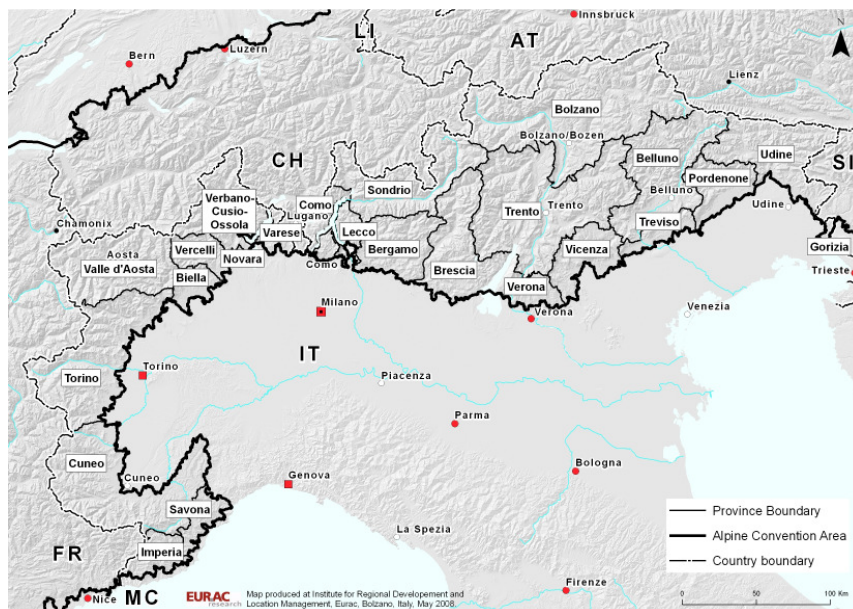


Figure 1 Italian Alpine Convention area (km² 51,184; 1,756 municipalities, 4,208,391 inhabitants in 2004)

2 DEMOGRAPHIC DEVELOPMENT SINCE THE 1970S

2.1 The trends in the Italian Alpine Convention area

In comparison with the national population, the Alpine population grew less during the 1970s (fig. 2). After the stagnation in the 1980s, which at national level coincided with a sharp decline of the fertility and with the slow down of the migration from the Southern to the Northern and Central Italian regions, in the Alps recovery started in the 1990s, one decade before the whole country (fig. 2). The Alps are also characterized by an OAI which, since the 1970s, has always been more pronounced than the national average (tab. 1). The higher over-aging of the Italian Alps in comparison with the country was particularly evident in 1981, when the OAI was 1.7 times the Italian OAI. The progression of this index, particularly consistent during the 1980s, has shown a slow down in the following decades (fig. 3).

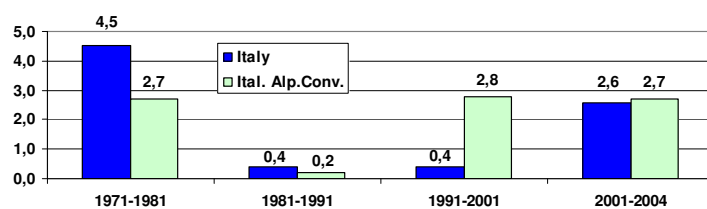


Figure 2 Population changes (%) in the period 1971-2004

Source: ISTAT, Population Census 1971, 1981, 1991, 2001 and ISTAT, Statistical Atlas of Municipalities 2004.

Table 1 OAI in the period 1971-2004

Area	1971	1981	1991	2001	2004
Italy	51.1	43.6	96.6	116.1	137.8
Italian Alpine Convention	53.9	73.4	113.1	138.0	140.7

Source: ISTAT, Population Census 1971, 1981, 1991, 2001 and ISTAT, Statistical Atlas of Municipalities 2004.

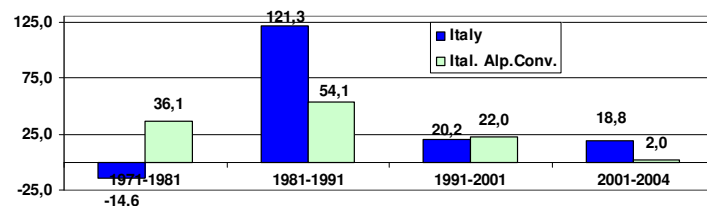


Figure 3 OAI change (%) in the period 1971-2004

Source: ISTAT, Population Census 1971, 1981, 1991, 2001 and ISTAT, Statistical Atlas of Municipalities 2004.

Tab. 1 and the fig. 2 and 3, as it is logical to expect, conceal an extremely heterogeneous situation. In the 1970s, when almost half of the Italian Alpine population was concentrated in the municipalities from 1,000 to 5,000 inhabitants, the number of inhabitants decreased

sharply (-8.5%) in the smallest municipalities (those with less than 500 inhabitants) and grew with a higher intensity in the ones from 5,000 to 25,000 inhabitants. In the 1980s the population decrease concerned again, although with a lower intensity (-3.8%), the smallest municipalities and along with them the ones with more than 25,000 inhabitants (-3%). During the 1990s Alpine population increased in all the size classes of municipalities with the only exception of the group over 25,000 inhabitants, which only in the 2000s registered a recovery. In conclusion the size class that has grown more is the class from 10,000 to 25,000 inhabitants in which the proportion of inhabitants passed from 10% in 1971 to 17% in 2004. This is also the class which in the course of the decades has maintained the lowest OAI. The latter, after the sharp increase of the 1970s and 1980s, has reached dramatic values both in the smaller municipalities with less than 500 inhabitants (242 in 2004) and in the larger ones with over 25,000 inhabitants (141 in 2004).

Table 2 Population growth per province in the Italian Alpine Convention area (A.C.) in the period 1971-2004

Province	% area in the A.C.	1971-1981		1981-1991		1991-2001		2001-2004		1971-2004	
		A.C. area	Whole prov.	A.C. area	Whole prov.	A.C. area	Whole prov.	A.C. area	Whole prov.	A.C. area	Whole prov.
Verona	28.9	4.6	5.7	5.2	1.6	9.7	4.9	4.4	4.1	26.0	17.3
Lecco	67.0	7.0	8.0	5.7	3.3	5.1	5.2	2.8	3.4	22.1	21.4
Varese	36.3	9.3	8.6	3.0	1.2	3.1	1.9	3.2	3.8	19.8	16.2
Bergamo	69.6	5.2	8.2	2.1	4.2	4.7	6.9	3.4	5.1	16.3	26.6
Trento	100.0	3.5	3.5	1.6	1.6	6.0	6.0	4.3	4.3	16.3	16.3
Novara	7.6	5.3	2.9	0.8	-0.9	6.3	2.6	2.5	3.1	15.7	7.9
Bolzano	100.0	4.2	4.2	2.3	2.3	5.1	5.1	3.0	3.0	15.4	15.4
Brescia	58.8	6.1	6.2	1.5	2.7	3.2	6.1	3.8	5.5	15.3	22.1
Vicenza	54.3	4.2	7.2	1.2	3.0	4.4	6.1	3.2	4.7	13.7	22.6
Savona	46.6	2.7	0.6	3.7	-4.5	2.3	-4.1	3.8	3.3	13.0	-4.9
Treviso	24.7	2.6	7.8	0.3	3.3	5.6	6.8	3.9	5.5	12.8	25.4
Aosta	100.0	2.9	2.9	3.2	3.2	3.1	3.1	2.8	2.8	12.6	12.6
Torino	61.1	4.3	2.6	0.6	-4.7	2.5	-3.1	2.7	3.3	10.5	-2.2
<i>Average</i>	-	<i>2.7</i>	<i>4.5</i>	<i>0.2</i>	<i>-0.1</i>	<i>2.8</i>	<i>2.2</i>	<i>2.7</i>	<i>3.8</i>	<i>8.6</i>	<i>10.7</i>
Sondrio	100.0	2.9	2.9	0.9	0.9	0.8	0.8	1.3	1.3	5.9	5.9
Como	66.7	1.8	7.4	0.5	2.2	2.1	2.9	1.3	4.4	5.8	17.8
Pordenone	59.4	0.9	8.7	-4.8	-0.3	2.1	4.0	2.0	4.0	0.1	17.2
Cuneo	68.1	-2.3	1.5	-1.8	-0.2	1.3	1.7	1.7	2.5	-1.2	5.5
Verbano C.O.	98.8	2.4	0.7	-4.1	-4.7	-2.1	-1.9	1.5	1.6	-2.5	-4.3
Belluno	100.0	-0.4	-0.4	-3.7	-3.7	-1.2	-1.2	1.3	1.3	-4.0	-4.0
Vercelli	38.4	-0.8	-3.5	-5.4	-5.2	-4.0	-3.7	-0.5	0.3	-10.4	-11.7
Biella	70.1	-3.3	-1.6	-6.7	-5.5	-1.9	-2.0	0.2	0.5	-11.3	-8.4
Gorizia	26.6	-3.1	1.6	-6.9	-4.6	-6.4	-1.1	2.6	3.1	-13.2	-1.2
Udine	60.7	-6.2	2.5	-4.9	-1.5	-3.5	-0.6	0.3	1.8	-13.6	2.2
Imperia	73.5	-13.5	-0.6	-8.4	-4.6	-1.2	-3.8	2.1	5.0	-20.0	-4.2

Source: ISTAT, Population Census 1971, 1981, 1991, 2001 and ISTAT, Statistical Atlas of Municipalities 2004.

These data suggest that the Italian Alpine Convention area has reproduced at a smaller scale what has happened at national level. As some authors affirm (Perlik, 1999; Gaido, 1999), Alpine cities have the same pattern of development as cities in the plains and their only elements of specificity are related to the proximity of the mountains and the smaller size of markets. In the larger towns the demographic decrease is due primarily to peri-urbanisation or

urban sprawl. Analogously to what takes place in cities in plains areas, the population of urban centres move to the surrounding suburban area, where housing is less expensive and the vicinity to the town allows them to commute. Their OAI is above the average in the centres as high housing costs are likely to encourage young people to move from the centres to their suburban areas. Along with the lower costs and the proximity to the labour market of the urban centres that guarantee the same job opportunities of the latter, the better quality which peripheral urban areas are perceived to offer is an important pull factor for these areas. On the contrary, with regard to settlements with less than 500 inhabitants, when they are very far from the urban centres, the lack of convenience stores, pharmacies, post offices and associations connected to the scarce population is a serious push factor as well as the cuts to public transport services, since operation costs are too high for the local government's budget. As a result of the latter citizens have to rely on private cars, and for those who cannot drive the access to basic services can become rather difficult. The disappearance of basic services triggers a vicious cycle because the declining quality of life encourages residents to move to less peripheral areas, where access to services is better, while at the same time preventing the arrival of new dwellers.

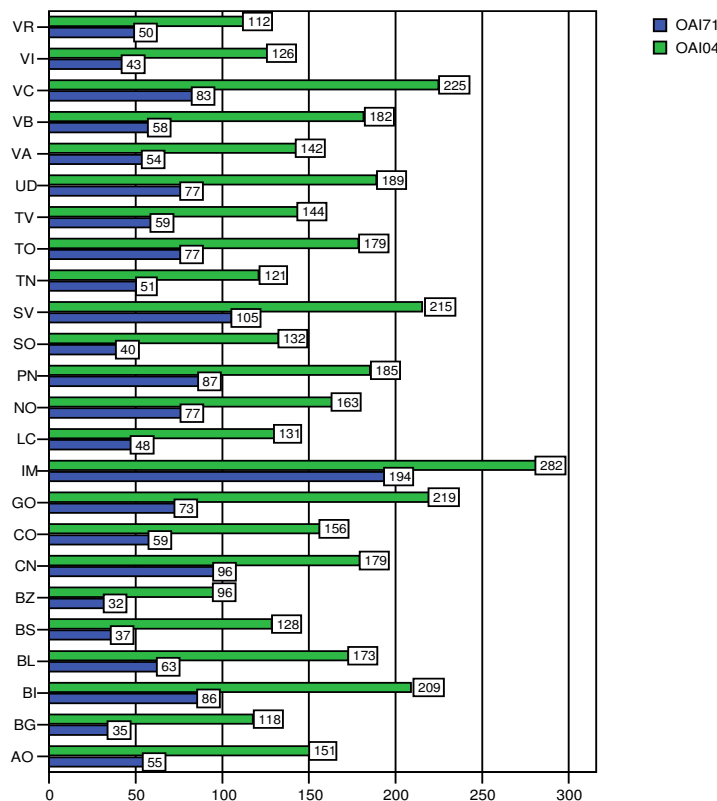


Figure 4 OAI per province¹ in the Italian Alpine Convention area in 1971 and in 2004

¹ VR = Verona, VI = Vicenza, VC = Vercelli, VB = Verbano-Cusio Ossola, VA = Varese, UD = Udine, TV = Treviso, BI = Biella, TN = Trento, SV = Savona, SO = Sondrio, PN = Pordenone, NO = Novara, LC = Lecco, IM = Imperia, GO = Gorizia, CO = Como, CN = Cuneo, BZ = Bolzano, BS = Brescia, BL = Belluno, BI = Biella, BG = Bergamo, AO = Aosta.

In the period 1971-2004 the Alpine province that has recorded the highest demographic increase is Verona, followed by the Lombardian Lecco, Varese and Bergamo, by the Piedmontian Novara and by the two autonomous provinces of Trento and Bolzano (tab. 2). The Alpine provinces in which in the same period the demographic decrease has been more pronounced are the ones located in the westernmost and easternmost parts of the Alpine arc such as the Ligurian Imperia, the Friulian Udine and Gorizia and the Piedmontian Biella, Vercelli and Verbano C.O.. The latter is with Brescia, Bergamo, Sondrio, Gorizia, Bolzano and Vicenza one of the provinces whose OAI has increased more during the period 1971-2004. The faster growth of the OAI is negatively correlated with its value in the 1970s: the higher the value of OAI (such in the case of Imperia, Savona, Biella and Vercelli) the slower its progression and the lower its value the faster its growth (fig. 4).

2.2 Dying and flourishing municipalities

2.2.1 Some methodical comments

In this section the demographic growth rate and the OAI of the four periods until here analysed (1970s, 1980s, 1990s and 2001-2004) will be converted into ordinal variables and combined together in order to give origin for each period to a typology of the Italian Alpine municipalities that comprehends 9 different groups of municipalities (fig. 5).

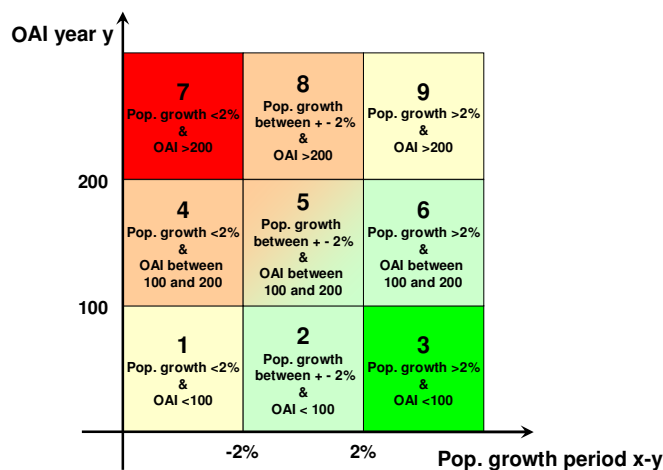


Figure 5 Typology of the Italian Alpine municipalities in the period x-y

From the demographical point of view the most favourable situation is the one corresponding to the square n. 3, in which in the considered period the rate of demographic growth is higher than 2% and the OAI is lower than 100. On the contrary the most critical situation is the one corresponding to the square 7, in which in the considered period the rate of demographic

growth is lower than - 2% and the OAI is higher than 200. The municipalities which are located in all the other squares are in an intermediate position.

The analysis of the position changes of the Alpine municipalities from a square to a better or an equivalent or a worse one over the decades can be of particular interest to identify the areas where adequate politic and economic measures and cultural stimuli are needed in order to balance the demographic structure and avoid the exclusion of any social or age group. It can also contribute to identify the municipalities in which, after decades in which both population loss and OAI have overcome a given threshold, the trend is unlikely to reverse and any effort would be probably useless.

2.2.2 Results

2.2.2.1 OAI 1981 and population change 1971-1981

In the decade 1971-1981 about one tenth (179) of the Italian Alpine municipalities were located in the 7th square and almost one third (548) in the 3rd one. Population has increased and OAI is particularly low in the municipalities located in the planes of the long and broad valleys and at the southern downward slopes where the large valleys meet the planes (Val di Susa, Valle d'Aosta, area of the large lakes in Lombardia, Val d'Adige) (fig. 6). In contrast, there exist areas such as the westernmost provinces of Cuneo, Imperia, Torino, Biella, Savona, Vercelli and the easternmost provinces of Pordenone and Udine, with strong tendencies of depopulation and over-ageing. More than half of the municipalities included in the most critical square have less than 500 inhabitants. The smaller municipalities are those whose survival is more at risk if this demographic picture persists or spirals downward. As the fig. 7 highlights, 153 of the 179 municipalities which in the 1970s were in the 7th square, remained in the same square in the following decade. The other 26 improved their position by an increase of their population or a decrease of their OAI. The municipality of Brumano, in the province of Bergamo, even reached the 3rd square. The reason of this conspicuous improvement, however, is in this case purely statistical: its number of inhabitants was so low (76 in 1981 and 78 in 1991) that the increase of two units has caused a demographic growth of 2.6%.

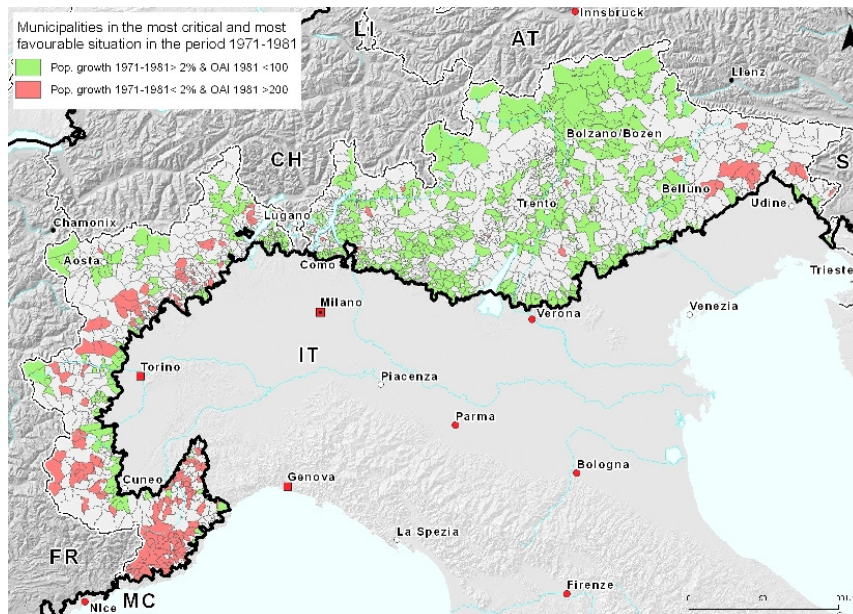


Figure 6 Typology of the Italian Alpine municipalities in the period 1971-1981

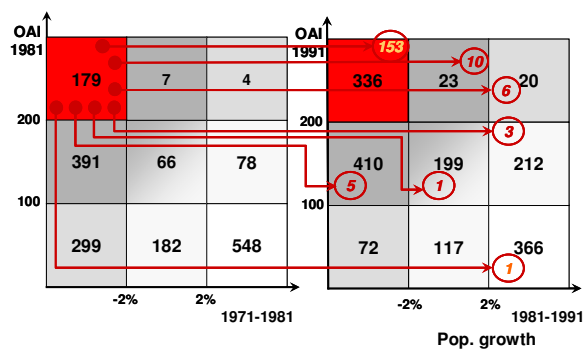


Figure 7 Trend of the Italian Alpine municipalities which in the 1970s presented the most critical situation

Of the other 548 Alpine municipalities that in the 1970s were located in the 3rd square more than half (282) remained in the same position during the 1980s (fig. 8). Of these 100 are located in the autonomous wealthy provinces of Bolzano and Trento.

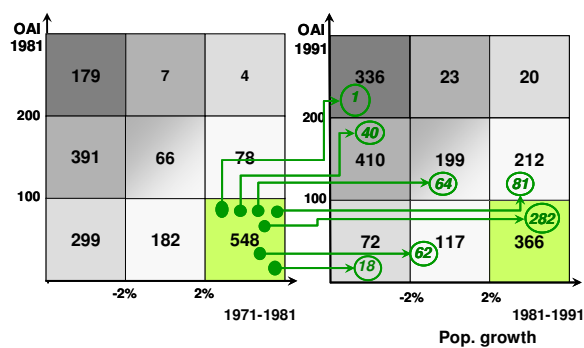


Figure 8 Trend of the Italian Alpine municipalities which in the 1970s presented the most favourable situation

2.2.2.2 OAI 1991 and population change 1981-1991

The decade 1981-1991 presents a demographic picture sensibly worse than the one of the previous decade. The number of municipalities in the 7th square has almost doubled (the number of the municipalities located in the demographically declining provinces of Piedmont, Liguria and Friuli has increased and to these towns have joined some others located in other provinces such as Aosta and Trento, the Lombardian Lecco, Bergamo and Brescia and the Venetian Belluno) and the percentage in the 3rd square has decreased from 31% to 21% (fig. 9).

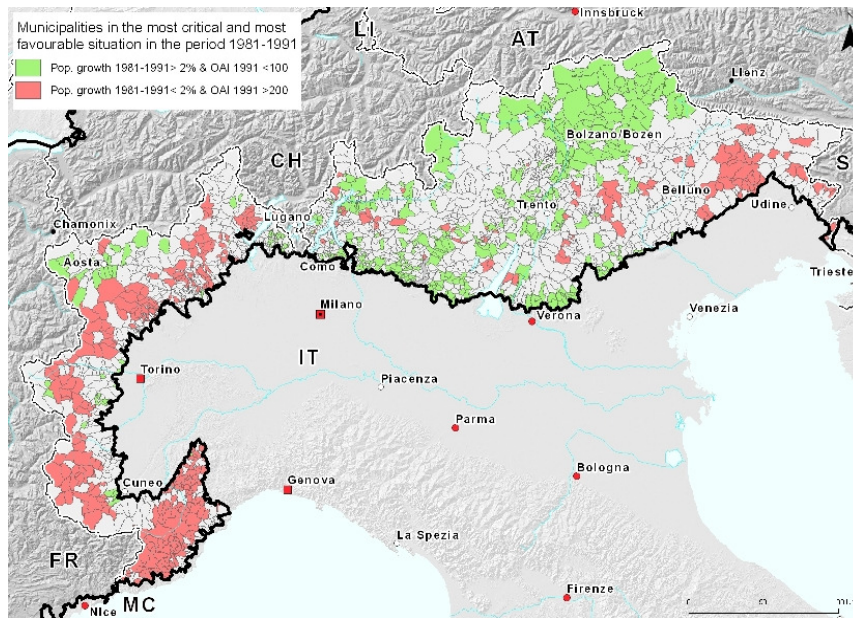


Figure 9 Typology of the Italian Alpine municipalities in the period 1981-1991

Only 88 of the 336 municipalities that in the 1980s were located in the 7th square remained in the same position in the 1990s (fig. 10). 186 municipalities (especially the ones located in the Piedmontian provinces) could improve their position thanks to a significant demographic recovery and ended up in the 3rd square.

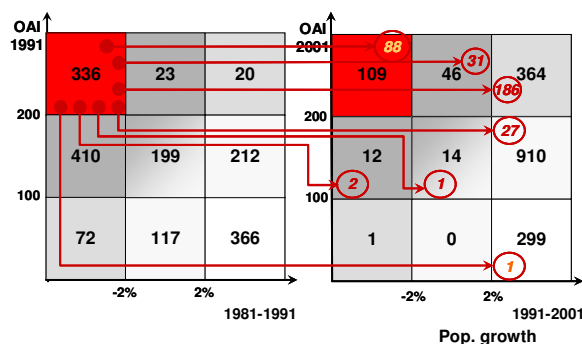


Figure 10 Trend of the Italian Alpine municipalities which in the 1980s presented the most critical situation

Almost 60% of the municipalities that in the 1980s were located in the 3rd square maintained the same position in the following decade, while 146 (mostly located in the province of Trento and in the Lombardian provinces of Bergamo, Sondrio, Varese, Brescia, Como and Lecco) worsened it on account of an increase of the OAI (fig. 11).

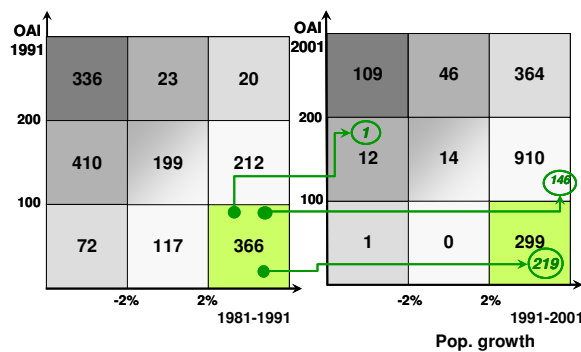


Figure 11 Trend of the Italian Alpine municipalities which in the 1980s presented the most favourable situation

2.2.2.3 OAI 2001 and population change 1991-2001

The demographical picture in the 1990s is on the whole less critical that the previous decade. While the province of Bolzano has furtherly improved its already favourable asset, many Piedmontian, Ligurian and Friulian municipalities look as if they had gone through the demographic crisis of the 1980s. Of the 109 municipalities in which the crisis persists, over 30% lie over 1,000 m above sea level and more than one third is located in the province of Cuneo (fig. 12).

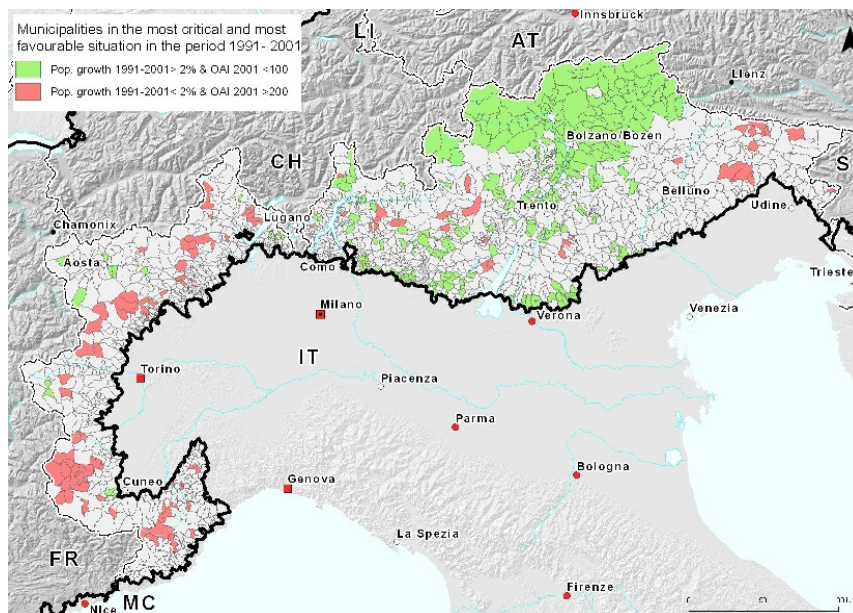


Figure 12 Typology of the Italian Alpine municipalities in the period 1991-2001

If during the first half of the 2000s 33 of the 109 municipalities that in the 1990s were located in the 7th square improved their condition thanks to a slow down of the demographic decrease or to a real demographic recovery (fig. 13), over 60% maintained the same position as well as an analogous percentage of those which in the 1990s were located in the 3rd square (fig. 14).

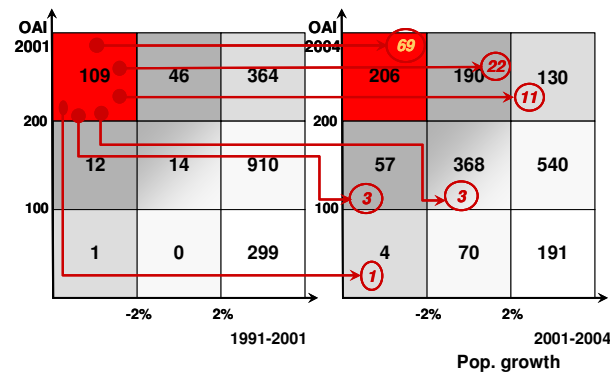


Figure 13 Trend of the Italian Alpine municipalities which in the 1990s presented the most critical situation

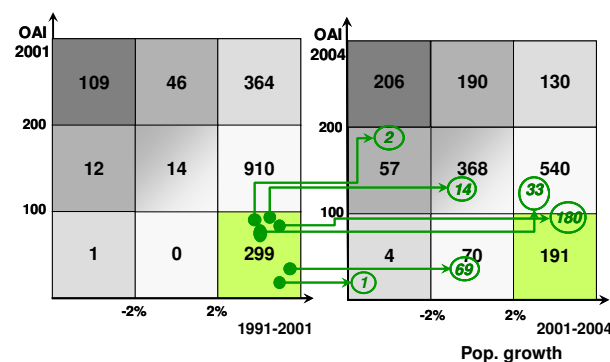


Figure 14 Trend of the Italian Alpine municipalities which in the 1990s presented the most favourable situation

2.2.2.4 OAI 2004 and population change 2001-2004

The first half of the 2000s is a period of general worsening of the demographic asset in comparison with the 1990s. The number of municipalities in the most critical position augments from 109 to 206 and the one of the municipalities in the most favourable situation decreases from 299 to 191. The increase in the number of municipalities located in the 7th square is particularly evident in the province of Udine, Cuneo, Torino and Belluno (fig. 15).

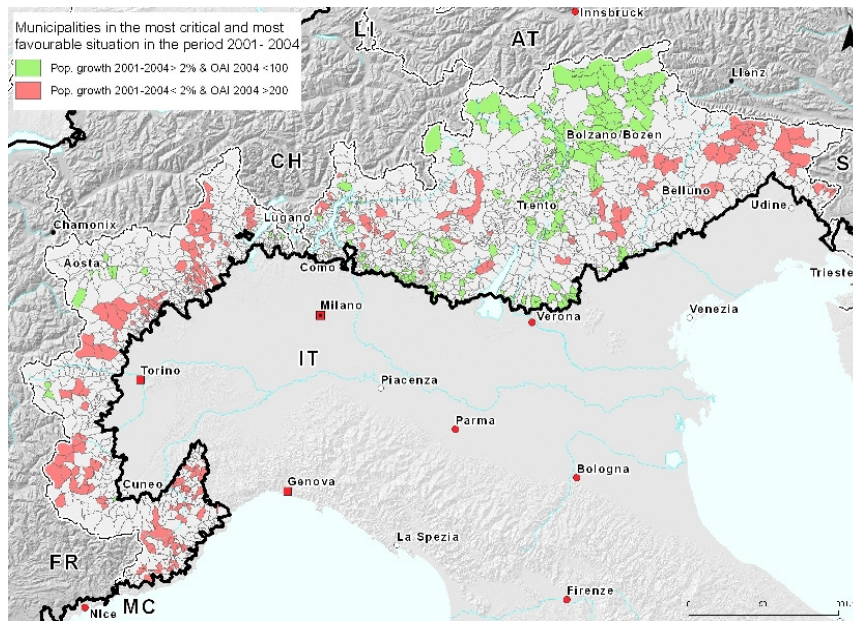


Figure 15 Typology of the Italian Alpine municipalities in the period 2001-2004

2.2.2.5 Summary

The figures 16 and 17 highlight the amount of time for which some Alpine municipalities have been registering the most critical (i.e. have been in the above mentioned 7th square) or the most favourable (i.e. have been in the 3rd square) demographic asset. While almost three quarters (122) of the 167 municipalities that in 2004 were located in the 3rd square have been in this position since the 1970s, the percentage of municipalities that have kept being in the most critical position (7th square) since the 1970s on the total 127 municipalities in the 7th square in 2004 amounts to only to 27% (34). In the investigated period only relatively few municipalities reached the class of demographically fine performing municipalities with positive demographic features (few “new entries”). It seems that entering the most advantaged position is getting harder for the municipalities which have not achieved this position in the previous decades. At the same time, the class of the bad performing municipalities with negative demographic features, register many “new entries”, particularly in the last period (2001-2004). A possible explanation is that the OAI has continued to increase during the decades and in 2004, with the only exception of the province of Bolzano, it exceeds in every province the value of 100. Although there are some municipalities that over the decades have maintained a low OAI, those in which this index has decreased are fewer and fewer.

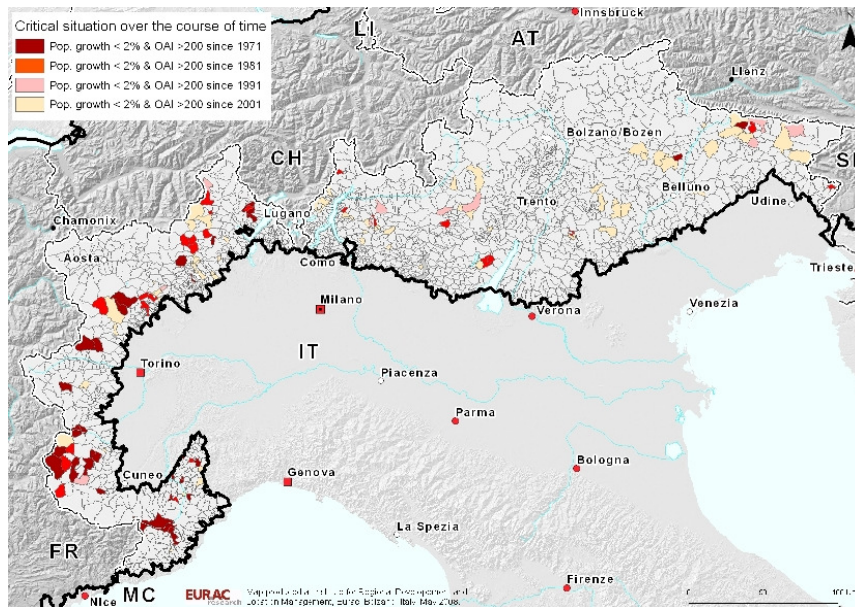


Figure 16 Italian Alpine municipalities with a critical demographical situation (7th square) in the period 1971-2004

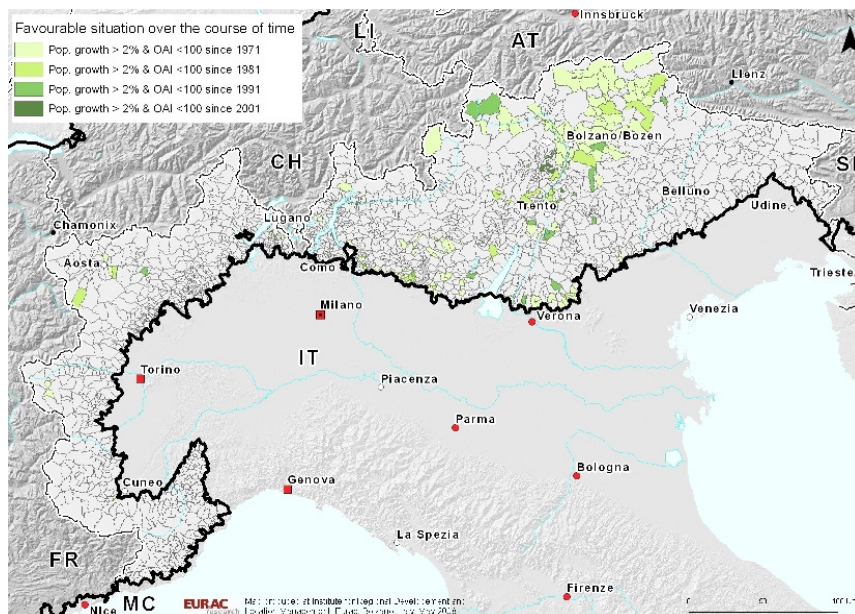


Figure 17 Italian Alpine municipalities with an optimal demographical situation (3rd square) in the period 1971-2004

Particularly evident is the chronic negative demographic asset of Piedmont (fig. 16), and the chronic demographic well-being of many municipalities in the province of Bolzano (fig. 17). In Piedmont the areas with the most critical demographic pattern are the least accessible such as the upper part of the valleys in the provinces of Cuneo (Maira, Varaita, Tanaro and the Po river source) and Torino (Soana and Viù). In these areas isolation combines with the lack of economic and social opportunities and along with the scarceness of services give origin to a downward spiral that is difficult to reverse (IRES, 2002).

The autonomous province of Bolzano constitutes a particular case in Italy due the legislative possibilities allowed by the Autonomy status and to its political and strategic spatial planning objective to promote a decentralized land use management to achieve vital stable rural areas as a whole. The spatial development program supported a decentralized settlement and guaranteed sufficient infrastructural facilities (e.g. every farm is connected to the traffic, electric, canalization and telecommunications net). Moreover, particular attention was paid to mountain agriculture and tourism. These two sectors represent the moving spirit for the environmental and social quality and for supporting the local economy. Hence, local production plants were built (“decentralization of the economy”) for offering the local people a wider range of income-possibilities. Due to alternative non-farming job opportunities, farm managers could restructure their agricultural activities towards part time farming.

3 THE ECONOMIC STRUCTURE AS A POSSIBLE DRIVING FORCE

3.1 General aspects, accessibility, tourism

The 34 municipalities that since the 1970s have been showing an optimal demographic situation are different in many aspects from the 122 ones which chronically suffer from depopulation and over ageing. If the former are mostly located in the autonomous provinces of Bolzano and Trento, in the Lombardian Alps, in Valle d’Aosta and in the Venetian provinces of Vicenza, Verona and Treviso and have a population that varies between 1,000 and 5,000 inhabitants, 90% of the latter are in the Piedmontian provinces of Cuneo, Torino, Verbano C.O., Vercelli and Biella and usually count less than 500 inhabitants.

Another factor of difference is given by altitude. Altitude and the consequent complex topography, harsh climate, peripherality, isolation and distance from urban centers and sparse settlement are natural handicaps from which many mountain areas suffer. Land abandonment occurs mainly in regions where natural conditions are difficult and where there are higher construction and maintenance costs and the sparse settlement patterns make the service provision more problematic. Where tourism industry is developed, however, peripherality ceases to be a problem. The municipalities at higher altitude which are located in the advantaged group are in all the cases municipalities at high tourist vocation (fig. 18). Sestriere, for instance, is a famous Piedmontian ski resort built by the Agnelli family – the founders of the Fiat car business – back in the 1930s. Livigno, in the province of Sondrio, is another area, whose main activities are linked to tourism. Selva di Val Gardena, in the province of Bolzano, is located on an altitude of 1,563 m above the level of the sea and has become a tourist place after the Second World War. Surrounded by the Dolomites it is one of the most appreciated Alpine destinations for summer and winter vacations, as well as Pozza di

Fassa, in the province of Trento. These examples confirm that a good demographic growth and a certain generational change can coexist with a poor accessibility where the economy has a strong tourism industry.

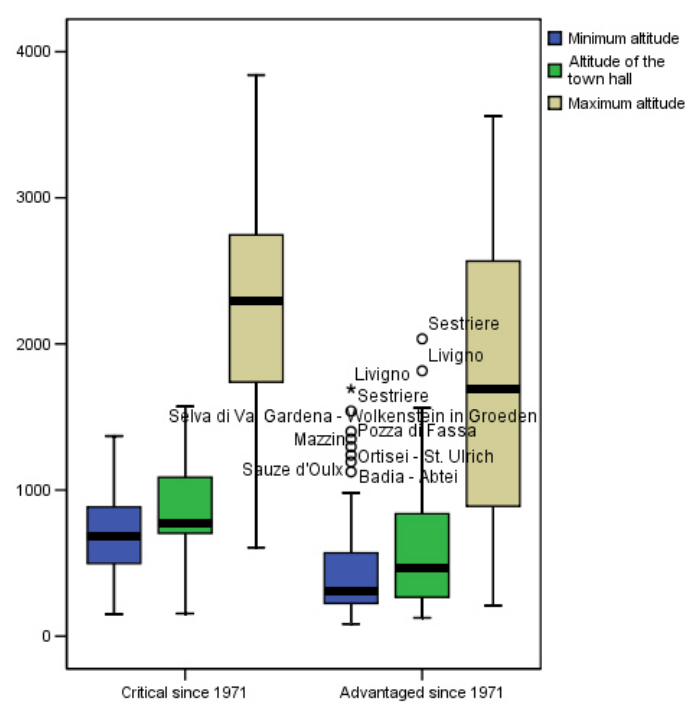


Figure 18 Minimum and maximum altitude and altitude of the city hall of the Alpine municipalities which in 1971-2004 resulted to be in the most critical and in the most favourable position

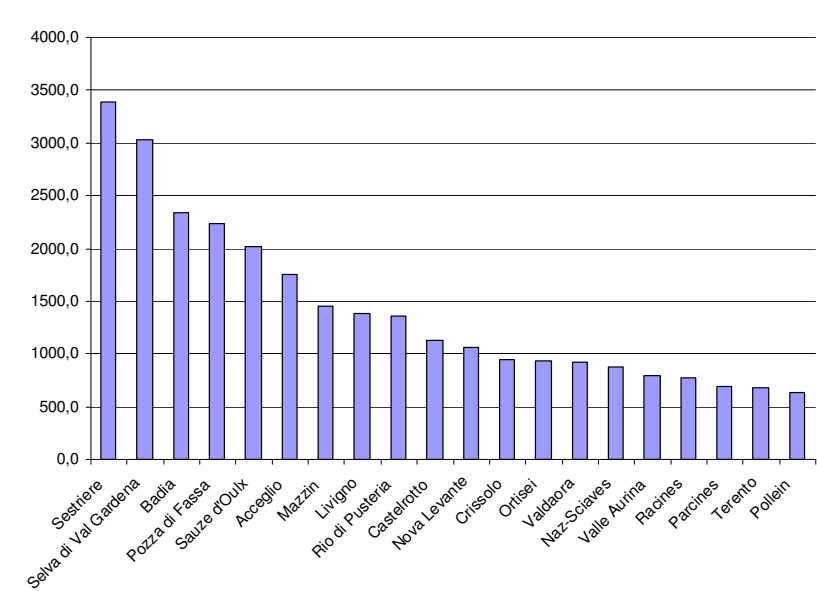


Figure 19 Top 20 of the municipalities which in 1971-2004 resulted to be in the most critical and in the most favourable position with the widest accommodation offer in 2004

It is not a case then if the group of the “advantaged” municipalities shows in 2004 an accommodation offer significantly wider than the one of the group of the municipalities with a critical demographic profile: 250 beds per 1,000 inhabitants against the 185 of the latter.

In the top 20 of the municipalities of the two groups with the widest accommodation offer, well 12 municipalities are located in the province of Bolzano (fig. 19). Tourism, being as a source of employment, income, and development and an element of the general attractiveness of an area, is therefore a good driving force for demographic development. However, it is not appropriate in all rural areas. In order to be effective it needs a thriving and diverse rural economy and can be a relatively fragile element of rural development when tourism industry is fragmented, small scaled and dispersed and when rural entrepreneurs such as farmers, small town and village businesspeople and local officials, do not have specific training in tourism (Hall, 2005).

3.2 Economic wealth and structure

The importance of economic elements in determining demographic trends is often taken for granted. Traditionally, the economic growth of a given region is measured in terms of gross domestic product (GPD), which is by far the most common growth indicator. In the case in point, the analysis could not be confined to the municipalities of the Alpine Convention alone, since data are available at NUTS 3 level (province). Such administrative units include territories that do not belong to the Alpine Convention; it follows that GDP data take into account also the (often conspicuous) wealth produced in non-Alpine areas, which is then differently distributed within each region.

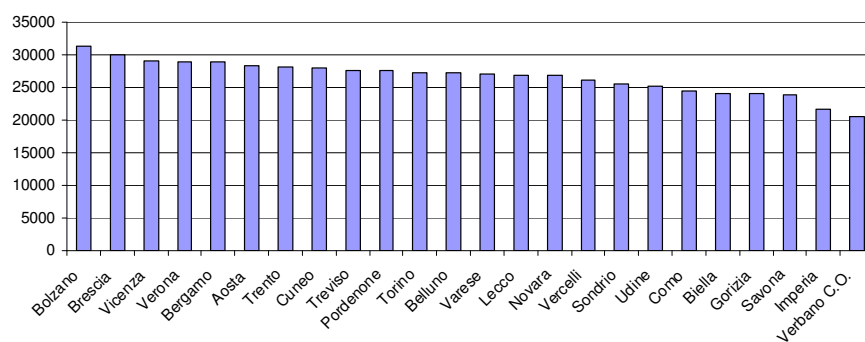


Figure 20 GDP per capita (2004)

Source: Eurostat, 2004.

By comparing figure 20 with the previous figures regarding demographic situation over the decades, a positive correlation seems to emerge between economic wealth and demographic well-being. In other terms, it seems that provinces with higher per-capita GDP have been less

hit by demographic decline and over-ageing. Such assumption is confirmed also by the analysis of the relationship between demographic change in the 1991-2004 decade and per-capita GDP in 2001. Provinces with a high per-capita GDP (such as, for instance, Bolzano-Bozen, Aosta, Vicenza and Trento) experienced population growth. By contrast, provinces like Imperia, Gorizia, Vercelli and Verbano C.O. experienced population decline (fig. 21).

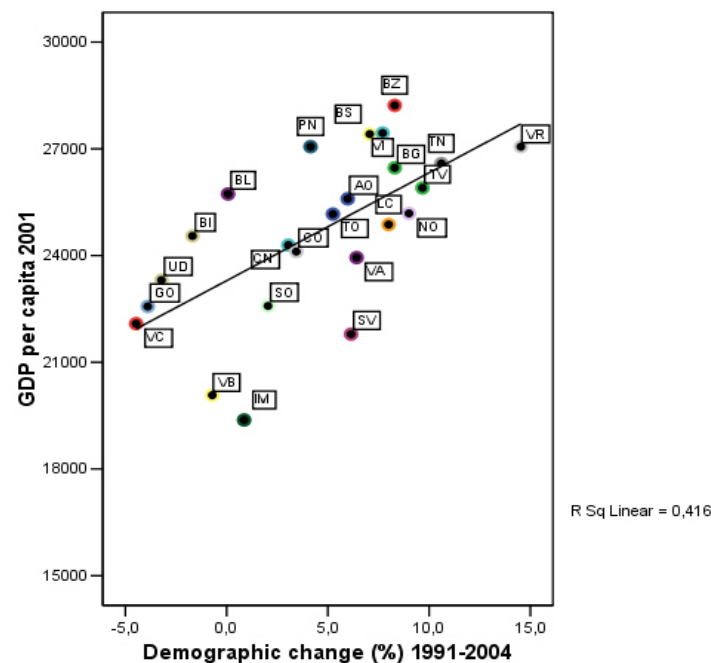


Figure 21 Correlation between the GDP per capita (2001) and the population change 1991-2004

Source: GDP per capita: Eurostat, 1995; demographic change: ISTAT, 1991, 2004.

The two groups of municipalities also differ in the distribution of the employees in the three economic sectors and in its tendency: the lucky group has a lower percentage of employees in the primary sector but a less pronounced decrease. The higher stability of agriculture is connected according to some studies (Ruffini et al., 2006) with the economical location conditions and the regional economic framework. The possibility to combine the agricultural income with income from non-farming activities can have a stabilizing effect and even assure economic survival for small-sized farms. The probability of farm abandonment reduces because good income options allow the continuation of the agricultural activity. The exemplary situation of the province of Bolzano shows an economically vital region, with a policy careful to the connection of the “masi” (the typical South Tyrolean house farms) to the road and telecommunications network as well as to the drinking water, the canalization and the electric system. All this along with a good offer of auxiliary jobs at an adequate distance are important prerequisites for the persistence of agriculture. This is confirmed by some authors who see a persistence of part-time-farms in regions where commuting to non-

agricultural employment is feasible due to a good accessibility to the local road network which permits commuting.

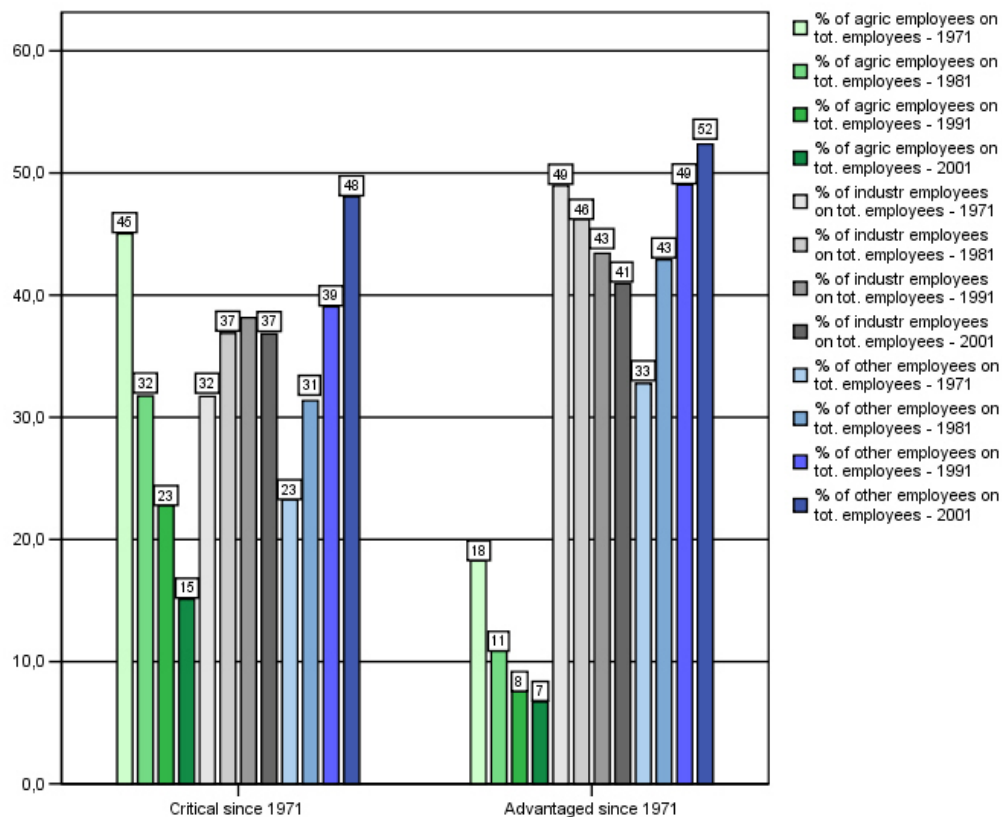


Figure 22 Percentage of employees in the three economic sectors in the Alpine municipalities which in 1971-2004 resulted to be in the most critical and in the most favourable position

Source: ISTAT, 1971, 1981, 1991, 2001.

For what concerns the secondary sector, until the end of the 1970s the industrial production was the dominant sector in the Alps with most of the employees. It was in the early 1980s that all industrial regions were confronted with an economic crisis (Bätzing, 2005) that in this case was more pronounced in the group of the advantaged municipalities, significantly more industrial than the others (fig. 22). It seems that the two groups of municipalities tend to converge over the time with a low percentage of employees in the primary sector, a significant percentage of employees in industry and a service sector that concentrate at least half of the working population.

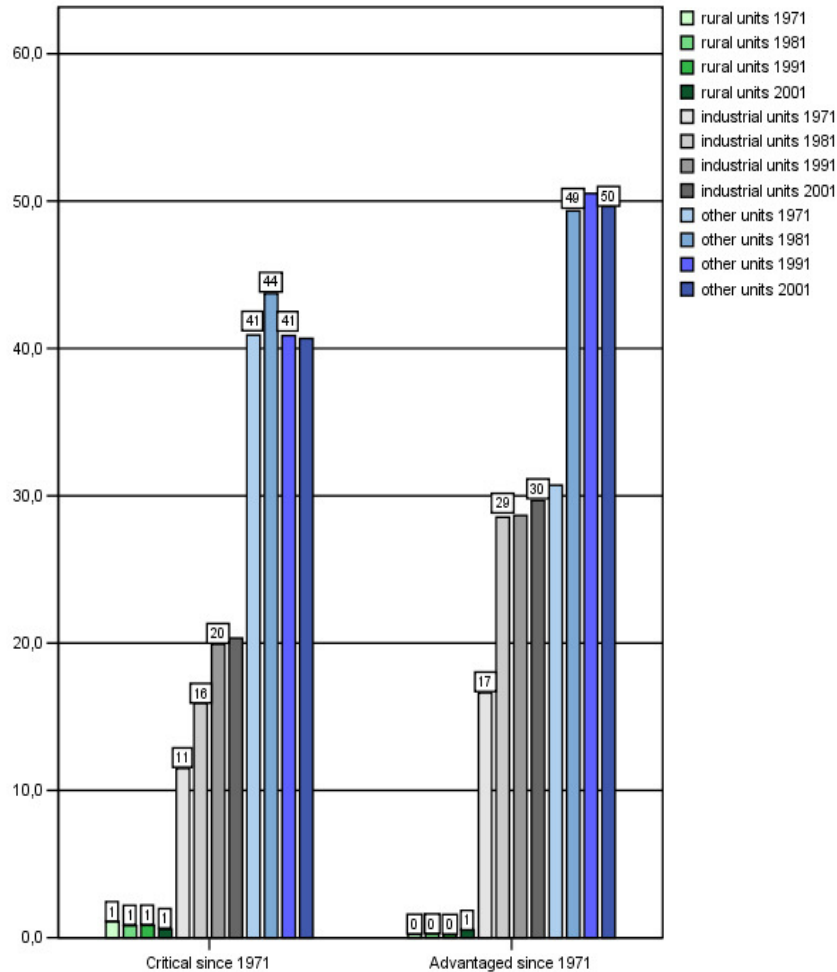


Figure 23 Enterprises per 1,000 inhabitants in the Alpine municipalities which in 1971-2004 resulted to be in the most critical and in the most favourable position

Source: ISTAT, 1971, 1981, 1991, 2001.

What is significantly different in the two groups of municipalities is the number of agricultural, industrial and service enterprises per 1,000 inhabitants (fig. 23). The group of the advantaged municipalities can count on an average wider structure of diverse enterprises than the group of the disadvantaged municipalities that over the decades seems to have enhanced population growth and tended to prevent out-ward migration. In 2005 in the mountain municipalities of Trentino-Alto Adige, for instance, there were 6.1 enterprises per 1,000 inhabitants vs. 3.1 of the Ligurian mountain municipalities and 4.0 of the Piedmontian ones (Censis, 2007b). Although in both the groups micro-enterprises prevail (with the exception of some enterprises which can be defined “small” and are mostly located in the advantaged group), they seem to have constituted an important basis for population stability (fig. 24).

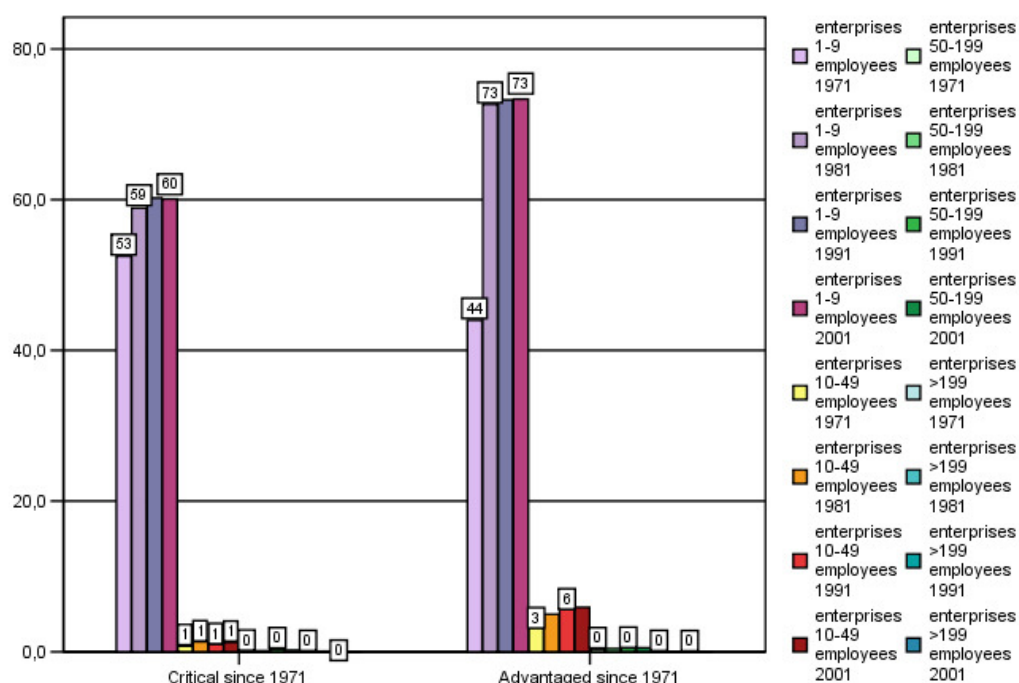


Figure 24 Enterprises per 1,000 inhabitants in the Alpine municipalities which in 1971-2004 resulted to be in the most critical and in the most favourable position
Source: ISTAT, 1971, 1981, 1991, 2001.

4 CONCLUSIONS

If we compare the demographic trend of the last 30-40 years of the Italian Alpine municipalities with the national trend, we can affirm that the Alps have hold on. If in the 1970s they registered a lower demographic growth than the whole country (+2.7% vs. +4.5%) and a higher OAI (54 vs. 51) since the 1990s the Alpine population has been increasing more and the progression of the OAI has been slower, despite the lower intensity of foreign migration. In 2004 the Alpine arc and Italy globally considered displayed analogous values of demographic growth rate (+2.7%) and OAI (about 140).

The good performance of the Alpine municipalities is particularly evident in the comparison with the rest of Italian mountains and is also confirmed by the latest Censis Report (Censis, 2007a). The Alpine municipalities show indeed an average higher demographic vitality index², a higher per capita value added, a lower share of the latter produced by agriculture and a significantly higher number of tourist beds per km². (Censis, 2007b).

This work confirms however the existence within the Alpine arc of a rather heterogeneous demographic asset and of areas characterized by population growth and a certain generational change and areas which suffer from stagnant or decreasing population and pronounced over-aging. The analysis of the data of the last four censuses show that alpine population has

² Demographic index given by the arithmetic mean of the following standardized indexes: birth rate, mortality rate, migration rate and OAI.

increased and old age index (OAI) has maintained itself moderately high in the municipalities located in the planes of the long and broad valleys and at the southern downward slopes where the large valleys meet the planes (Val di Susa, Valle d'Aosta, area of the large lakes in Lombardia, Val d'Adige). On the contrary the westernmost provinces of Cuneo, Imperia, Biella and Vercelli and the easternmost provinces of Udine and Gorizia have registered a strong tendency toward depopulation and over-ageing. Particularly evident is then the chronic negative demographic asset of Piedmont and the Province of Udine, and the chronic demographical well-being of many municipalities in the province of Bolzano.

In Piedmont the areas with the most critical demographic pattern are the least accessible such as the upper part of the valleys in the provinces of Cuneo (Maira, Varaita, Tanaro and the Po river source). In these areas isolation combines with the lack of economic and social opportunities and along with the scarceness of services give origin to a downward spiral that is difficult to reverse. In the province of Udine the most critical situation is registered in Carnia, where transport infrastructure is poor (for instance in the Degano valley), or where the high rate of out-bound commuters indicates an occupational structure that depends basically on external jobs.

The main strategies that can be applied in order to promote regional development are the following:

- adequate level of infrastructures (efficient transport, telecommunications and energy networks, good environmental facilities);
- protection of the environment and promotion of a culture sensitive to environment;
- revalorization of the landscape and of the regional resources (rurality as a positive value, not as a factor of backwardness) and creation of auxiliary jobs;
- providing the labour force with skills adequate to the local job market;
- promotion of differentiation (for instance in the quality of food which is healthy, safe, natural and expresses a long tradition) and innovation;
- political and institutional innovation in order to promote a decentralization at mountain area level;

Of course municipalities do not have equal innovative potential and equal opportunities of recovery. The incentives and the national and supranational support should be directed where the terrain is more fertile.

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ABSTRACT

Covering an area of more than 50,000 km² the Italian Alps are a living and economic space for more than 4 million people, a very popular tourist destination both in summer and in winter and an interesting area of study. Within a limited distance, they include indeed remarkable differences of natural, economic and cultural conditions. Also the demographic asset is rather heterogeneous. On one side there are areas that are characterized by population growth and certain generational change. On the other side there are municipalities which suffer from stagnant or decreasing population, emigration of young people to more dynamic areas and where the permanence of the elderly people is made difficult by the closure of many businesses and services.

This work analyses the demographic trend of 1,756 Italian Alpine municipalities from the beginning of the Seventies until our days and is aimed at highlighting their different patterns of development. Although the most demographically dynamic municipalities are typically located in the most easily accessible valleys and those with declining population are usually in peripheral areas some distance away from the urban centres and badly connected to these, empirical evidence shows that accessibility alone is no guarantee of a balanced demographic structure. This work is also aimed at analyzing the relationship between demographic trend and economic structure, under the assumption that over the course of the decades economic diversification has played an important role in avoiding depopulation.

The 1,756 Italian municipalities object of study are the ones included in the area of Alpine Convention, an international agreement signed in 1991, whose purpose is to safeguard the natural ecosystem of the Alps and promote sustainable development along with the economic and cultural interests of the population living in the signatory countries. Data refer to Population and Housing and Industry and Services and Agriculture Censuses of 1971, 1981, 1991, 2001 and to the Statistical Atlas of Municipalities 2004 of the National Institute of Statistics. By using GIS applications data are illustrated in thematic maps and statistically analysed with the aim of obtaining a detailed picture of the demographic and economic development of the Italian Alpine arc.