
WORKING PAPER 97/5

INTERNAL MIGRATION AND
REGIONAL POPULATION
DYNAMICS IN EUROPE:
ITALY CASE STUDY

*Philip Rees, Enrico Todisco,
Valerio Terra Abrami,
Helen Durham &
Marek Kupiszewski*

Figures 1 – 11 are available in colour for an extra £5

PUBLISHED SEPTEMBER 1997

*For further copies contact the Working Paper Secretary,
School of Geography, University of Leeds, Leeds, LS2 9JT
Telephone 0113 233 3300*

**INTERNAL MIGRATION
AND
REGIONAL POPULATION DYNAMICS
IN EUROPE:
ITALY CASE STUDY**

**Philip Rees¹
Enrico Todisco²
Valerio Terra Abrami³
Helen Durham¹
Marek Kupiszewski¹**

Revised September 1997

¹School of Geography
University of Leeds
Leeds LS2 9JT
United Kingdom

²Dipartimento di Studi Geoeconomici
Statistici e Storici per l'Analisi Regionale
Università degli Studi di Roma "La Sapienza"
Italia

³Istituto Nazionale di Statistica
Direzione Centrale su Popolazione e Territorio
Servizio Dinamica Demografica
viale Liegi 13, 00198 Roma, Italia

Report prepared for the Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and the European Commission (Directorate General V, Employment, Industrial Relations and Social Affairs, Unit E1, Analysis and Research on the Social Situation)

SUMMARY

Regional and local population change in Italy is a complex phenomenon. To understand it properly we must take into account each of the components of population change: natural change, internal migration and immigration/emigration. The patterns of population change are the product of the interaction of natural change which varies between Italian regions and between plain, hill and mountain communes within regions and of migration change which is fuelled by regional economic differences and by the pressures for urban decentralisation, particularly out of the larger cities. The following key points can be made.

- There are gains and losses at the commune scale in every Italian region.
- Population losses through net outflows of migrants occur in the largest cities in all regions but are particularly marked for those with the greatest economic problems (deindustrialization in the North West metropolises and lack of a competitive economy in Naples).
- Deconcentration through internal migration from the ten largest metropolitan centres is now well established. Deconcentration from the capital city, Rome, is especially strong into neighbouring communes. This deconcentration can be interpreted as an extension of the metropolitan commuting fields by migrants seeking pleasanter residences away from urban congestion and pollution.
- This deconcentration is directed towards smaller cities and towns in central and northern Italy, which have dynamic economies or serve as pleasant places to live.
- The communes in the remotest locations or with the lowest densities are not (yet) taking part in this deconcentration. Some of these communes are experiencing rural depopulation.
- Population losses driven by natural decrease are characteristic of these less accessible low density communities, located principally in the hills and mountains of the interior of peninsular Italy.
- In the Mezzogiorno, in both urban core, urban ring and remoter communes, natural increase still compensates for net out-migration. These net out-migration flows are closely linked to the state of the Italian economy. In 1994 the sharp differences between southern regions and the rest of Italy generated heavy out-migration of young adults seeking work. Ten years earlier, when unemployment levels were not as high and more geographically uniform, net out migration from the Mezzogiorno was lower.
- South to North migration losses are most marked for the young adult ages of labour force entry, while at family and older labour force ages deconcentration from metropolitan provinces becomes more important. This pattern of urban deconcentration continues into the retirement and elderly ages but migration levels are much lower.

TERMS OF REFERENCE

This study was prepared for the Council of Europe and the European Commission, which both provided invaluable funding support. The aims of the study are (1) to investigate the extent of rural depopulation, (2) to analyse the degree to which the processes of urbanization, counterurbanization and suburbanization are in train and (3) to describe the patterns of and trends in internal migration. For each aim comparison of the situation in the early/mid-1980s with that in the early/mid-1990s is to be carried out.

ACKNOWLEDGEMENTS

Our thanks are due to Franco Millich of the Council of Europe for his care and attention in guiding the project and to Isabelle de Pourbaix of the European Commission (DGV) for arranging additional funds for the work (which funded our research assistant Helen Durham to design the extensive set of maps that appear in the report). The Istituto Nazionale di Statistica was extremely helpful in providing the population and components of change data for the communes, the migration arrays for Italian provinces and provided guidance on Italian classifications and geography. Evert van Imhoff was instrumental in providing details of the latest regional population forecasts for Italy commissioned by EUROSTAT and Directorate General XVI of the European Commission. Christine Macdonald helped in word processing the report.

CONTENTS

Summary

Acknowledgements

List of tables

List of figures

1. Context

2. Internal migration and population change reviewed

3. Data and methods used

3.1 Geographic units

3.2 Variables

3.3 Data collection procedures and consistency

3.4 Classifications

3.5 Mapping methods

4. Spatial patterns of population change

4.1 Population change

4.2 Natural change

4.3 Net internal migration

4.4 Net external migration

4.5 Regimes of population change

5. Changing migration patterns

5.1 Internal migration through the life course

5.2 Migration flows

6. Relationships between population dynamics and the settlement system

6.1 Relationship to the urban system

6.2 Relationship to the degree of urbanization/rurality

6.3 Relationship to physical terrain

6.4 Relationship to population density

7. Relationship between migration and unemployment

8. Synthesis and conclusions

References

Appendix: A master look up table for provinces

LIST OF TABLES

1. Migration rates at different geographic scales, Italy, 1955 and 1993
2. Registration counts reported to ISTAT by municipalities
3. The Webb classification of demographic regimes
4. Economic indicators for Italian regions, 1989-93
5. Summary of the pattern of migration flows by age, Italy, 1984 and 1994
6. North-South migration in Italy over 4 decades, 1955-94
7. Migration between North and South provinces, Italy, 1984 and 1994
8. Migration between metropolitan and non-metropolitan provinces, Italy, 1984 and 1994
9. Gross Migration flows between divisions, Italy, 1984 and 1994
10. Net migration flows between divisions, Italy, 1984 and 1994
11. Migration flow totals, provinces grouped by divisions and metropolitan status, Italy, 1984 and 1994
12. Migration flows and counter flows, for metropolitan and non-metropolitan provinces, by division, Italy, 1984 and 1994
13. A list of urban communes with populations of 100,000 or more, Italy 1986
14. Population change for communes by urban origin and urban zone, Italy, 1984-94
15. Components of population change by type of commune, Italy, 1984 and 1994
16. Components of population change by groups of commune, Italy, 1984 and 1994
17. Components of population change by altitude zone, Italy, 1984 and 1994
18. Components of population change by population density of commune, Italy, 1984 and 1994
19. Unemployment and net migration rates for provinces, Italy, 1984 and 1994
20. Correlations of unemployment and net migration rates for Italian provinces, 1984 and 1994
21. Net migration flows and rates by unemployment class, Italy, provinces, 1984 and 1994
22. Net inter-provincial migration and migration effectiveness by unemployment class of origin and destination, Italy, 1984 and 1994

LIST OF FIGURES

1. The population change rate for *comuni*, Italy, 1984
2. The population change rate for *comuni*, Italy, 1985-93
3. The population change rate for *comuni*, Italy, 1994
4. The natural increase rate for *comuni*, Italy, 1984
5. The natural increase rate for *comuni*, Italy, 1994
6. The net internal migration rate for *comuni*, Italy, 1984
7. The net internal migration rate for *comuni*, Italy, 1994
8. The net external migration rate for *comuni*, Italy, 1984
9. The net external migration rate for *comuni*, Italy, 1994
10. The Webb classification of *comuni*, Italy, 1984
11. The Webb classification of *comuni*, Italy, 1994
12. A classification of provinces for migration analysis
13. Net migration by province, ages 0-14, Italy, 1984: A rates, B flows
14. Net migration by province, ages 0-14, Italy, 1994: A rates, B flows
15. Net migration by province, ages 15-29, Italy, 1984: A rates, B flows
16. Net migration by province, ages 15-29, Italy, 1994: A rates, B flows
17. Net migration by province, ages 30-44, Italy, 1984: A rates, B flows
18. Net migration by province, ages 30-44, Italy, 1994: A rates, B flows
19. Net migration by province, ages 45-59, Italy, 1984: A rates, B flows
20. Net migration by province, ages 45-59, Italy, 1994: A rates, B flows
21. Net migration by province, ages 60-74, Italy, 1984: A rates, B flows
22. Net migration by province, ages 60-74, Italy, 1994: A rates, B flows
23. Net migration by province, ages 75+, Italy, 1984: A rates, B flows
24. Net migration by province, ages 75+, Italy, 1994: A rates, B flows

1. CONTEXT

This paper reports on the Italian migration and population change as part of a project on *Internal Migration and Regional Population Dynamics in Europe* sponsored by the Council of Europe and the European Commission. This project aims to build up a comparable picture of internal migration across the countries of Europe.

In the 1990s the countries of Europe are collectively engaged in what the German Chancellor, Helmut Kohl, has called "the European Project". The European Project involves the closer integration of countries in international organisations (such as the Council of Europe) or in multi-country institutions (such as the European Union). One of the requirements in collective projects is an agreed and comparable database of information about countries and their constituent regions. The Directorate of Social and Economic Affairs of the Council of Europe has been active in collating national statistics for over 30 countries (Council of Europe 1995, 1996). The Statistical Office of the European Communities (EUROSTAT 1995a, 1995b) has been pursuing harmonisation of national and regional statistics for the member states of the European Union.

However, there is a major gap in these statistics with respect to internal migration and its role in regional population change. Considerable progress has been made by the European Commission and EUROSTAT in developing regional population projections for the European Union (see Rees 1996 for a review). The primary aim of this work has been to incorporate internal migration data into multi-country, multi-regional population projections (see van Imhoff *et al.* 1997 for a methodological report). The EU regional projections are carried out for second level regions in the EUROSTAT statistical system, regions with average populations of 1.86 million people. Such regions are large spatial filters for understanding processes of population change within countries. National researchers have used much smaller units with some success (e.g. Dorling 1995; Boudoul et Faur 1982). Kupiszewski (1996) established for Poland that the surface of population change was virtually flat at *Voivodship* scale (49 units) while the surface at commune scale (4000 units) had lots of peaks and valleys.

In a feasibility study for the Council of Europe, Rees and Kupiszewski (1996) sought information from European National Statistical Offices about the availability of data on population and migration by age and sex at different scales. The conclusion was that reliable information was available to study population dynamics at fine spatial scales. Building on that knowledge this study describes population change for Italy at commune scale and analyses internal migration at province scale.

The report is divided into the following sections. Section 2 reviews knowledge about regional population change and internal migration in Italy, drawing on published work. Section 3 describes the data available for analysing regional population dynamics in Italy and the methods used. Section 4 discusses patterns of population change at commune scale, while section 5 analyses internal migration at province scale, which reveals the way migration varies by life course stage. Section 6 examines the relationship between population change and migration and a variety of settlement classifications. Section 7 looks at the relationship between migration and unemployment. Section 8 provides a summary of findings.

2. INTERNAL MIGRATION AND POPULATION CHANGE REVIEWED

Analysis of population development in Italy has traditionally focused on the differences between the major divisions of the country, contrasting a low fertility North with a high volume of internal in-migration with a high fertility South experiencing sustained internal out-migration and emigration. However, this division is too simplistic. A five region division is much more descriptive of development patterns. Italy can be divided into North West, the industrial power house of Italy, the North East with its more recent industrial dynamic, the Centre with its new model of dispersed and small to medium scale industrialisation, the Mainland South with its interior regions of poverty and undynamic coastal towns and cities and the Islands suffering from their peripheral position (King 1987).

Mancinelli (1996) reproduces a dramatic series of migration flow maps for the years 1955, 1962, 1970 and 1990 drawing on the work of Golini (1974) and Garzanti (1993). The strongest flows throughout the post-war period have been from the Mainland South to the North West, from the Island South to the North West and from the North East to the North West, with smaller flows to the Lazio region (centred on Rome) from southern regions and east coast provinces.

Another filter used to describe population redistribution is the physical division into Plains, Hills and Mountains. Mountains are found in the North (the Alps), through the whole peninsula (the Apennines) and on the Islands (northern Sicily, central Sardinia). Plains are located predominantly in the Po Basin, in Lazio, Campania and Puglia (Foggia). Hill land fits in elsewhere. Using the Census data produced by ISTAT from 1871 to 1981, King (1987) shows a systematic increase from 34 to 48% in the share of Italy's population that lives in Plains areas, a systematic decrease from 23 to 14% in the share that lives in Mountain areas and a small decrease from 43 to 39% in the share living in hill areas. These shifts represent the systematic industrialisation and urbanisation of the Po Valley regions and the stagnation of rural economies in remote upland areas.

Extrapolating these trends into the future at regional scale, the EUROSTAT/NEI (1994) studies of two long-term scenarios for the European Union see the populations of the South Mainland and South Islands growing over the 1995-2000 period under both low and high scenarios by 0-0.5% and 0.5-1.0% respectively, while the northern Italian regions have either lower growth or experience decrease, despite net inflows. Under the low scenario, the regions of Piemonte, Liguria, Emilia-Romagna, Friuli-Venezia-Giulia, Toscana and Marche are projected to lose population.

These migration and population scenarios have recently been revised by EUROSTAT/NIDI/Statistics Netherlands (1997). In the baseline scenario, which assumes internal mobility and regional differences in migration remain at the base year level (the 1990-94 average), the populations of the South Mainland and South Islands divisions grow over the 1995-2000 period by 1% on average. On the other hand, the northern Italian regions, despite net inflows of migrants from the South, have either lower growth or experience decrease. For northern Italy as a whole (Rome and further north), population size remains constant over the 1995-2000 period. Still in this same baseline scenario, the northern regions of Piemonte, Liguria, Friuli-Venezia-Giulia, Emilia-Romagna and Toscana are projected to lose population in the short run.

Several questions are not addressed by this regional level of analysis. To what extent do these regional averages disguise a much greater variety of experiences within regions? How are the influences of physical milieu expressed within regions? To what extent are these regional movements associated with transfers of population from countryside to city or between city and suburbs? What has been the role of the very largest cities or metropolises in “organizing” the population shifts occurring in the 1980s and 1990s? There is ample evidence elsewhere in North West Europe, North America and Australia that the very largest cities are experiencing a profound restructuring of their economies increasing concentration on the activities of global trade, finance, communication and control, but a decline in their routine office operations and manufacturing activities. This has led to substantial out-migration from cities such as New York, Paris, London, Sydney. Are the same processes occurring in Torino, Milano and Roma?

Recently, an important analysis of inter-provincial migration has been carried out by Bonifazi, Chieppa and Heins (1997). They examine the intensity and efficiency of internal migration in Italy over the period 1955 to 1993, focusing on movements between provinces. The period studied begins in the year in which migration flow data from the municipality registers first becomes available.

Migration intensities in the initial years of this 39 year period, from 1955 to the early 1970s, were much higher than in the period after 1975. Inter-municipality migration rates were around 30 per 1000 population in the first period but slowly declined from 25 to 20 in the second period. In between the 1973-75 period saw a sharp decline, from 30 to 25 per 1000, associated with the employment effects of the first oil shock. In the earlier period there was a marked peak in 1962, but this was due to considerable adjustment of the registers after the 1961 Census, to regularize urban registrations which had been previously restricted by the Fascist law on urbanisation. The long run decline was marginally checked by a slight rise over the 1979-82 period, but some adjustments were again made after the 1981 Census.

To analyse the importance of migration at different spatial scales, Bonifazi, Chieppa and Heins (1997) classify inter-municipality migration into migrations within the same province, migrations between provinces within the same region, migrations between regions within the same division and migrations between different divisions. The regions used were the 20 recognised by ISTAT (see the Appendix for a list embedded in the

Table 1: Migration rates at different geographic scales, Italy, 1955 and 1993

Geographical scale	Migration rates per 1000 population)		% Change
	1955	1993	
Same province	13.0	11.9	-8.6
Other provinces same region	5.3	2.6	-50.6
Other regions same division	2.4	1.2	-50.6
Other divisions	5.6	3.9	-31.1
Total	26.3	19.6	-25.7

Source: Bonifazi, Chiappa and Heins 1997, Table 1.

look up table) and the divisions were the North West, the North East, the Centre and the South. Table 1 provides the migration rates for 1955 and 1993 and the percentage change. Short distance - within province - migration was the most important and has declined least. Next most important was long-distance migration, though this declined more than total migration. Medium distance migration between provinces was less important, particularly in 1993, and had halved over the 1955-93 period. In the 1950s migration flows from rural communes to provincial centres and large metropolitan centres reflected the end stage of Italian urbanisation. Such flows were much less important by the 1990s and there were many in which the balance was reversed, particularly from the central areas of metropolitan provinces.

Long distance, inter-divisional, migration was a constant factor over the four decades examined and was characterised by heavy outflows from the South of Italy to the North before 1978 and by smaller outflows after this year. However, the two years 1984-85 were anomalous in showing a small positive balance of migration between the South and North West. As the year 1984 has been chosen for analysis, the atypical position of the year needs to be borne in mind when results are discussed later in the report.

Bonifazi, Chieppa and Heins (1997) examine the efficiency of inter-provincial migration. Migration efficiency (also referred to as effectiveness) is measured by the ratio of net migration to the gross migration flows that create the balance. Overall migration efficiency declined from a level of 26 or 27 % in the later 1950s to 11 or 12 % in the 1990s with short term fluctuations below this level in the mid 1970s to mid 1980s. This indicates that far less population redistribution was being effected by internal migration at the end of the period, compared with the beginning. The geographical variation across provinces in efficiency was wide in the mid 1950s, narrowed to the mid-1970s but widened again to the early 1990s. A cluster analysis of provinces using the effectiveness measures for the 1955-93 period produced four groupings.

- (1) The metropolitan provinces (Torino, Milano and Roma) started the period with high positive effectiveness but ended with low but negative effectiveness. Napoli followed the same trend but was in continuous migration loss after 1960.
- (2) Provinces in the mountainous North West, in Liguria together with Florence and Bologna experienced positive effectiveness in the late 1950s but by the 1980s this had declined to zero.
- (3) Most other provinces in northern and central Italy saw migration losses (negative effectiveness) in the period from 1955 to the start of the 1970s followed by a slow increase in effectiveness leading to steady migration gains in the 1980s and 1990s.
- (4) The southern provinces and some mountainous provinces in the north together with Venice exhibited negative demographic effectiveness throughout.

The research described in section 5 of the report extends the analysis of provincial migration by examining life course patterns (using migration data classified by age), extends the metropolitan province analysis to the whole country and looks at the relationship between provincial migration and provincial unemployment. We also look, in section 4, at population change and migration at municipality level which is probably too difficult to attempt over a 40 year span but can be attempted in our comparison of two years a single decade apart.

3. DATA AND METHODS USED

In this section of the report the demographic and socio-economic data employed are described.

3.1 Geographic units

3.1.1 *Communes*

To investigate population change at the finest spatial scale in Italy requires selection of the commune as geographic unit of study. The commune is the smallest administrative area in the Italian system of government. There were some 8104 *comuni* in Italy in 1994 and they form the lowest tier of local government. They ranged in population size from over 2 million inhabitants (Rome) to small rural communes with only a few hundred residents. In Italy it is fortunate that the commune boundaries change rarely and by small amounts.

However, if we had been examining a longer time series, then a more systematic solution to the problem of constructing a true series of statistics for comparable areas would be needed. Italian statisticians and geographers have addressed this problem (Bachi 1993 and ISTAT 1988, 1992). The territory of Italy was divided into a network of 1,000 hexagonal cells of fixed area (about 300 square kilometres). This network was then used to present comparable maps for a variety of territorial distributions. Underpinning the statistical series were a variety of detailed techniques for linking the geographic units used in the different data sets to the uniform cell network.

In the current work, it was judged that the additional effort involved when using communes in 1984 and 1994 was not justified. There would have been considerable problems, as well, in transforming the migration flow data, available at province scale, to a uniform network of cells. Interaction phenomena are very sensitive to the size and shape of units employed in measurement. Use of standard look up tables, such as those generated through a point-in-polygon algorithm or overlap analysis would not generate accurate estimates of flows between the uniform cell areas.

3.1.2 *Other geographic units*

Many statistics are not available in full detail for communes and it is also useful to report results for larger units. Communes, the lowest level of local government in Italy, aggregate to provinces of which there were 95 units in 1984 and 1994. The full list of provinces is given in the Appendix look up table. Provinces carry out many important functions of government. Provinces are grouped, for many planning and statistical purposes, into regions, of which there were 20 in 1984 and 1994. The Appendix table shows for each province the region it belongs to. These regions can in turn be grouped into larger divisions for broad analysis. There are several different definitions for divisions: the commonest consist of the four divisions North West, North East, Centre and South. In this report we divide the South into a South Mainland and South Islands division following King (1987). The final geographical grouping of provinces is into North Italy and South Italy: North Italy includes the North West, North East and Centre divisions; the South combines the South Mainland and South Islands

divisions. Figure 12 (positioned later in the report with the maps of provincial migration) shows all of these geographies on one map and the Appendix shows for each province its membership of each grouping. A final grouping of provinces is into metropolitan and non-metropolitan categories. Metropolitan provinces are those containing one or more of Italy's major cities in each of the divisions.

From time to time we associate the geographic areas used in this report with the classification used by the Statistical Office of the European Communities (EUROSTAT), which is called the *Nomenclature des Unités Territoires Statistiques* (NUTS). Provinces form level 3 of the NUTS system and regions level 2, while level 1 consists of groupings of NUTS 2 regions which are rarely used in the Italian statistics. Level 0 in the NUTS system is the country as a whole. The Appendix reports the NUTS codes assigns to provinces, regions and NUTS 1 areas, using the codes current in 1994, but for regions the revised codes adopted in 1995 are listed as well for reference purposes. In the 1994 NUTS system Italy was assigned the code "R3", while in the 1995 revision the national code is more transparently "IT".

3.2 Variables

The commune data were supplied by ISTAT in the form of population accounts that link year start and year end populations for 1984 and 1994. We also computed change between the end of 1984 and the start of 1994, though this measure is less reliable because of boundary changes, commune creations and commune amalgamations (about 100 communes experience changes in area greater than 20 hectares).

The data used in the study have been supplied by the Servizio Dinamica Demografica of ISTAT. The first data set consists of Commune populations and components of change for calendar years 1984 and 1994. For each year start and end of year population counts by commune were supplied (January 1 1984, January 1 1985, January 1 1994 and January 1 1995). This means that it is possible to measure population change in three independent intervals: January 1 1984 to January 1 1985, January 1 1985 to January 1 1994 and January 1 1994 to January 1 1995. Within the calendar years 1984 and 1994 commune definitions remain fixed but between years they change a little. For the 1985 to 1993 period, we dropped about 100 of the communes where their reported areas differed by more than 20 hectares. In addition to the commune populations, commune births, deaths, internal and external in- and out-migration totals were used.

The second data set consists of migration flows into, out of and between the 95 provinces of Italy, the boundaries of which were constant between 1984 and 1994. The migration data consisted of three arrays: (1) migration between origin provinces and destination provinces, (2) migration out of origin provinces broken down by age and sex and (3) migration into destination provinces broken down by age and sex. Intra-provincial migration flows were also supplied as part of the first array (origin-destination matrix). The intra-provincial migration statistics count migration between communes within the same province. In common with most European population registers, the Italian register does not report changes of address within communes.

3.3 Data collection procedures and consistency

Migration flow data are published for regions (used as the second level areas in the NUTS classification) in the *Annuario Statistico Italiano* published by ISTAT, but they suffer from one severe drawback. The tables report de-registrations from communes of origin (*Cancellati*) and re-registrations in communes of destination (*Inscritti*), but the two sets do not agree. The sum of regional destinations always exceeds the sum of regional origins. ISTAT reconciles the two records of migration in further work which results in the commune and provincial data used in this study. Some further clarification of collection procedures and of the degree of consistency that can be achieved is given here.

The migration data derive from the municipal population registers for the 8100 Italian municipalities (*comuni*). Each municipality sends to the Istituto Nazionale di Statistica (National Institute of Statistics or ISTAT) one record of summary data reporting the yearly demographic flows affecting its population register together with year start and year end population counts. This record reports for a year t the items shown in Table 2. The "other reasons for registration and deregistration are many and varied but individual failure to register (outside the country for a short period), re-registration by persons who have failed to register previously and now need a registration certificate.

Table 2: Registration counts reported to ISTAT by municipalities

Count	Description
1	The population on the 31st December of year $t-1$
2	Registrations of live births
3	Registrations of in-migrants
4	Registrations of immigrants
5	Registrations for "other reasons"
6	Deregistrations of deceased persons
7	Deregistrations of out-migrants
8	Deregistrations of emigrants
9	Deregistrations for "other reasons"
10	The population on the 31st December of year t

Items 3 and 5 are reported together as in-migration to municipalities and items 7 and 9 are reported as out-migration from municipalities. The registrations for other reasons for the whole of Italy were 49,505 in 1984 and 138,202 in 1994, while deregistrations for other reasons were 19,678 in 1984 and 56,524 in 1994. As a result the balance of internal migration will not be zero when summed over all municipalities. In 1984 the balance will be a false net in-migration of 29,827 and of 81,678 in 1994.

There is also an inconsistency due to the time lags in registration and deregistration in the two municipalities involved. A deregistration from municipality A might be reported in year t while the registration is reported by municipality B in year $t+1$ (e.g. one month later). These kinds of inconsistencies will always be present in locally administered registers. Only if all population registers were completely centralised and automated (real time deregistration/registration using a single database) could such consistency be achieved. Even with such a system there would still be lags because out-migrants from a municipality might not know, at time of deregistering, to what municipality they were moving either because of uncertainty or because of geographic ignorance. The provincial migration data are, however, consistent because only matched deregistration/registration records of types 3 and 7 (Table 2) are used.

Some concern has been expressed that the Italian population registers fail to deregister Italians living permanently or semi-permanently outside Italy, and so may overcount the population. ISTAT estimates that perhaps 150 thousand such persons were present, on average, in the 1981-91 intercensal registers. The problem, however, is to what new information should the register populations be adjusted. The 1991 Census of Population provides an alternative count but it suffers from the common problem of underenumeration. ISTAT's post-enumeration coverage survey estimated that some 450 thousand persons were not counted. On balance it was decided to use unadjusted commune population stocks and flows, we warn the reader that all comparisons across the 1984-94 decade could be subject to some error. In a democratic society in which the State is not allowed, by law, to undertake comprehensive surveillance and tracking of all individuals living in the country, such imprecision must be accepted. The focus of attention in analysis needs to be on the big differences in population and migration behaviour that are unlikely to be radically altered by counting errors such as these discussed above.

3.4 Classifications

The situations in 1984 and 1994 are considered and compared using several commune classifications: the first is designed to measure the rural/urban character of Italian communes; the second allocates communes to three classes based on altitude and topography; and the third places communes into distance bands according to their proximity to a set of urban centres. The first and second classifications were derived from ISTAT (1986) while the third was developed using the centres of gravity of communes made available by the GISCO project at EUROSTAT. Several classifications of Italian provinces have been used which were described in section 3.1.2 and which are listed in the Appendix. In general, official ISTAT groupings have been used. The only exception is the classification of province into metropolitan and non-metropolitan categories, which extends the usual identification of Torino, Milano, Roma and Napoli to encompass Genova, Venezia, Bologna, Firenze, Bari and Palermo so that each division of Italy contains at least one province designated as metropolitan.

3.5 Mapping methods

The situations in 1984 and 1994 are considered and compared using maps. The method used to map at commune level is to plot a circle proportional to population at the geographic centre of commune and to shade the circle to indicate the intensity of the demographic indicator being studied. The maps are not ideal because, even though the symbol size is kept to a minimum, there is a substantial problem of overlap in the densest regions of Italy. The migration data, available for the 95 provinces of Italy, can be mapped rather more effectively because the GISCO project of EUROSTAT was able to supply the boundaries of NUTS Level 3 regions (provinces in Italy). We use choropleth (shaded) maps to represent migration intensities (rates of migration per 1000 average population) and proportional symbol maps to represent the volume of flows into and out of the provinces.

4. THE SPATIAL PATTERNS OF POPULATION CHANGE

To study the spatial patterns of population change for 1984 and 1994, we computed rates of natural increase, net internal migration, net external migration and population change by dividing the corresponding count by a population at risk which is the arithmetic average of initial and final populations in the year. We also computed the average annual population change rate for the period 1/1/85 to 31/12/93 (nine years) for communes without significant boundary changes (where the differences in area between 1981 and 1991 were less than 20 hectares). These nine indicators were mapped (Figures 1 to 9) using six class intervals for each rate expressed per 1000 population: (1) 25+, (2) 10 up to 25, (3) 0 up to 10, (4) -10 up to 0, (5) -25 up to 10 and (6) below 25. There is an additional missing value category for the 1984-94 map.

4.1 Population change

At commune scale the spatial patterns are a great deal more complex than regional analysis has previously suggested. The maps (Figures 1 to 3) are combinations of North/South, plain/hill/mountain and urban core and ring patterns. The 1984 map shows strong gains in coastal communes in the South but also in the communes of the Po Valley east of Milan. In the Centre the map is dominated by Rome, with population loss in its inner core (Roma municipality) and gains in the ring of surrounding communes, indicating strong decentralisation (suburbanisation). Communes experiencing population loss can be found throughout Italy but particularly in mountain areas and in the Industrial North West. In 1994 these patterns persist but growth is lower overall, particularly in the South, while more Northern communes gain population than in 1984. Population change in between resembles the pattern in 1994 more closely than that in 1984.

There is clear evidence in Figures 1, 2 and 3 that rural depopulation is a continuing phenomenon in Italy but only in selected areas. Communes in the highest population loss category of less than -25 per 1000 population loss per year are found in the following areas:

- (1) the North West mountainous areas, particularly the northern Apennines between the Ligurian coast and the Po valley;
- (2) the North East mountainous region of the Dolomites and Carnatic Alps;
- (3) the Southern mountainous region comprising parts of interior Abruzzi, Molise and Basilicata;
- (4) the interior communes of Sicilia and Sardegna.

It should, however, be stressed that not all communes in these areas fall into the highest population loss category so that a high correlation of loss with rural status or mountainous terrain should not be expected (see section 6 for the relevant statistical analysis). The demographic source of the population loss is a combination in all regions of natural loss and net out-migration. In the two northern areas containing depopulating communes natural losses are more important than migration losses, while in the southern areas of depopulating communes migration losses are more important than natural losses.

Figure 1: The population change rate for comuni, Italy, 1984

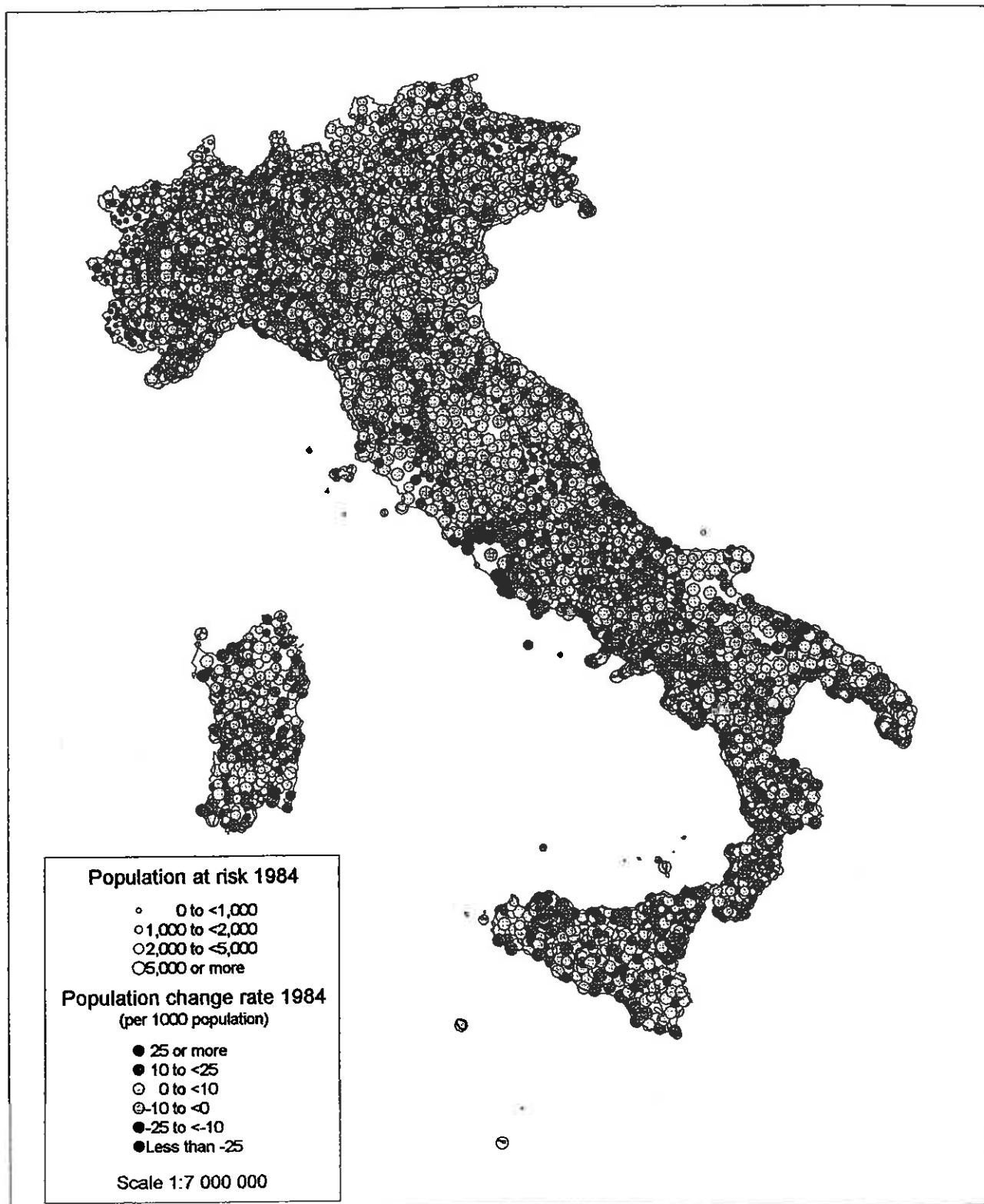


Figure 2: The population change rate for comuni, Italy, 1985 - 1993

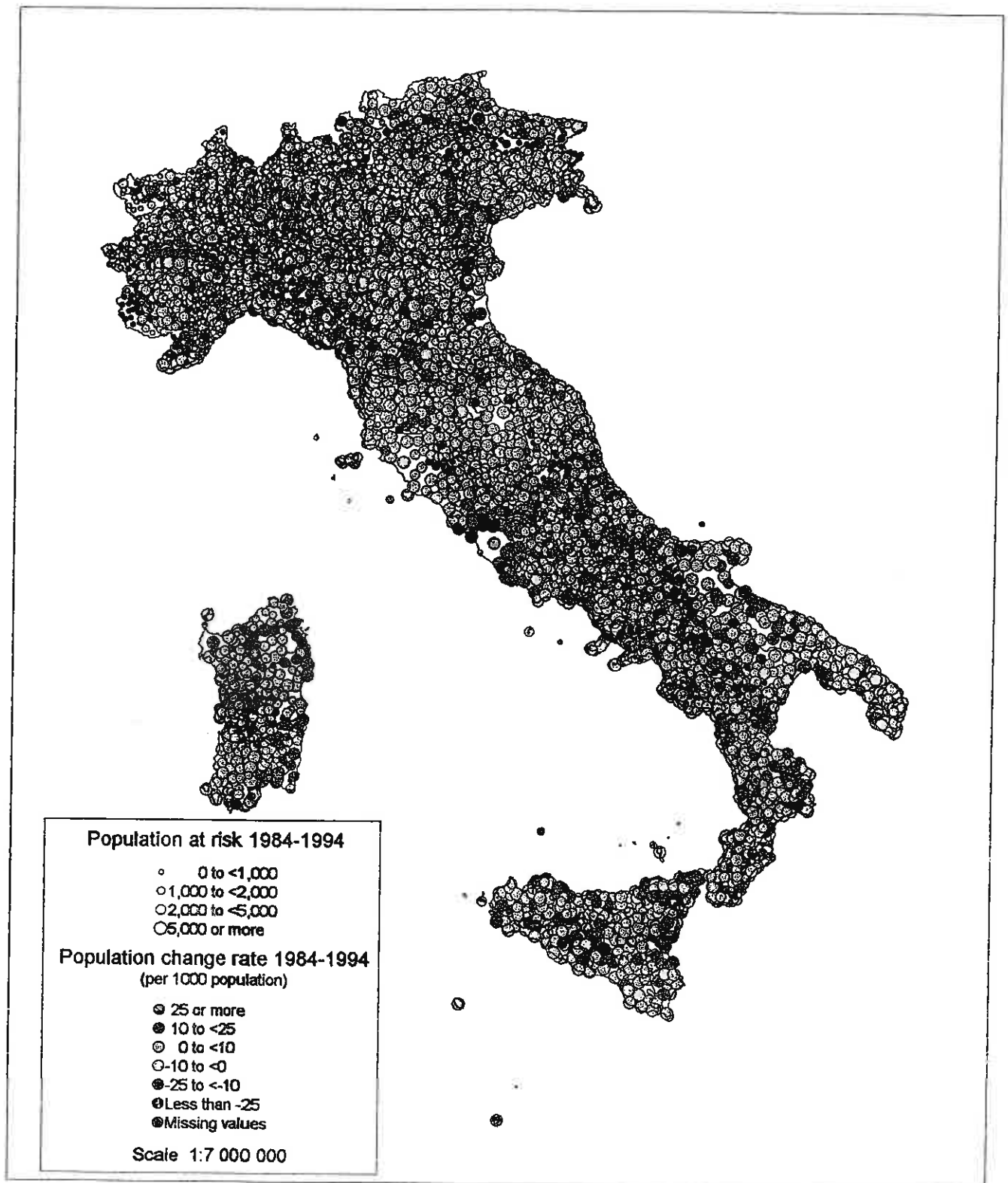
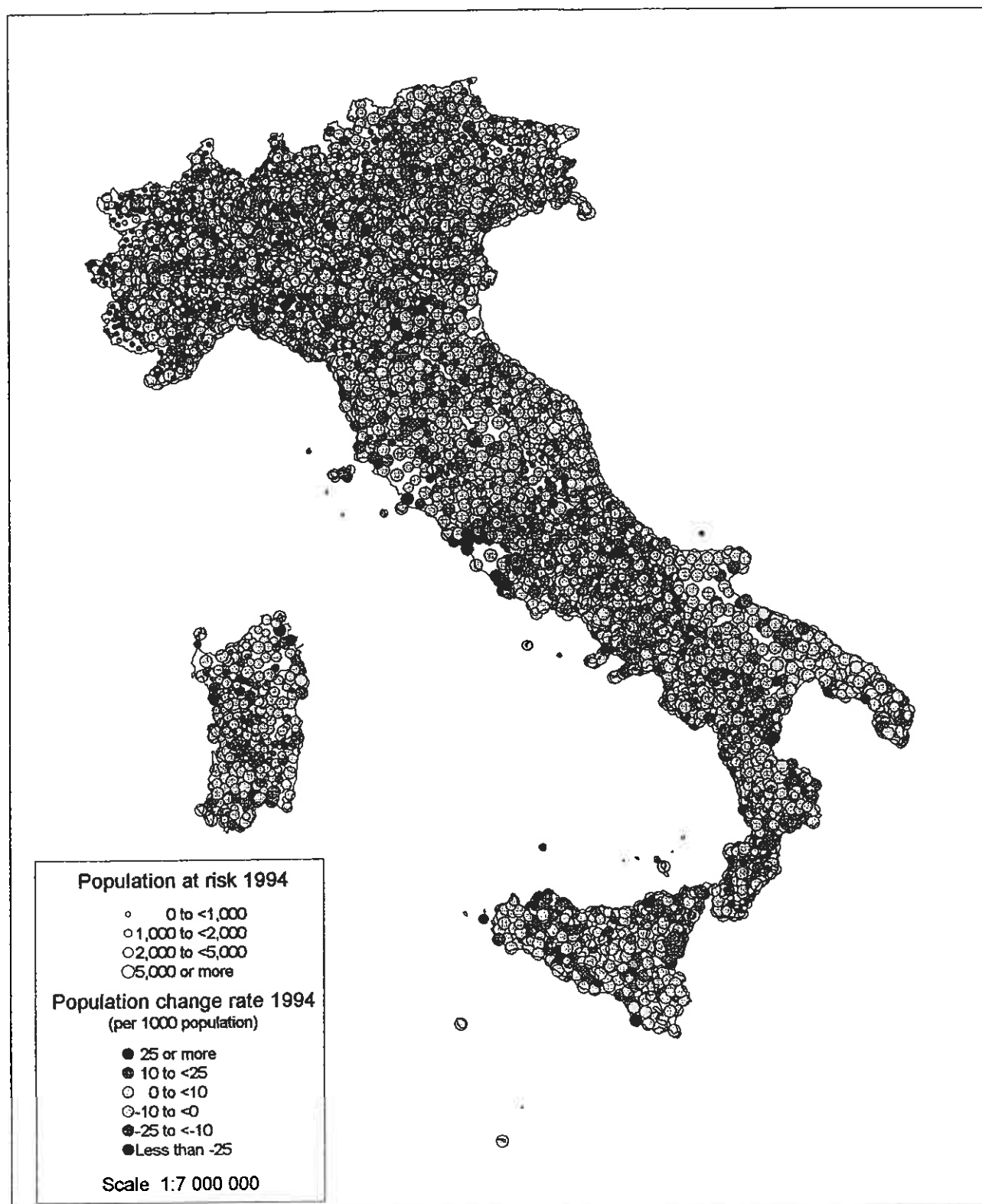


Figure 3: The population change rate for comuni, Italy, 1994



4.2 Natural change

The maps of natural change (Figures 4 and 5) show regional contrasts between a lower fertility (below replacement) North and a higher fertility (above replacement) South. About half of the communes exhibit natural increase and half natural decrease but with rates of increase lower in 1994. There are exceptions to the broad regional pattern. Mountain and hill communes in the Mainland and Island South experiencing natural loss. A band of communes on the northern side of the Po Basin with natural increase in both years. The fertility of communes in the Veneto region, where the population is more devoutly Catholic than the average, has been traditionally higher than in northern Italy as a whole. The fertility of the commune populations in the German speaking South Tirol (the province of Bolzano-Bozen) has also been higher than the national average and may reflect a desire among the residents of the area to preserve a minority community.

Since 1993 Italy has experienced natural loss (deaths exceeding births). Under the baseline scenario reflecting demographic conditions in the 1990-94 period, EUROSTAT/NIDI/Statistics Netherlands (1997) project that Italy will start losing population after 2010, when immigration gains will no longer be sufficient to offset increasing natural losses consequent on continuing very low fertility. Among the twenty regions studied, in Piemonte, Liguria, Friuli-Venezia-Giulia, Emilia-Romagna and Toscana migration gains failed to compensate for natural loss already in 1995 and these regions had started population decline. By 2010 the baseline projections suggest that these five provinces will have been joined by Lombardia, Veneto, Umbria, March and Molise. The northern and central regions will be experiencing an ageing population and the associated difficulties of pension provision and health care.

Figure 4: The natural increase rate for comuni, Italy, 1984

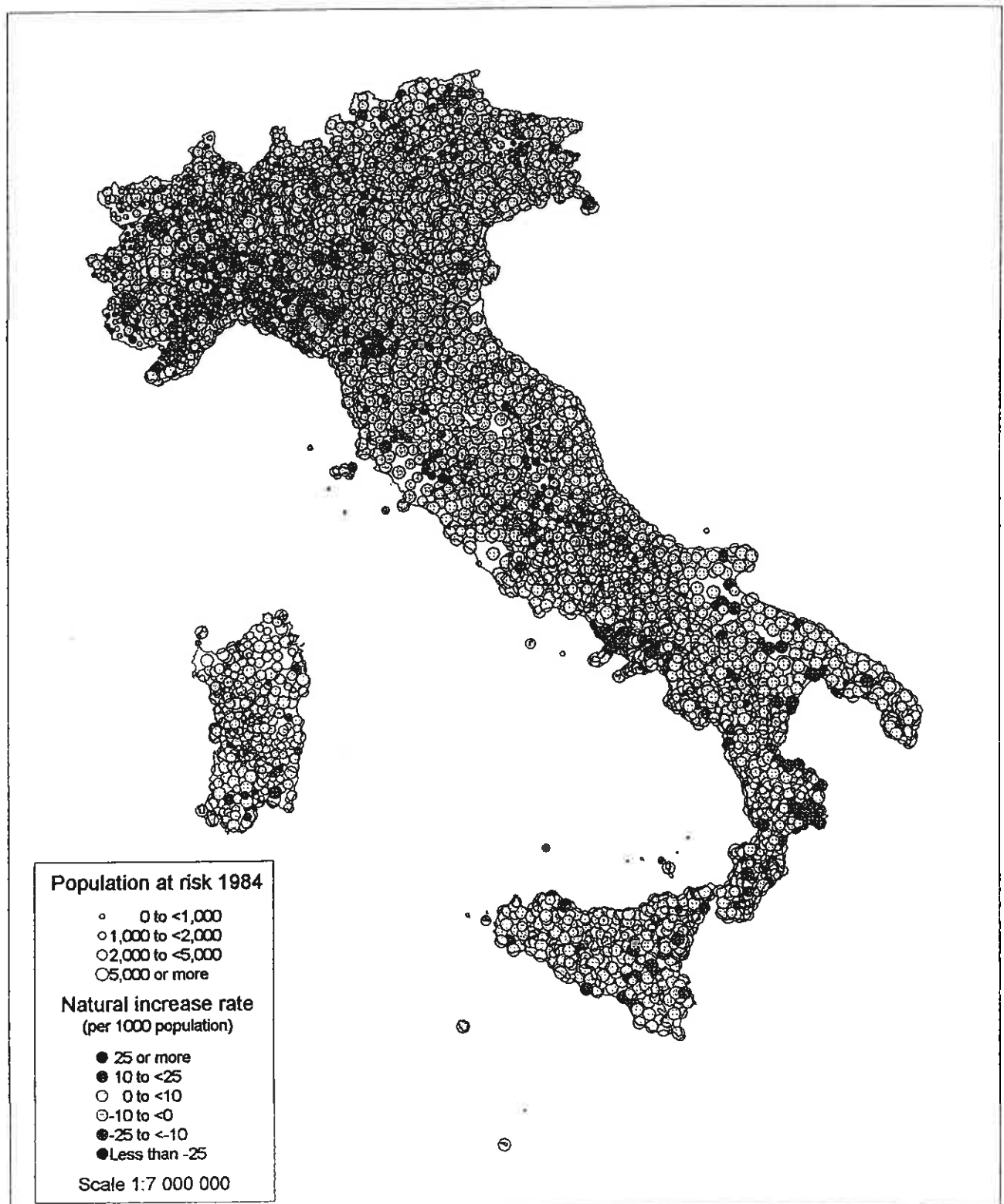
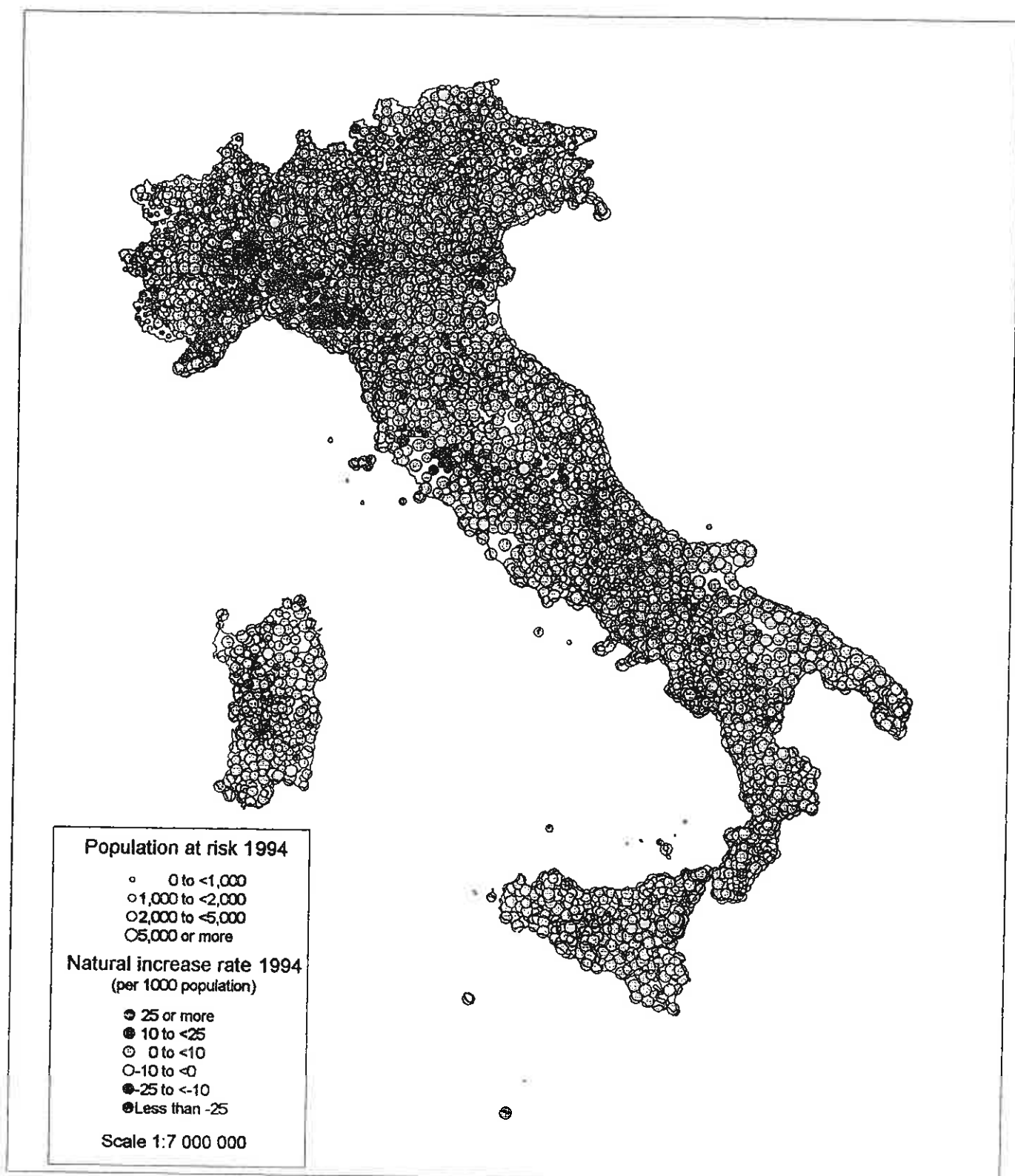


Figure 5: The natural increase rate for comuni, Italy, 1994



4.3 Net internal migration

The maps of net internal migration (Figures 6 and 7) show the same level of complexity as the population change maps. The maps show elements related to broad region, to physical environment and to position in relation to main urban centres. The distributions of communes in growth categories in 1984 and 1994 are very similar. Gains and losses are observed in all regions but the former dominate in the North and the latter in the South. In the South inland, hill and mountain communes tend to lose migrants while coastal, plain and urban region communes gain migrants. In the Centre of the peninsula communes gain in the ring around Rome and along the east coast. Most Northern communes gain migrants but there are pockets of loss in urban core communes (Milan, Turin, Venice) and in remoter mountain communes. So the maps show evidence that internal migration is making a significant contribution to some of the population redistribution processes that this case study is investigating.

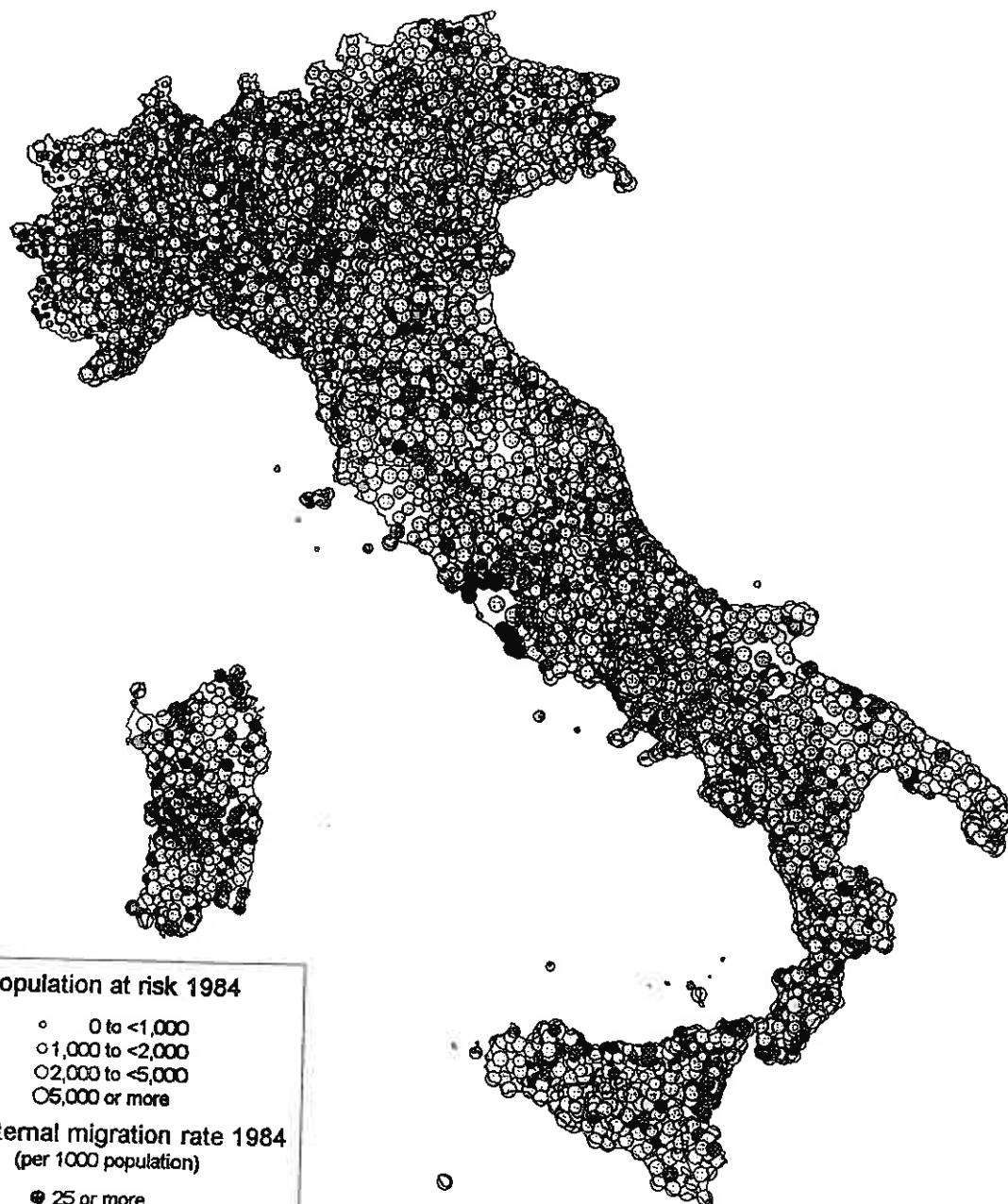
Out-migration is contributing to the rural depopulation of the interior South but does not appear to be a significant factor for northern depopulating communes with a few exceptions. There is a small cluster of communes in the Ligurian Apennines which experiences heavy net out-migration in both 1984 and 1994 but this cluster is much smaller than the natural decrease cluster in the same region.

There is evidence of urban deconcentration in that most of the large city communes (Torino, Milano, Venezia, Bologna, Firenze, Roma and Napoli) are experiencing net out-migration. Net migration gains are widespread in northern and central Italy but particularly high in communes adjacent to the largest cities.

Population deconcentration from urban centres is led, in part, by migration for consumption reasons - the desire by workers to enjoy lower density living. However, the maps also show evidence of a regional dimensions of gains and losses that is production led - workers moving to places where jobs are available. A majority of communes in southern Italy experience migration loss in 1994 while a majority of communes in northern Italy experience migration gain. This regional pattern is not as pronounced in 1984. Our review of migration trends in section 2 of the report suggested a diminution of South to North shifts in the 1980s and 1990s compared with the 1950s and 1960s. In 1984 and 1985 this diminution reached a nadir since when net migration losses from the South have increased again.

What implications do these migration trends have for public policy? The continued South to North migration reflects a failure to reduce the sharp inequalities between the two parts of the country. Given that unemployment in northern Italy is 10 to 15% lower than in southern Italy (see Tables 4 and 19), there is a continuing incentive for southerners to move north to find work. But only in a few provinces of northern Italy is the unemployment rate so low that real labour shortages can be anticipated at present, so that under current economic conditions there is little prospect of a sufficiently large rise in migration flows to make a significant impact on southern poverty. However, in the future as small cohorts from the 1980s work their way to the labour force ages, labour shortages may occur and South to North migration may pick up.

Figure 6: The net internal migration rate for comuni, Italy, 1984



Population at risk 1984

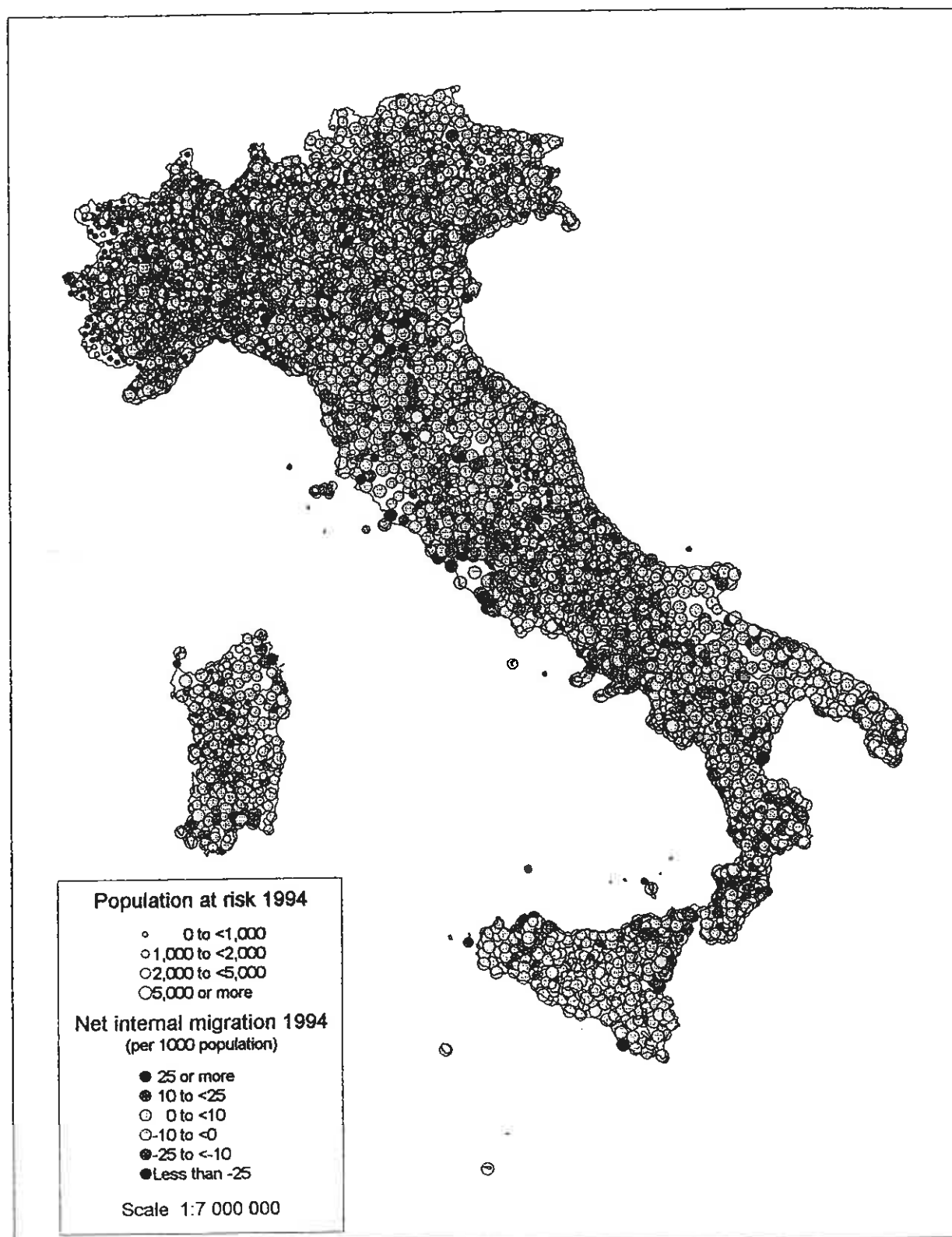
- 0 to <1,000
- 1,000 to <2,000
- 2,000 to <5,000
- 5,000 or more

**Net internal migration rate 1984
(per 1000 population)**

- 25 or more
- ⊗ 10 to <25
- 0 to <10
- 10 to <0
- 25 to <-10
- ⊗ Less than -25

Scale 1:7 000 000

Figure 7: The net internal migration rate for comuni, Italy, 1994



4.4 Net external migration

The maps of net external migration (Figures 8 and 9) are characterized by uniformity, with the vast majority of communes falling in the slightly positive class (0 to 10 per 1000 gains). However, because we have used a uniform class system for all of the demographic components of change, the degree of variability in this smallest contribution to population change may be hidden. Nevertheless the net external migration maps do not show the pattern of metropolitan dominance characteristic of more northern European Union states. There is some evidence in the 1994 map (Figure 8) of areas of intensive emigration activity in remote, hill communes in the South, which were identified by Graziani (1983, cited in King 1987) in the Mezzogiorno. During the 1984-94 period dramatic shifts are known to have occurred in the pattern of Italian immigration which suggested that at the time of the 1991 Census Italy had received one million illegal immigrants. Most communes in both the 1984 and 1994 maps show net immigration, which accords with the switch of Italy from being a country of traditional emigration to being an immigration Mecca for migrants from the poorer countries of the Mediterranean littoral and sub-Saharan Africa. Until very recently, Italian administrative authorities were fairly relaxed about the arrival of illegal immigrants and have responded with considerable humanitarian concern to the plight of refugees and asylum seekers from Albania, for example.

Figure 8: The net external migration rate for comuni, Italy, 1984

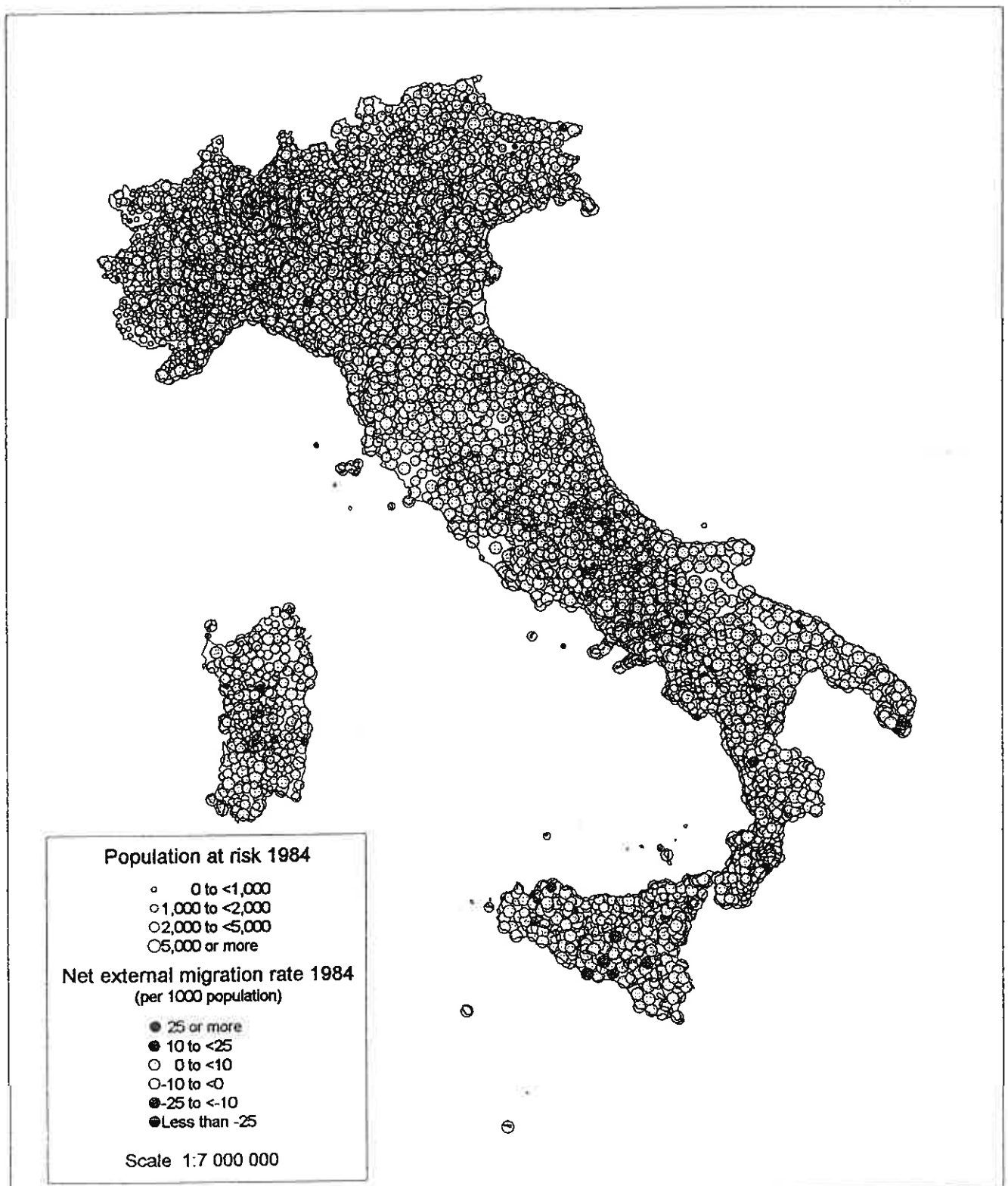
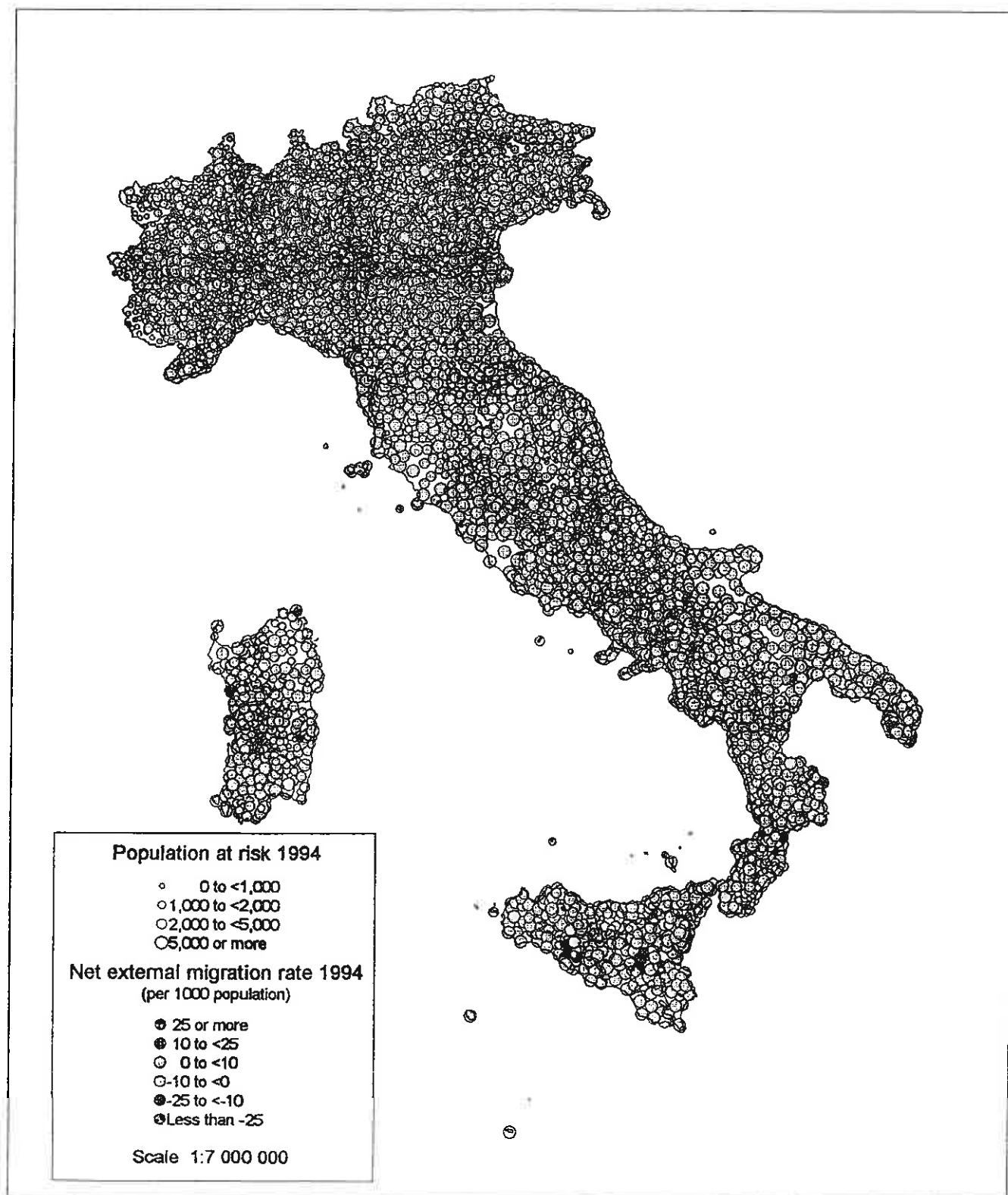


Figure 9: The net external migration rate for comuni, Italy, 1994



4.5 Regimes of population change

Population change is a combination of natural increase and net migration shifts. Webb (1963) used a simple eight fold division, dependent on the direction of each component and their mutual relationships (Table 3). The Webb classifications of communes in 1984 and 1994 are mapped in Figures 10 and 11. Although examples of each regime are found in most regions, there is strong clustering of each of the types. The most frequent type in 1994, class D, where net migration gains are balanced by natural losses, is found in the Centre, North West and North East though it only dominates in Umbria. The second ranked category, class C where both components are positive but net in-migration is more important is found throughout Italy and picks out growing communes in rings around urban cores (e.g. Rome, Venice, Verona, Vicenza). Class G and class H communes tend to be concentrated in the South but can also be found in the mountain North. These are classes experiencing population decrease. The maps of demographic regimes (Figures 10 and 11) show that large areas of Italy are faced with negative demographic forces. Class F (yellow) and Class G (dark green), in which communes experience both natural decrease and net out-migration, cover wide swathes of northern and central Italy.

The analysis of the population dynamics at commune scale has provided valuable insight into the regimes of population change. However, to learn more about the connections between areas and about the variation of population change with life course stages, we turn to an analysis of internal migration at provincial scale.

Table 3: The Webb classification of demographic regimes

Webb Class	Population change	Natural change	Migration direction	Relation
A	Population Increase	Natural Increase	Net Out-Migration	
B	Population Increase	Natural Increase	Net In-Migration	NI>NIM
C	Population Increase	Natural Increase	Net In-Migration	NI<NIM
D	Population Increase	Natural Decrease	Net In-Migration	
E	Population Decrease	Natural Decrease	Net In-Migration	
F	Population Decrease	Natural Decrease	Net Out-Migration	ND<NOM
G	Population Decrease	Natural Decrease	Net Out-Migration	ND>NOM
H	Population Decrease	Natural Increase	Net Out-Migration	

Source: Webb (1963)

Notes:

NI Natural Increase, i.e. (Births - Deaths) ≥ 0
 ND Natural Decrease, i.e. (Births - Deaths) < 0
 NOM Net-Out-Migration, i.e. (In-migration - Out-migration) < 0
 NIM Net-In-Migration i.e. (In-migration - Out-migration) ≥ 0

Figure 10: The Webb classification of comuni, Italy, 1984

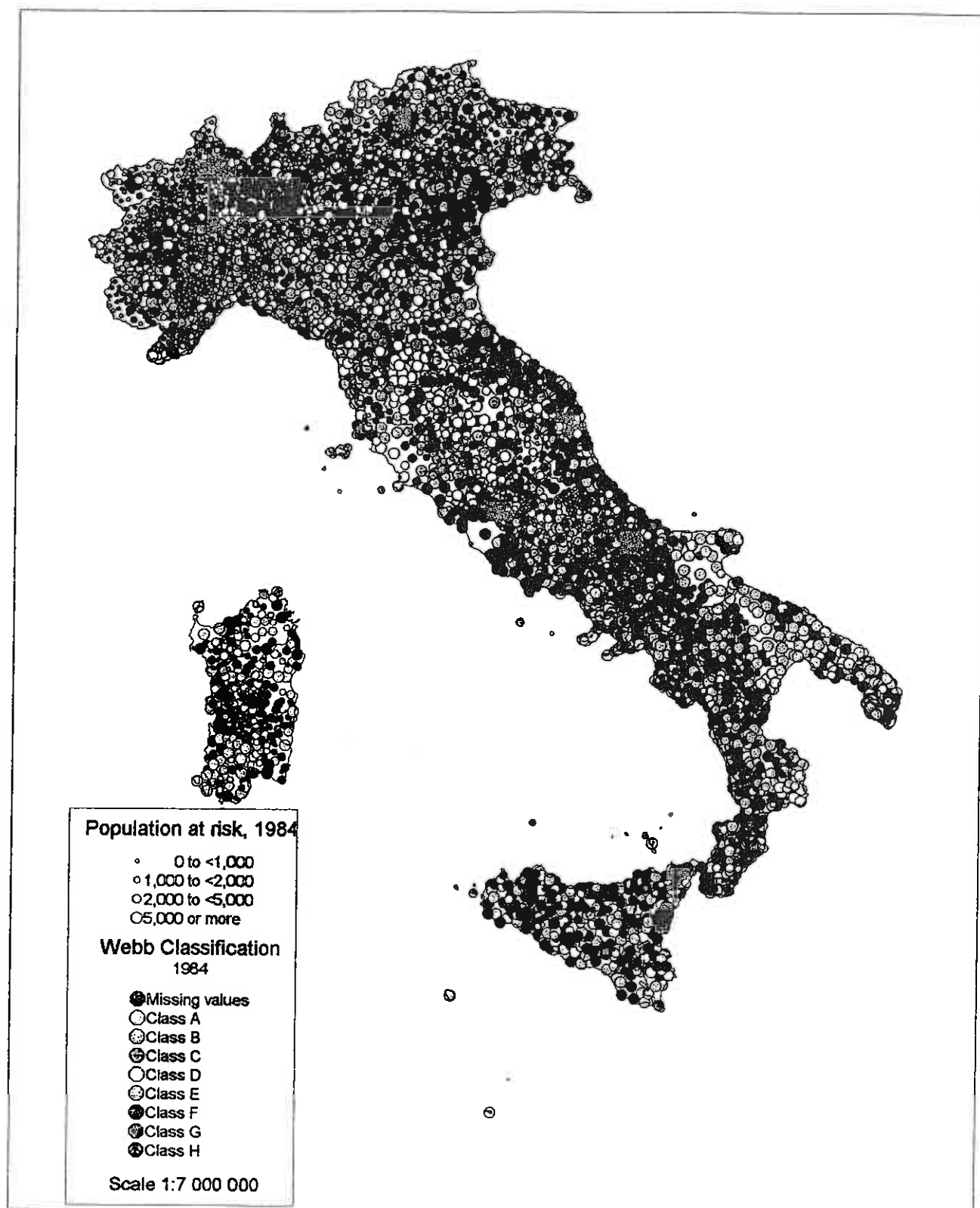
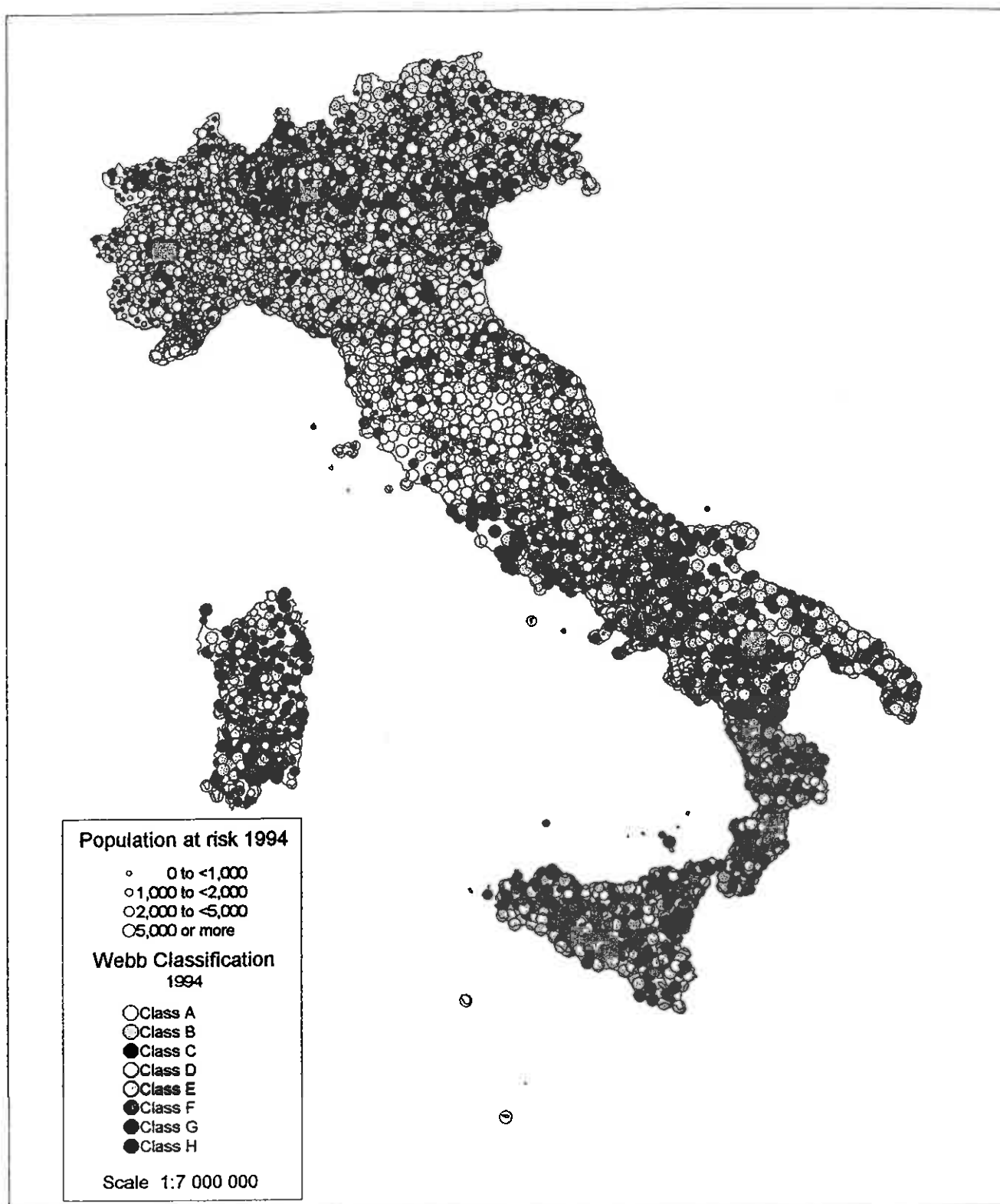


Figure 11: The Webb classification of comuni, Italy, 1994



5. CHANGING INTERNAL MIGRATION PATTERNS

Migration information available at commune scale is limited to totals of in- and out-migration, internal and external. To examine the way in which migrants move between areas and the way in which migration patterns vary by life course, information on migration between Italian provinces is employed (see section 3 for details). Italian provinces (Figure 12) provide a fine spatial grain for analysis. They number 95 in total, averaging 602 thousand inhabitants (1994). It is useful, however, to aggregate provincial data into province groupings. Provinces are conventionally aggregated to regions, of which there are twenty. Regions can be summed to form broad divisions, which five are distinguished here: the North West, the North East, the Centre, the South Mainland and the South Islands. This is an official grouping used by ISTAT. Finally, the first three divisions can be merged to form the North of Italy while the fourth and fifth form the South of Italy. We also distinguish those provinces containing Italy's largest cities as "metropolitan" and assign other provinces to a "non-metropolitan" category. Figure 12 shows how provinces are assigned to these larger units, while the Appendix provides a comprehensive look up table.

5.1 Internal migration through the life course

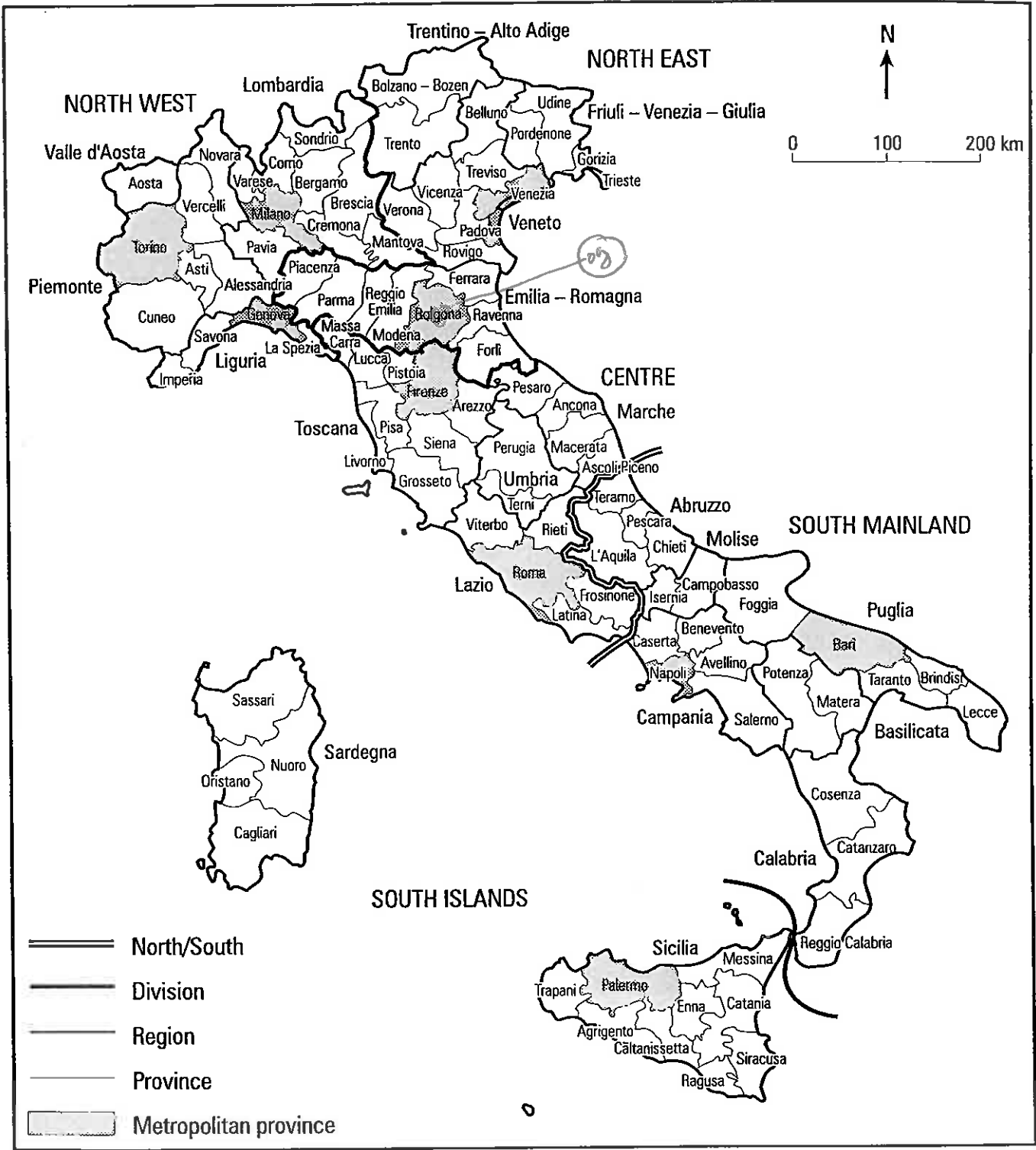
The complex patterns of migration gain and loss and their changes over the 1984-94 decade reviewed in the previous section refer to the whole population. Do these patterns apply to each of the social groups that make up the population? In particular, how do the spatial patterns of migration vary with the different life course stages and what changes occur between 1984 and 1994?

Migration flow data by five year ages are available from ISTAT for the 95 provinces of Italy (Figure 12). The five year ages are summed into six broad age groups that correspond to different life course stages (and match the age groups used in the United Kingdom case study - Rees, Durham and Kupiszewski 1996):

- | | |
|-----------------------|--|
| (1) ages 0-14: | the childhood ages |
| (2) ages 15-29: | the adolescent and young adult ages |
| (3) ages 30-44: | the labour force and family ages |
| (4) ages 45-59 | the older labour force and early retirement ages |
| (5) ages 60-74: | the retirement ages |
| (6) ages 75 and over: | the elderly ages |

For each broad age group, we have produced two maps. The first map (map A in each figure) shows the net migration rate (per 1000) population, using six classes, three indicating positive migration balance (gains) and three negative migration balance (losses). The second map (map B in each figure) represents the absolute level of net migration using six proportional circles scaled so that their area corresponds to the size of the balance. The two maps provide the same information but give different emphases to high and low density areas.

Figure 12: A classification of provinces for migration analysis



5.1.1 Migration in the family ages

The maps for the ages bands 0-14 (Figures 13A and B, 14A and B) and 30-44 (Figures 15A and B, 16A and B) are very similar. In 1984 (Figures 13, 15) the patterns of gains and losses are not regional (North West, North East, Centre, South) but rather structured along metropolitan/non-metropolitan lines. Provinces containing the very largest cities in Italy - Torino, Napoli, Milano, Genova and Venezia - experience net migration losses. Virtually all other provinces show gains as a result of migration. In 1994 (Figures 14, 16) the patterns largely persist but the largest metropolis - Roma - joins the list of provinces experiencing migration losses. Also the majority of provinces in the Far South in Puglia, Basilicata, Calabria and Sicilia experience net migration loss, re-establishing the pattern of South to North losses, indicating a partial restoration of the net flows out of the South. This pattern is more typical of the past decade than that of 1984 which was heavily influenced by the restructuring of industry in Italy's industrial power house in the North West, particularly in the car industry based in Torino province.

Figure 13A: Net migration by province, ages 0-14, Italy, 1984: rates

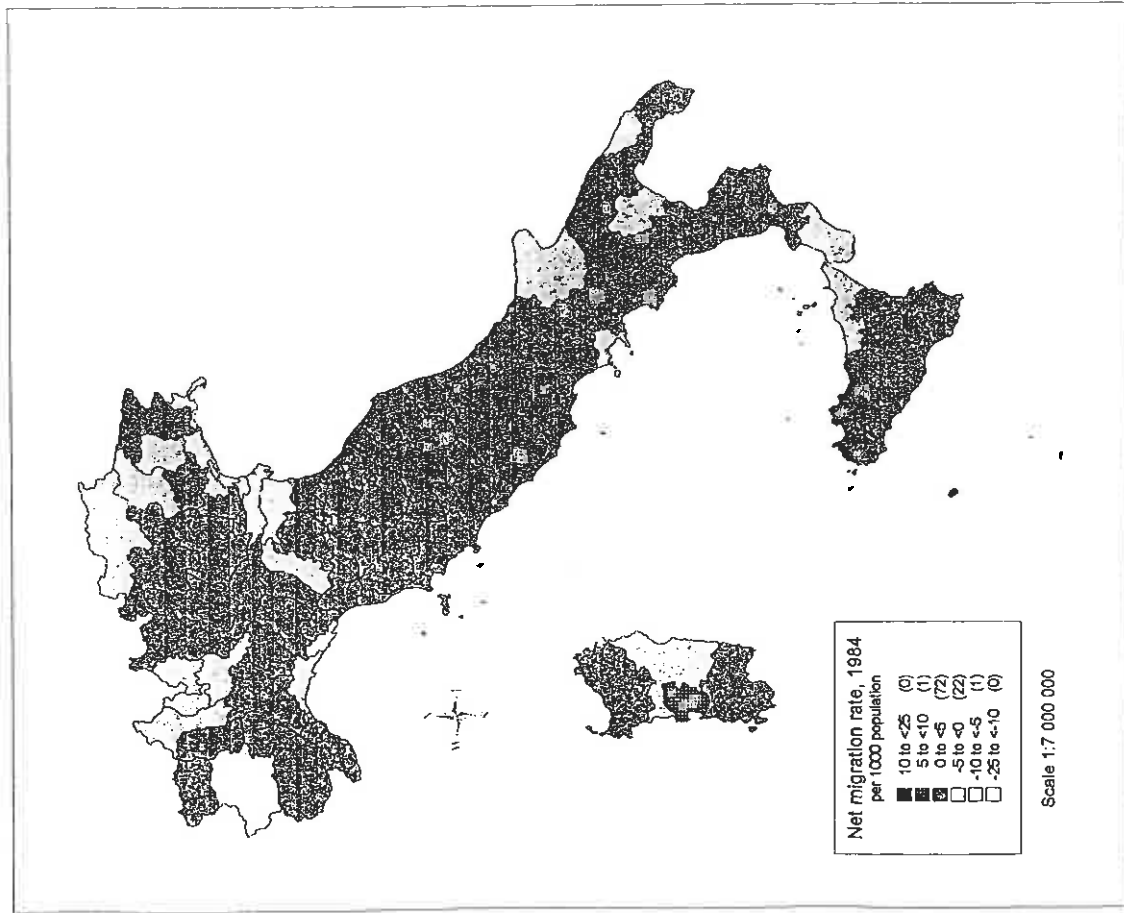


Figure 13B: Net migration by province, ages 0-14, Italy, 1984: flows

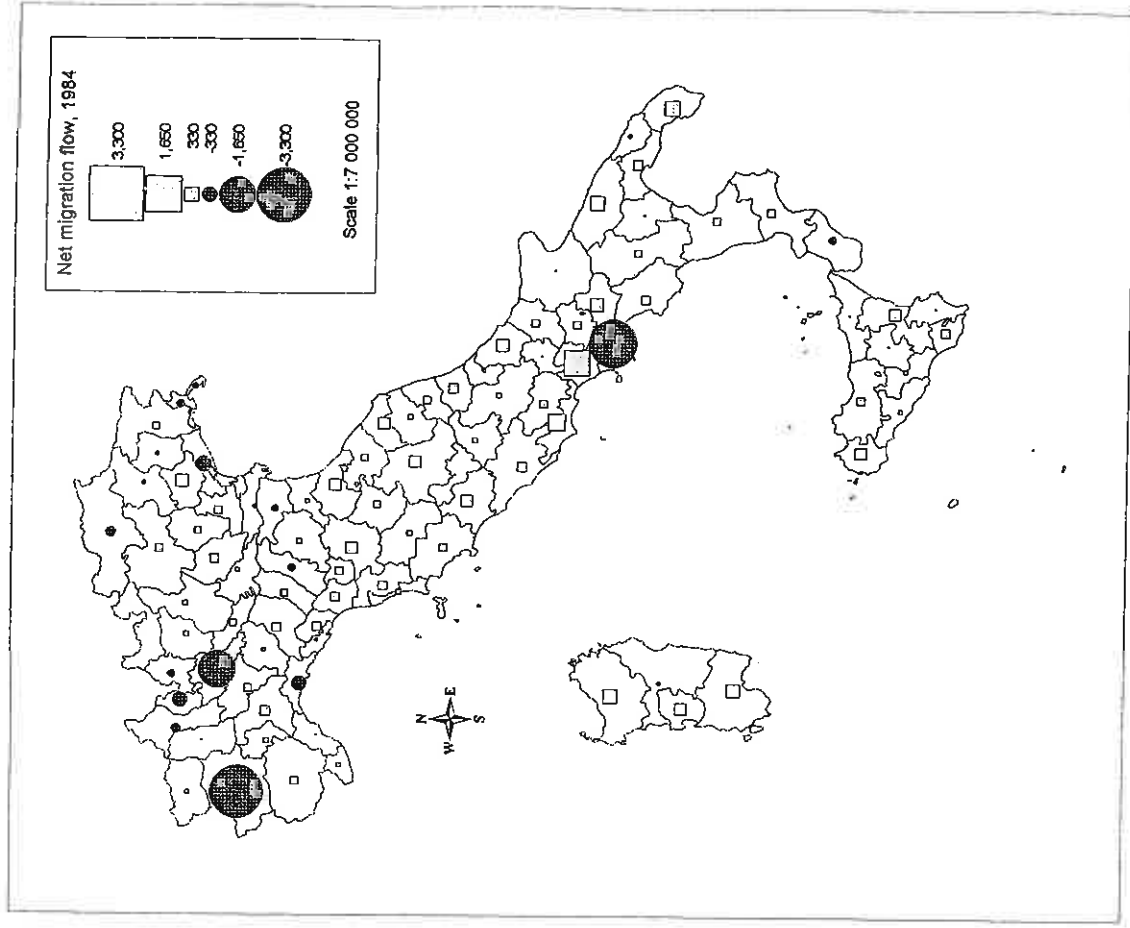


Figure 14A: Net migration, ages 0-14, Italy, 1994: rates

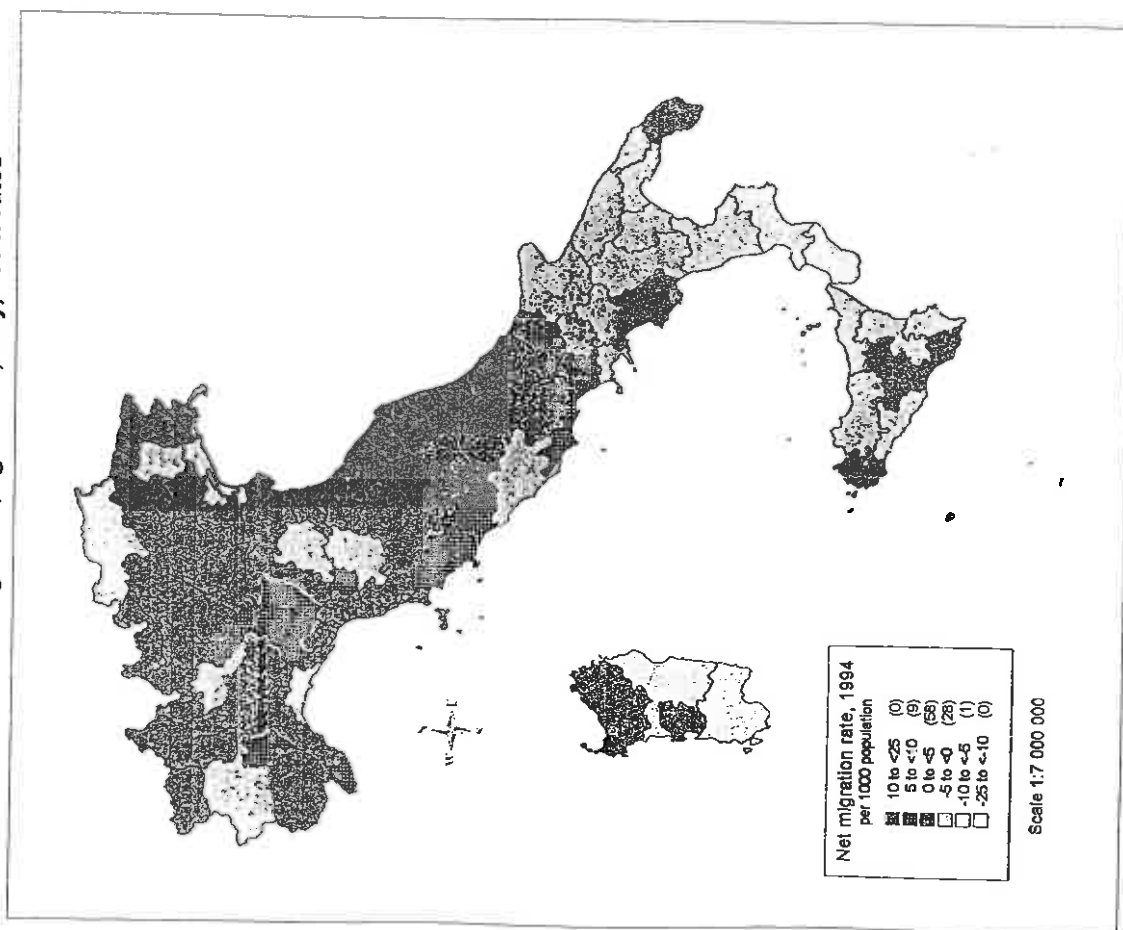


Figure 14B: Net migration by province, ages 0-14, Italy, 1994: flows

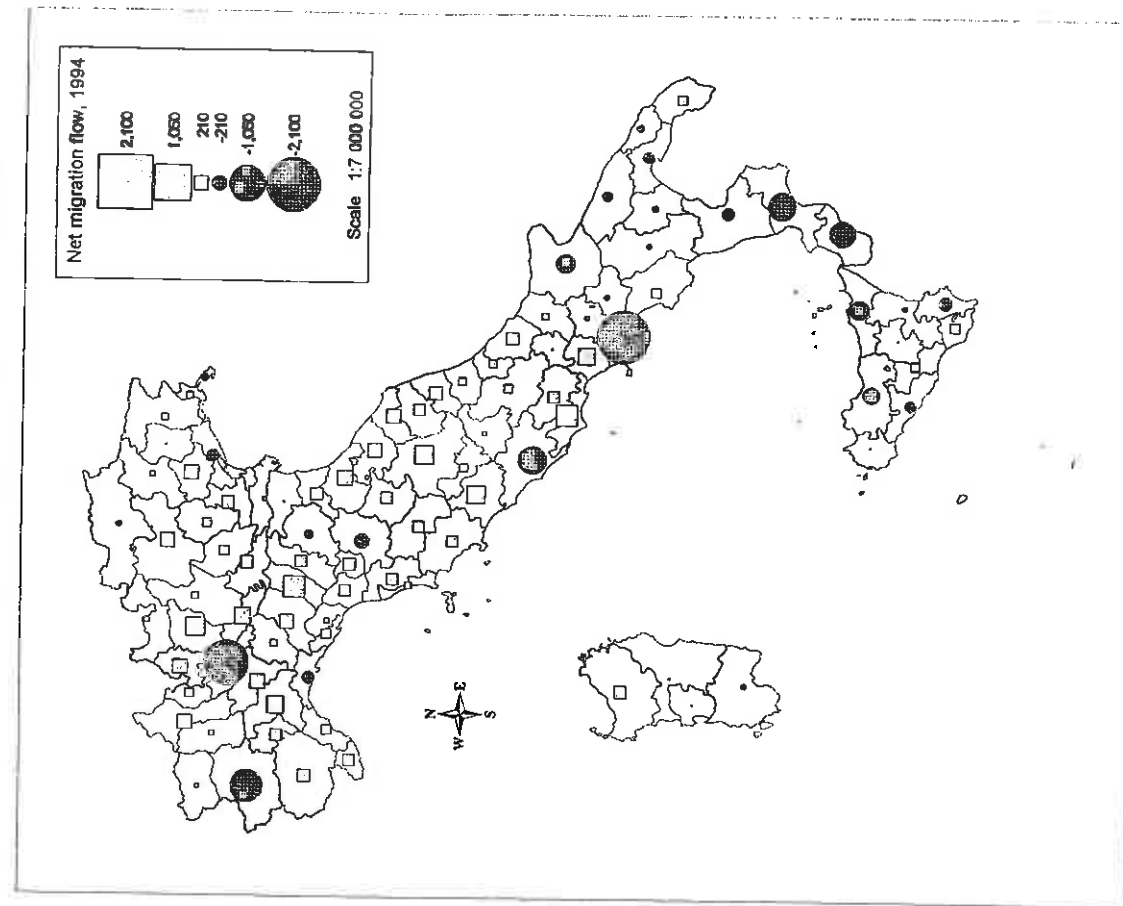


Figure 15A: Net migration by province, ages 30-44, Italy, 1984: rates

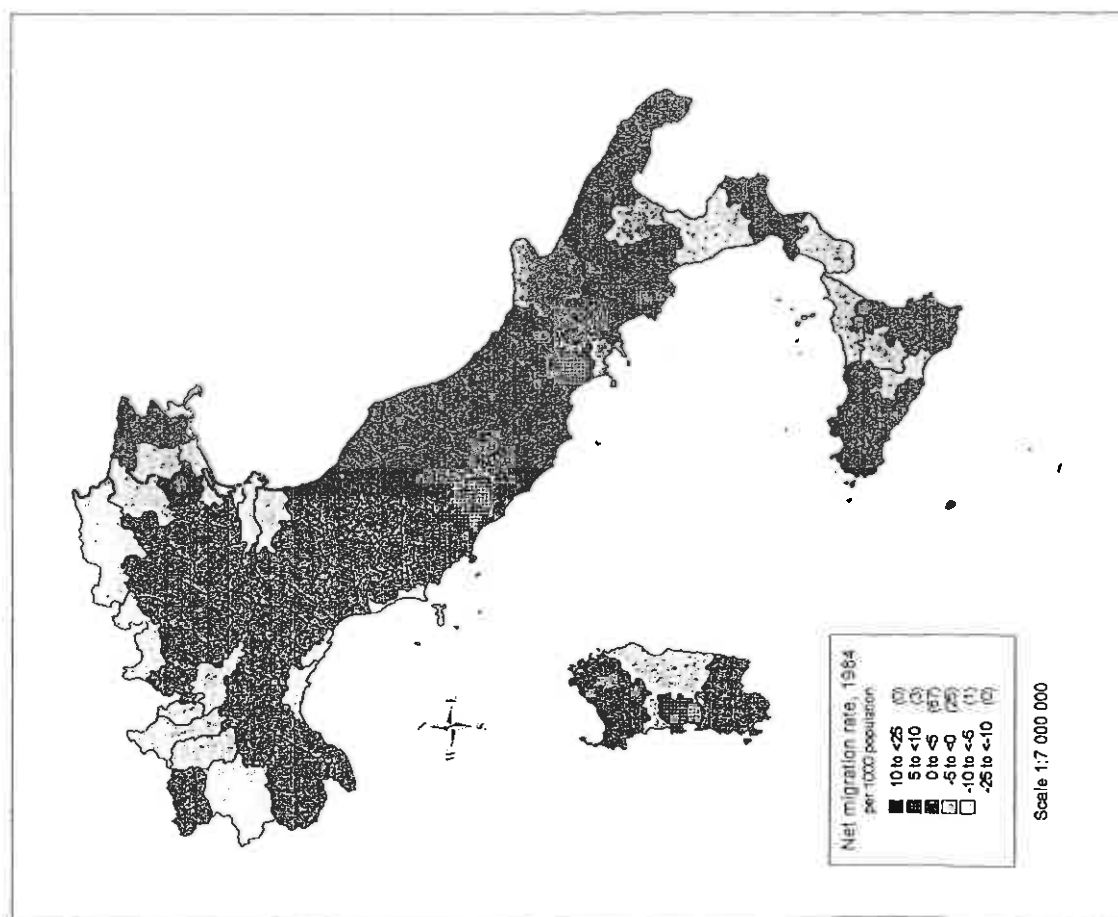


Figure 15B: Net migration by province, ages 30-44, Italy, 1984: flows

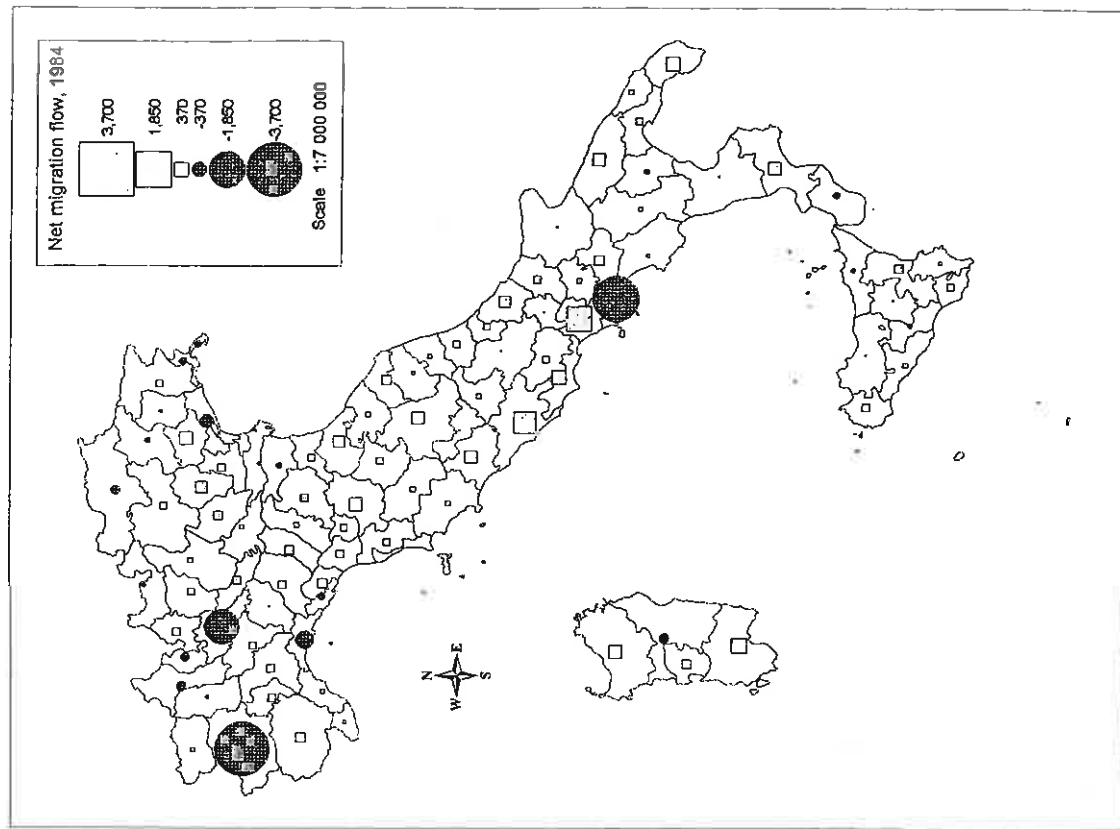


Figure 16A: Net migration, ages 30-44, Italy, 1994: rates

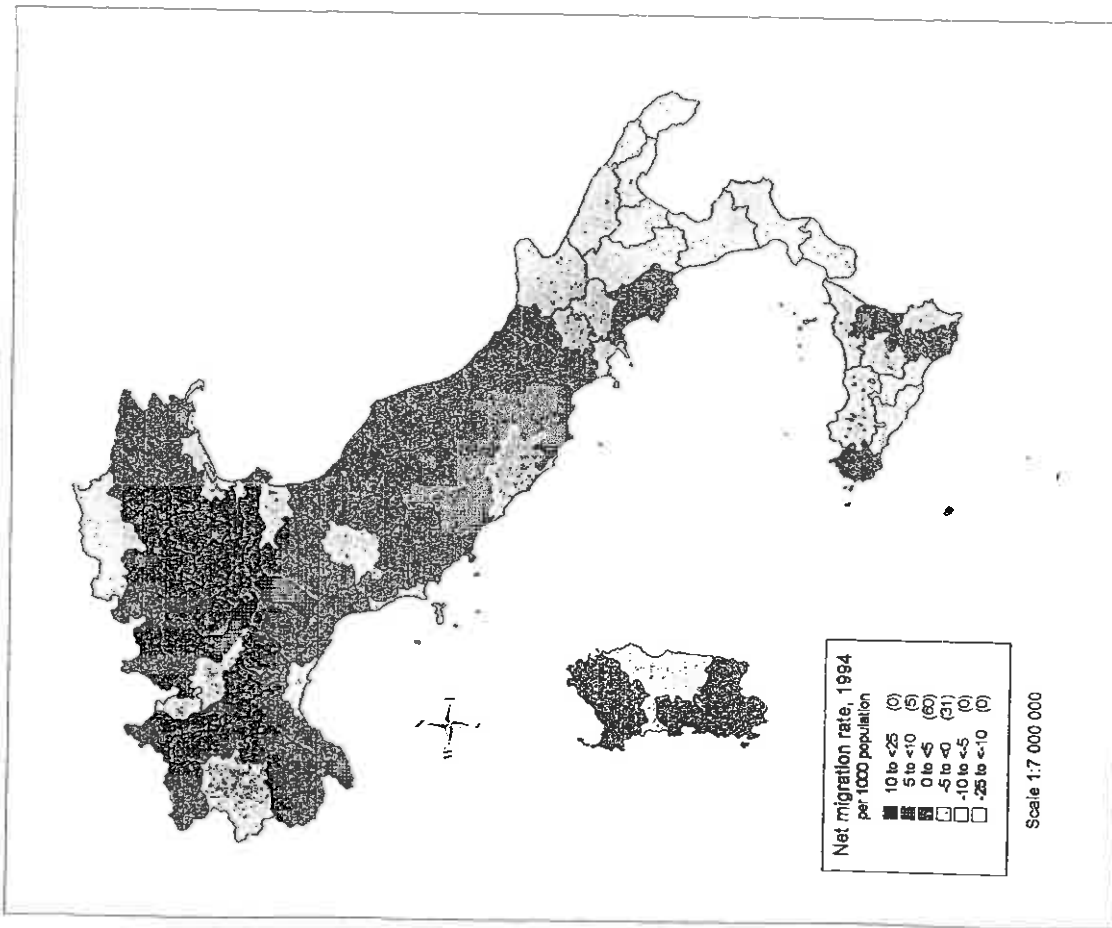
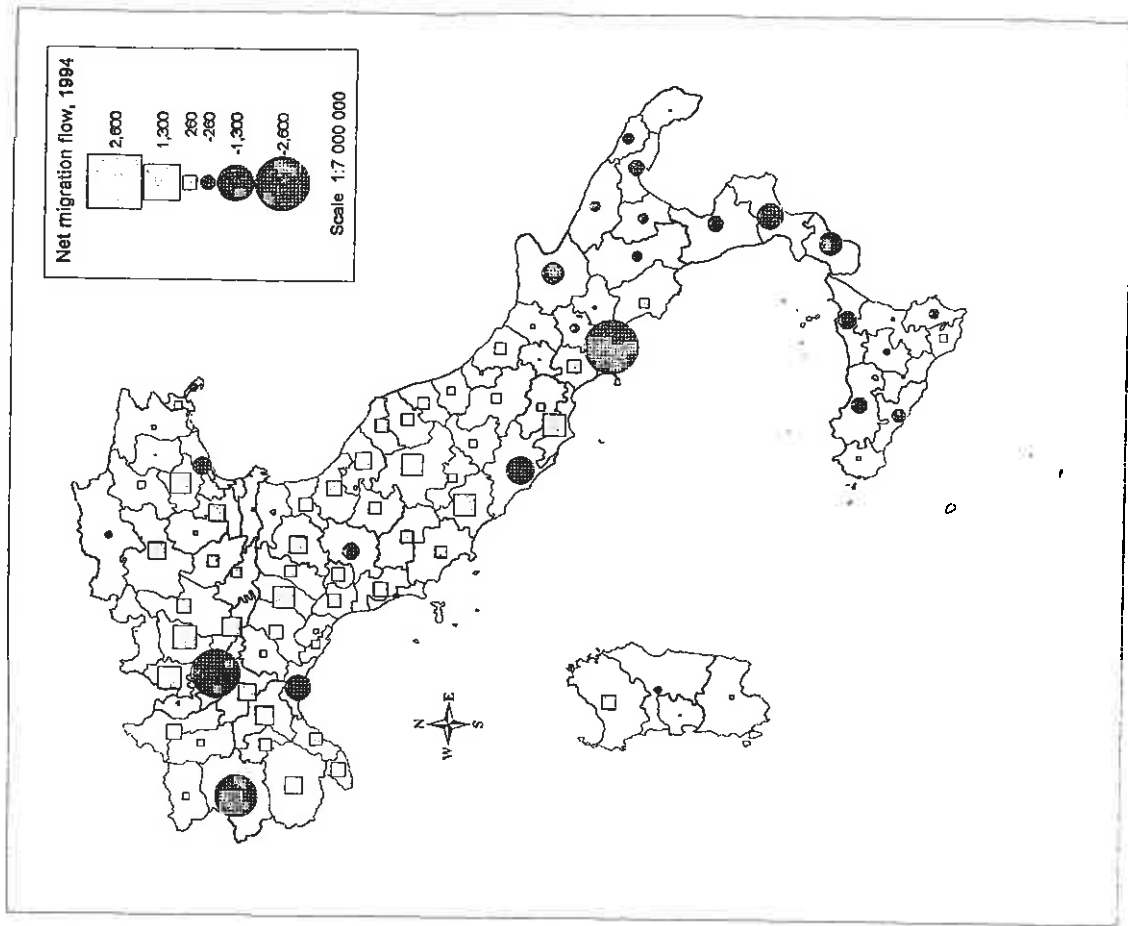


Figure 16B: Net migration by province, ages 30-44, Italy, 1994: flows



5.1.2 Migration in the late adolescent and young adult ages

These ages from 15 to 29 see young persons complete their education and begin work careers. The maps (Figures 17A, 17B, 18A and 18B) are very different from those for the family ages in their dominance by region. Virtually all provinces in the Mezzogiorno experience net out-migration in both 1984 and 1994, while those in Central and Northern Italy gain migrants, with the exception of losses from the provinces of Torino in 1984 and 1994 and Genova and Venezia in 1994.

The regional pattern is linked to economic performance which is dramatically different in Northern and Southern Italy. Table 4 reports a set of unemployment indicators and per capita income by region. In Southern Italy unemployment rates are above the EU and national averages, and income levels are lower than 90 per cent of the EU average. Italy has the greatest disparity in regional unemployment and regional income levels within the European Union (European Commission 1994). Southern Italy's long history of high fertility (by post demographic transition standards) means that substantial numbers of young people enter the workforce each year. The Southern economy fails to deliver the jobs they need and a proportion migrate to northern provinces.

Figure 17A: Net migration by province, ages 15-29, Italy, 1984: rates

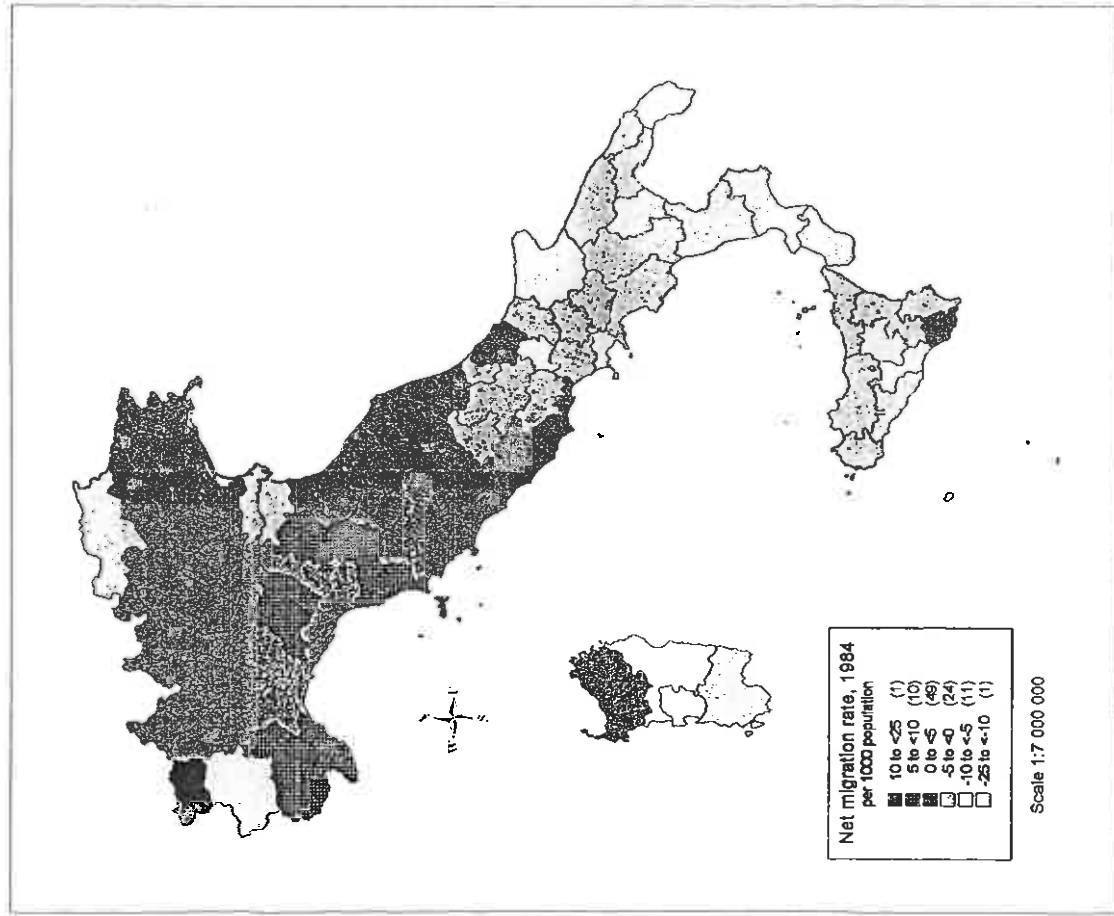


Figure 17B: Net migration by province, ages 15-29, Italy, 1984: flows

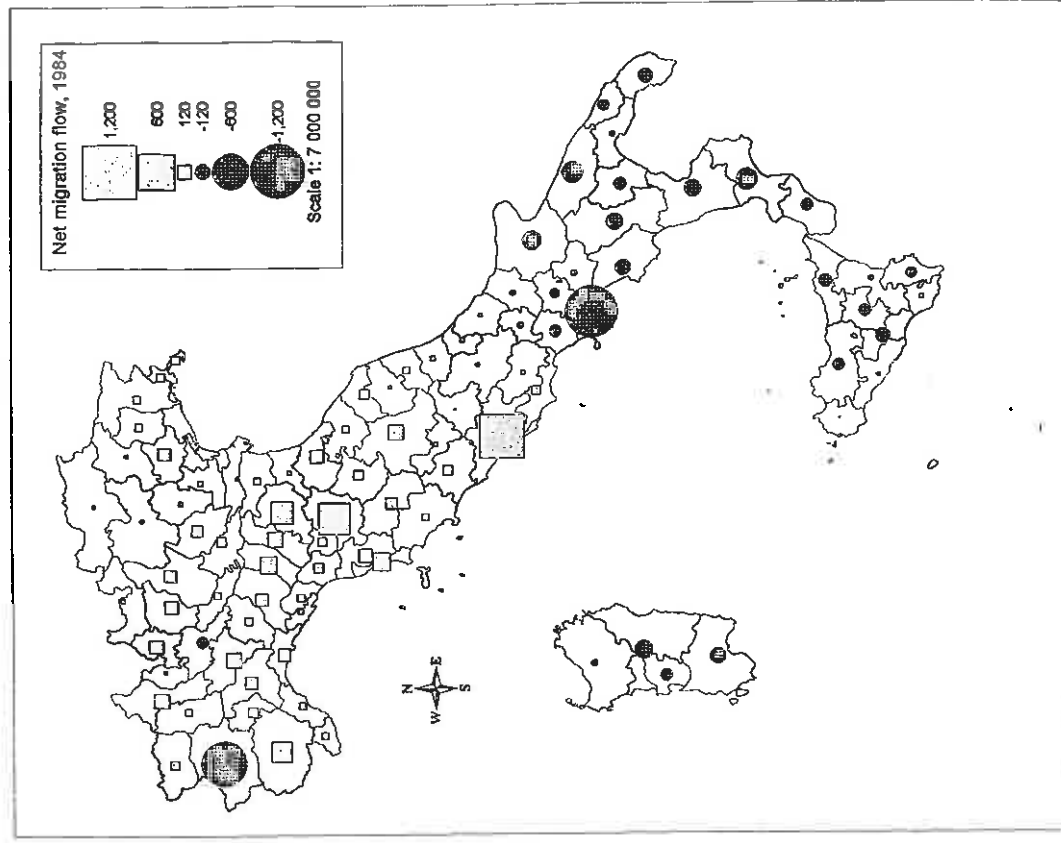


Figure 18A: Net migration, ages 15-29, Italy, 1994: rates

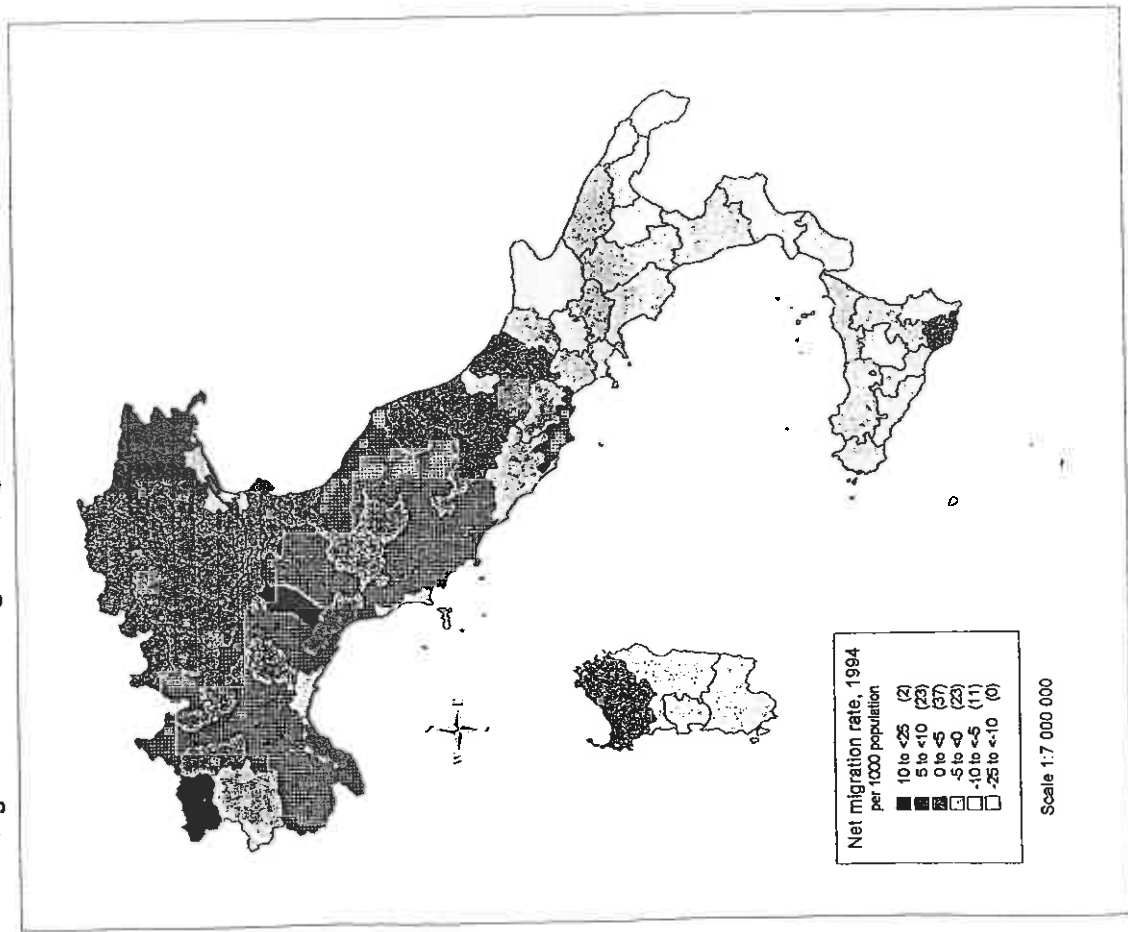


Figure 18B: Net migration by province, ages 15-29, Italy, 1994: flows

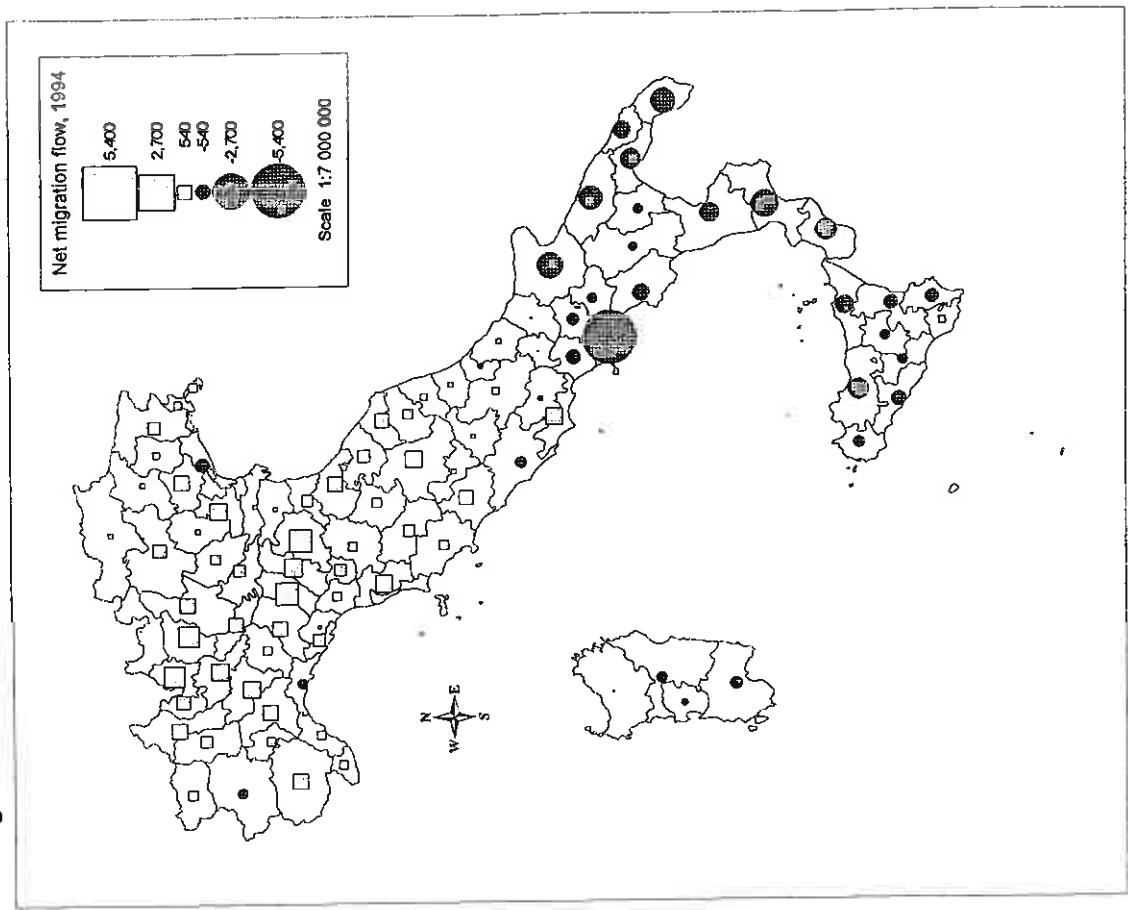


Table 4: Economic indicators for Italian regions 1989-93

Region	Unemployment rate			GDP three year average per inhabitant 1989-91 EUR12=100
	Rate 1993 %	Average 91-92-93 EUR12=100	Unemployment change 1989-93 (%)	
Nord West	8.7	81	0.9	119
Piemonte	8.2	76	0.8	120
Valle d' Aosta	4.9	83	0.9	130
Liguria	10.1	95	1.3	116
Lombardia	4.5	42	-0.3	135
North East	4.9	47	-1.3	118
Trentino-AltoAdige	3.1	33	-1.2	122
Veneto	5.0	48	-1.2	117
Friuli-Venezia-Guilia	5.9	58	-1.8	122
Emilia-Romagna	4.7	46	-1.1	128
Centre	7.9	79	-0.3	107
Toscana	8.1	81	-0.4	109
Umbria	9.2	95	-0.6	99
Marche	6.6	67	-0.2	105
Lazio	11.0	109	0.3	117
Campania	22.8	224	-0.2	70
Abruzzo	12.4	116	3.1	90
Molise	15.6	157	3.2	79
Sud	17.6	179	-0.9	68
Puglia	15.6	158	-0.1	74
Basilicata	23.0	224	1.5	65
Calabria	19.6	206	-3.0	58
Sicilia	23.1	230	4.5	68
Sardegna	19.8	196	1.4	74
Italia	11.2	110	0.2	103

Source: European Commission (1994), Table A.27, p.201

5.1.3 Migration in older labour force and early retirement ages

Migration flows in these ages (45-59) revert to a pattern of metropolitan losses and non-metropolitan gains (Figures 19A, 19B, 20A and 20B). The provinces containing the largest metropolitan centres - Torino, Milano, Genova, Venezia and Napoli lose migrants in 1984 and 1994, at ages 30-44 and 45-59. Roma still gains migrants in 1984 in the younger age group but in 1994 it has moved to losses from this age range. At ages 45-59, Roma loses migrants on balance in both years and is joined by Bologna in 1984 and 1994 and Firenze in 1994.

Gains are made in the non-metropolitan provinces around the principal urban centres, with one major exception - provinces in the Mezzogiorno south and east of Napoli. In 1984 these provinces are gainers but in 1994 they are mostly losing migrants in the 30-44 age group. This reflects the increased Italian unemployment levels prevalent in the 1990s which have impacted most severely in the South.

Figure 19A: Net migration by province, ages 45-59, Italy, 1984: rates

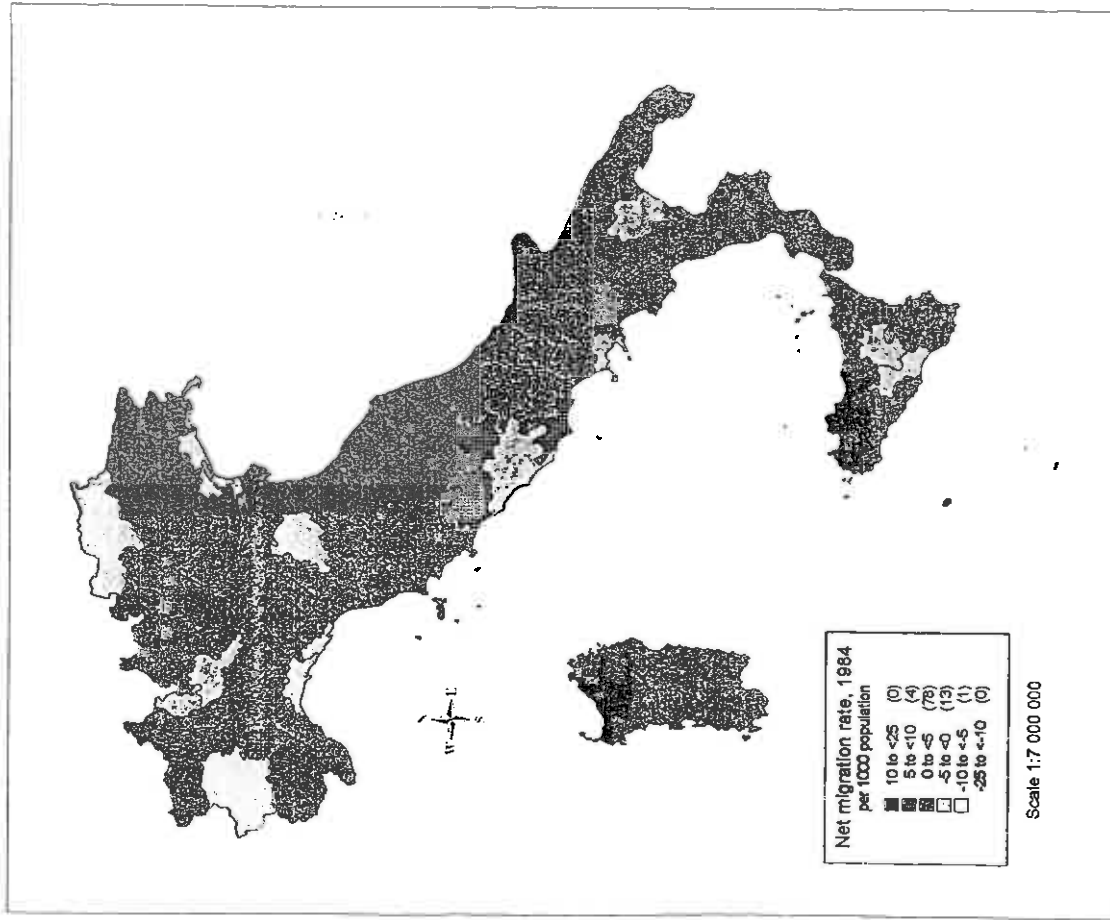


Figure 19B: Net migration by province, ages 45-59, Italy, 1984: flows

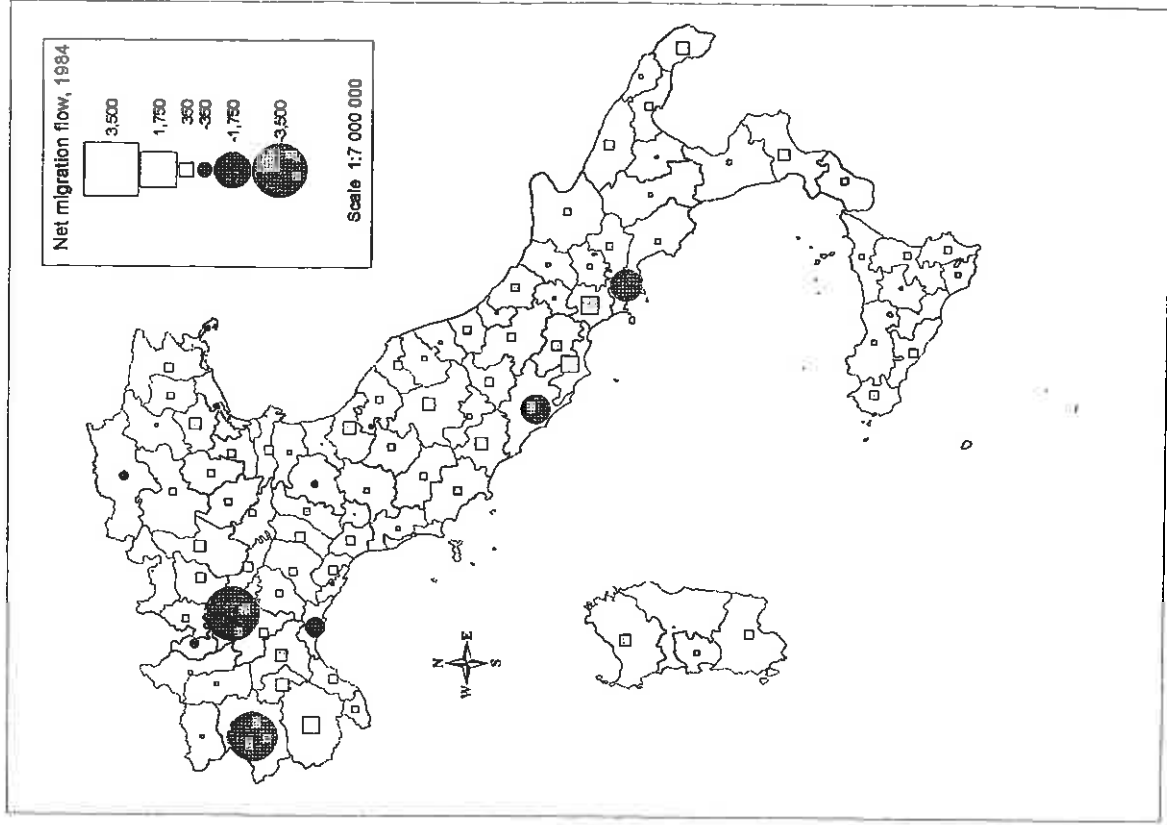


Figure 20A: Net migration, ages 45-59, Italy, 1994: rates

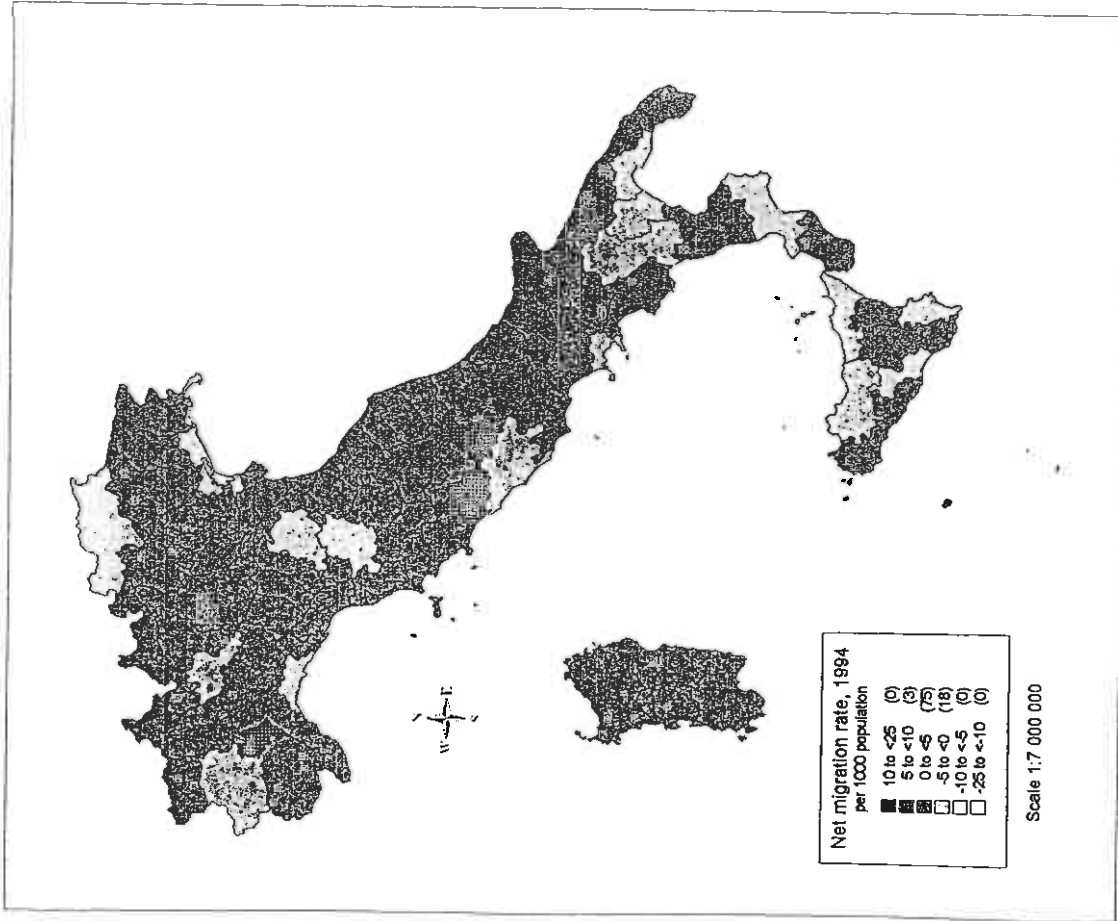
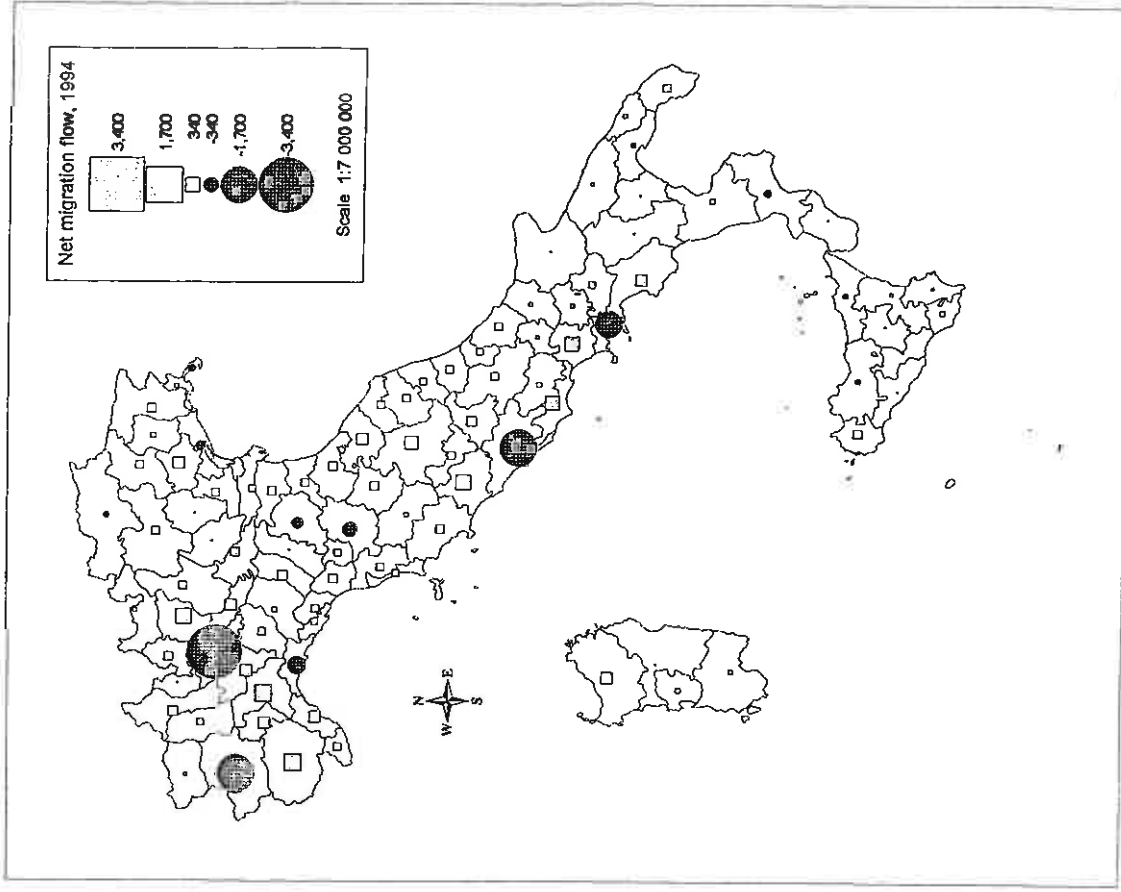


Figure 20B: Net migration by province, ages 45-59, Italy, 1994: flows



5.1.4 Migration in the retirement and elderly ages

Figures 21A to 24B map out the net migration patterns for the ages around and just after retirement, ages 60-74 (Figures 21A, 21B, 22A and 22B) and for the elderly ages, 75 and over (Figures 23A, 23B, 24A and 24B). Note that the flow maps for the elderly ages show the much smaller numbers of migrants consequent on the shrinking population at these high mortality ages. Again the pattern is of metropolitan province loss and non-metropolitan gain in both years for the retirement ages but in the elderly ages the non-metropolitan provinces of the Mezzogiorno are characterised by outflows.

An economic explanation for this regional pattern is unconvincing because these migrants will no longer be in work. One suggestion that might fit the bill is that these elderly migrants are moving, as a result of loss of a spouse or increasing infirmity, to join off spring who have migrated northwards. Unfortunately, the data on provincial migration do not enable us to examine the destinations of these elderly migrants.

Table 5 summarizes the findings of this section. It is clear that migrants respond to different stimuli as they proceed through the life course. In the younger labour force entry ages a regional pattern linked to economic inequalities is dominant. In the established labour force and family ages, a pattern of migration from the largest metropolitan centres is characteristic. Some of this represents patterns of extended commuting - residence in the pleasanter small towns of non-metropolitan Italy combined with work in the metropolitan centres. The shift from metropolitan centres persists into the post-work ages except where small losses re-emerge for non-metropolitan provinces in the Mezzogiorno.

Table 5: Summary of the pattern of migration flows by age, Italy, 1984 and 1994

Ages	1984	1994
0-14	Closely related to 30-44 pattern. Gains and losses in every region. Strong losses from principal urban centres.	Closely related to 30-44 pattern. Pattern similar to 1984 but Roma and Firenze now join metropolitan losers.
15-29	The patterns are consistent across five year ages within this group. The regional pattern is dominant; Mezzogiorno provinces lose heavily, the majority of Centre and North provinces gain population.	Resembles 1984 closely except that Genova, Venezia and Roma now lose migrants.
30-44	Losses from Torino, Napoli and Caserta, Milano and neighbours, Genova, Venezia, Alpine provinces and the Po Delta. Gains elsewhere including Roma.	Similar pattern to 1984 but greater gains in northern and central non-metropolitan provinces. Losses more prominent in Southern provinces.
45-59	Losses are concentrated in provinces containing the biggest cities. Gains recur in most provinces outside the big urban centres.	Mainly the same pattern as in 1984 except that Firenze joins the metropolitan losers and a few small losses appear in non-metropolitan provinces in the Mezzogiorno.
60-74	A pattern of losses from the main urban centres and gains to most other provinces.	A very similar pattern to 1984.
75+	A much lower absolute level of migration, with metropolitan losses and non-metropolitan gains. However, non-metropolitan provinces in the Mezzogiorno lose migrants.	The pattern is similar to that in 1984.

Figure 21A: Net migration, ages 60-74, Italy, 1984: rates

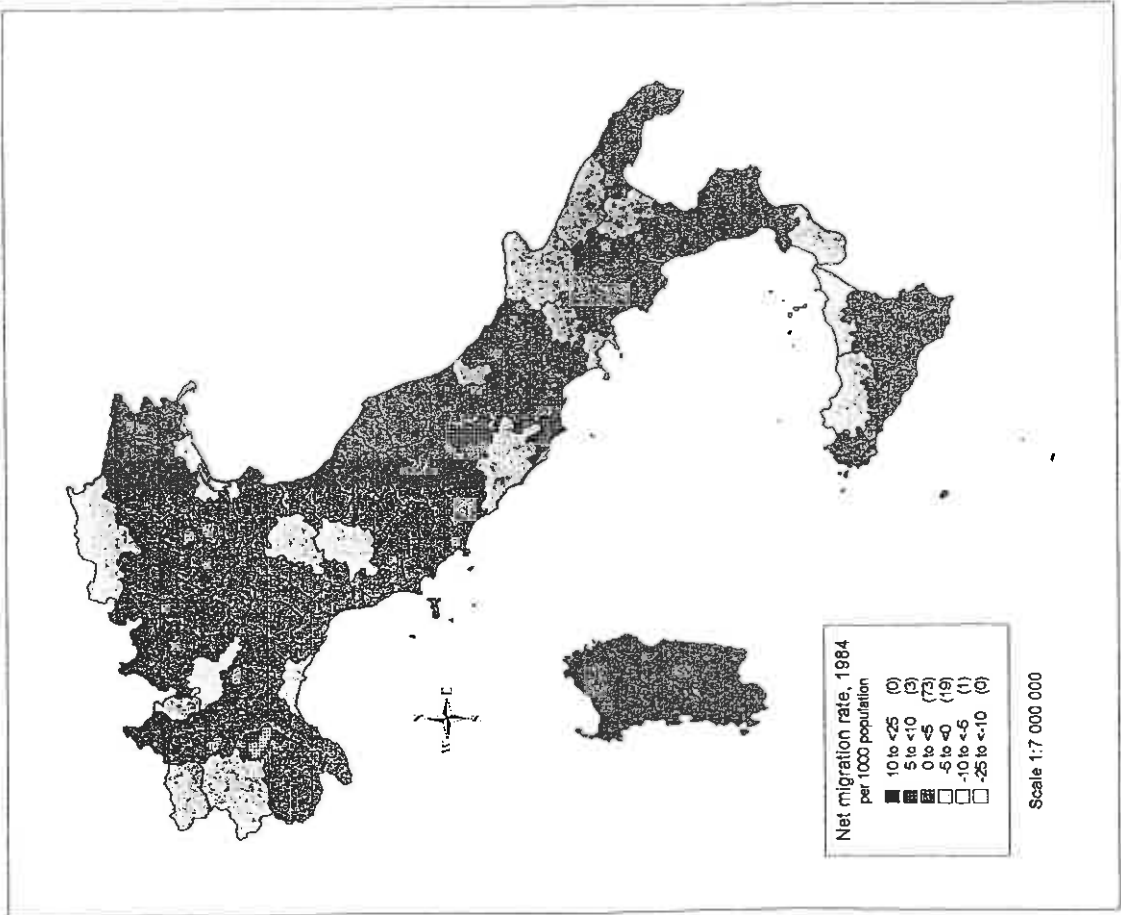


Figure 21B: Net migration by province, ages 60-74, Italy, 1984: flows

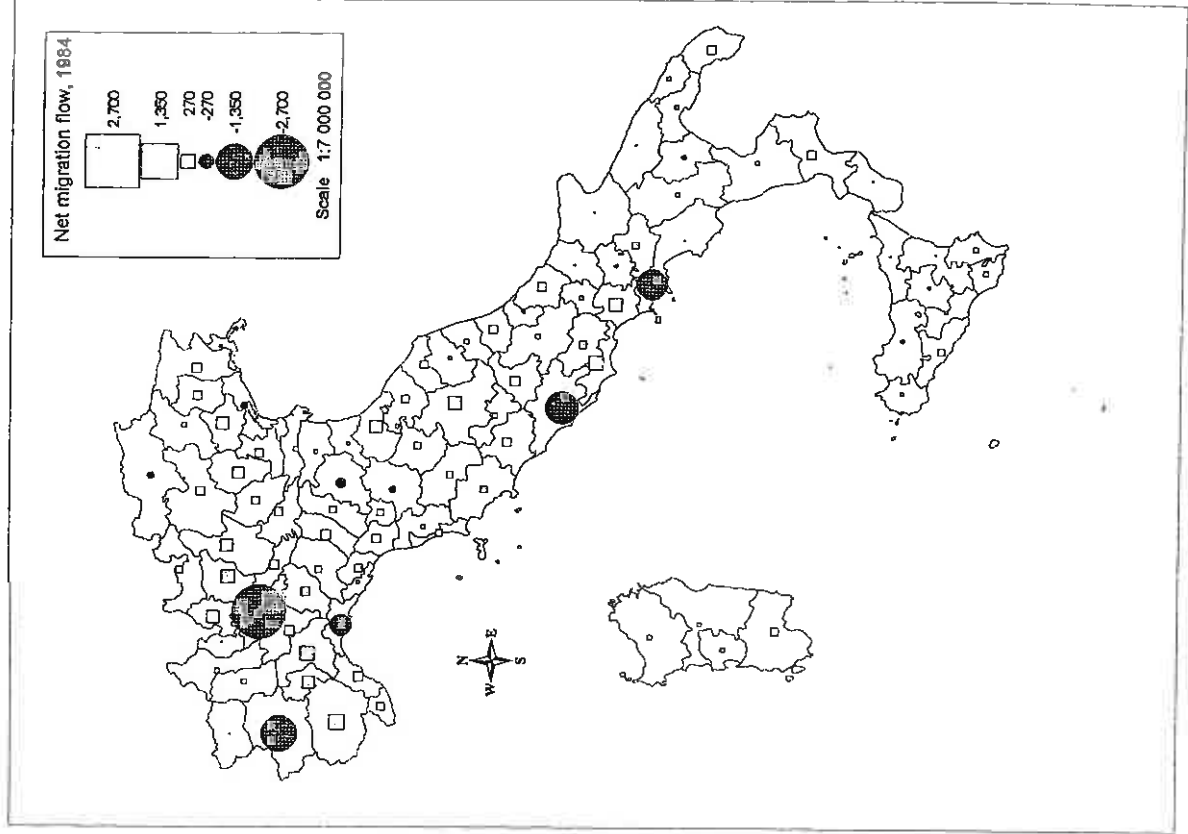


Figure 22A: Net migration, ages 60-74, Italy, 1994: rates

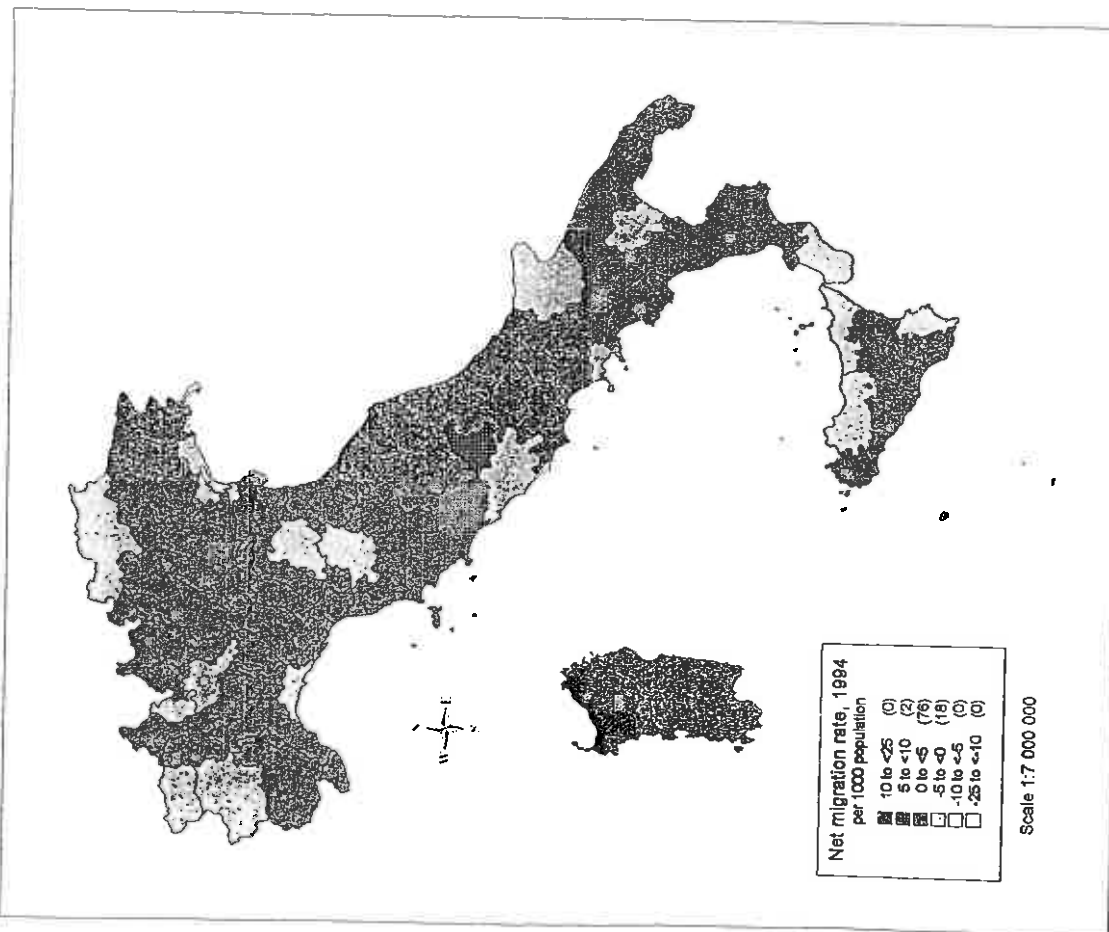


Figure 22B: Net migration by province, ages 60-74, Italy, 1994: flows

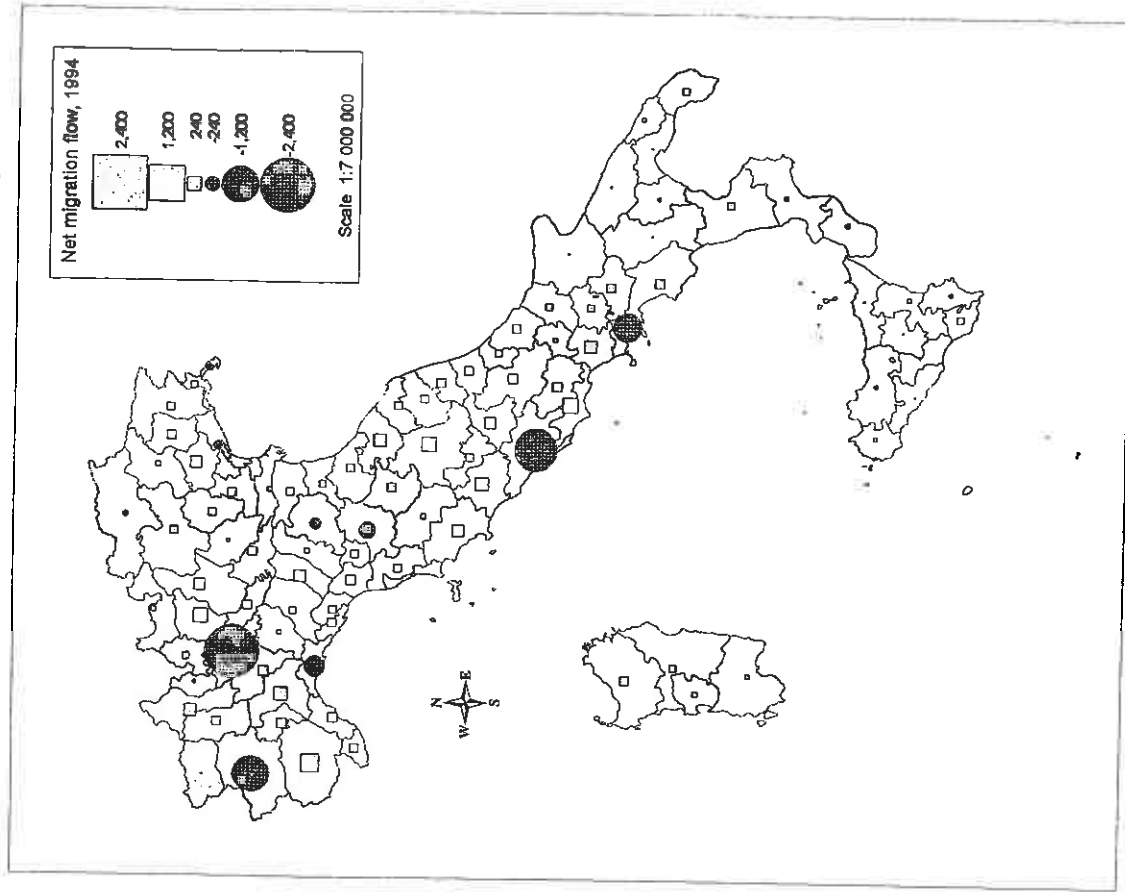


Figure 23A: Net migration, ages 75 and over, Italy, 1984: rates

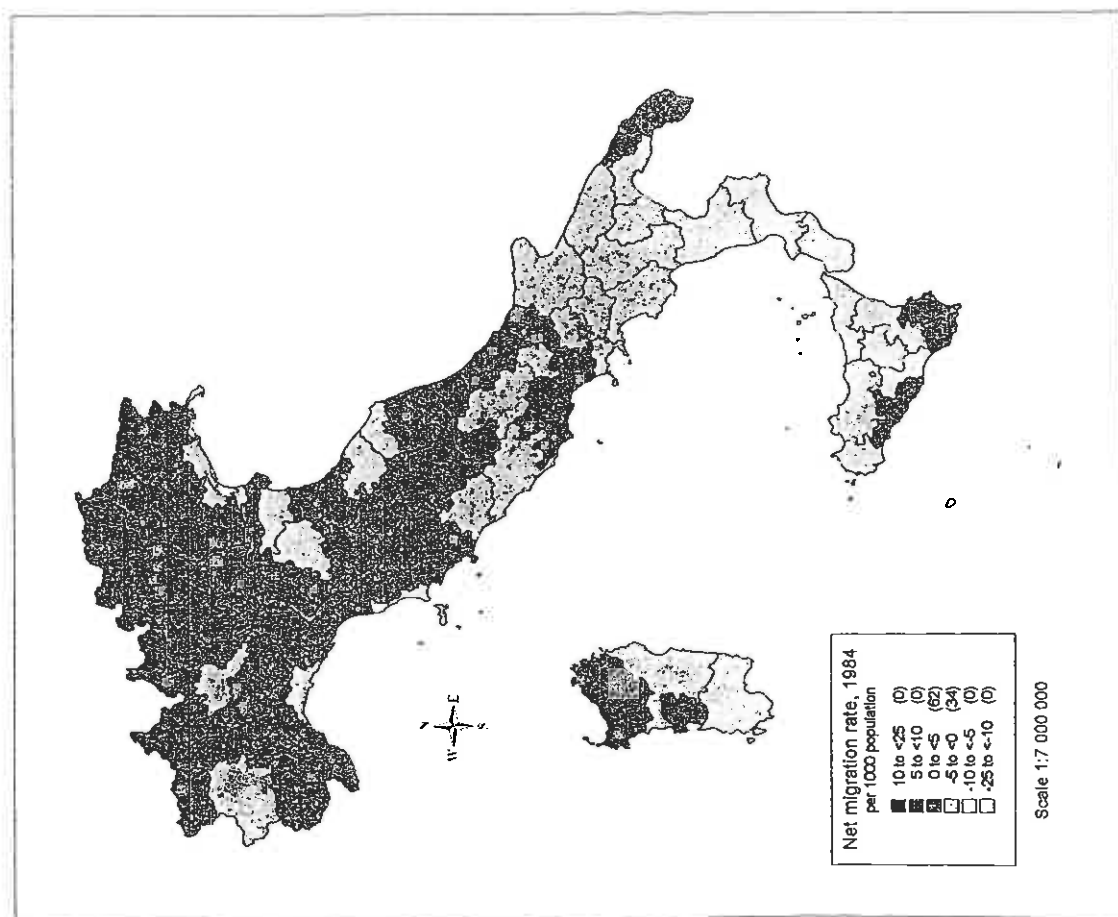


Figure 23B: Net migration by province, ages 75+, Italy, 1984: flows

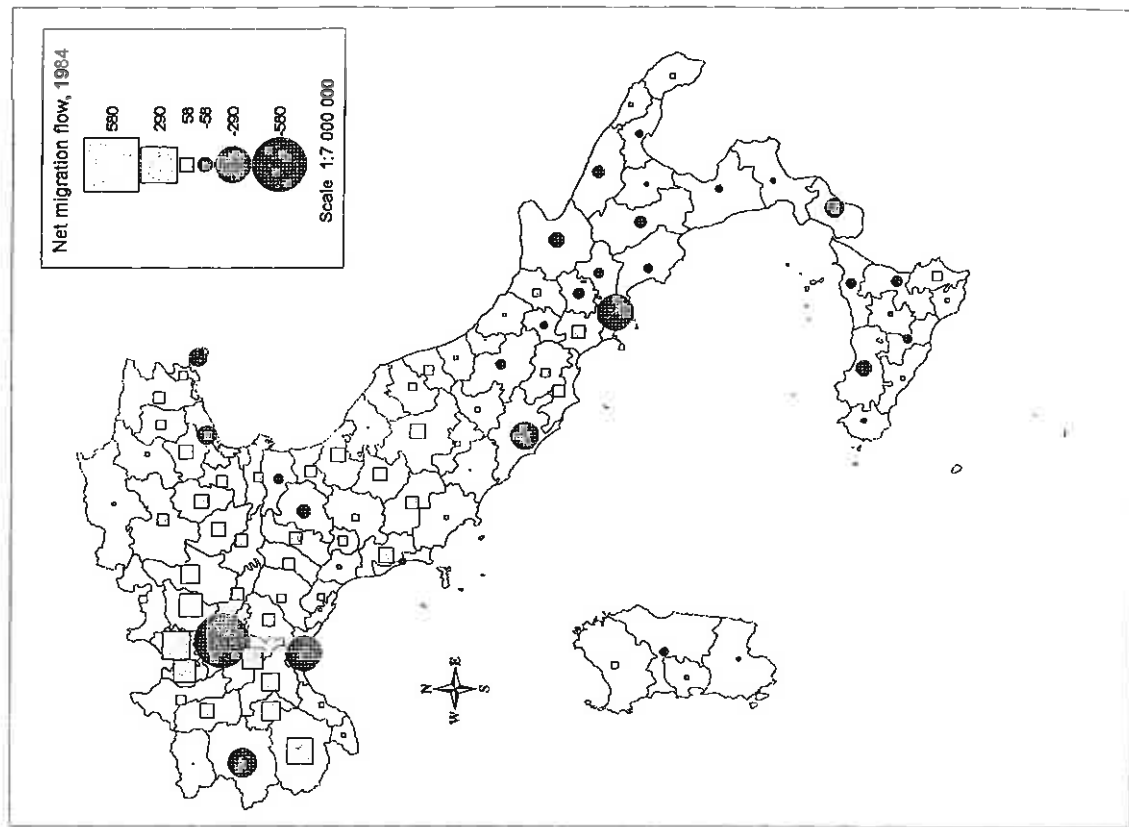


Figure 24A: Net migration, ages 75 and over, Italy, 1994: rates

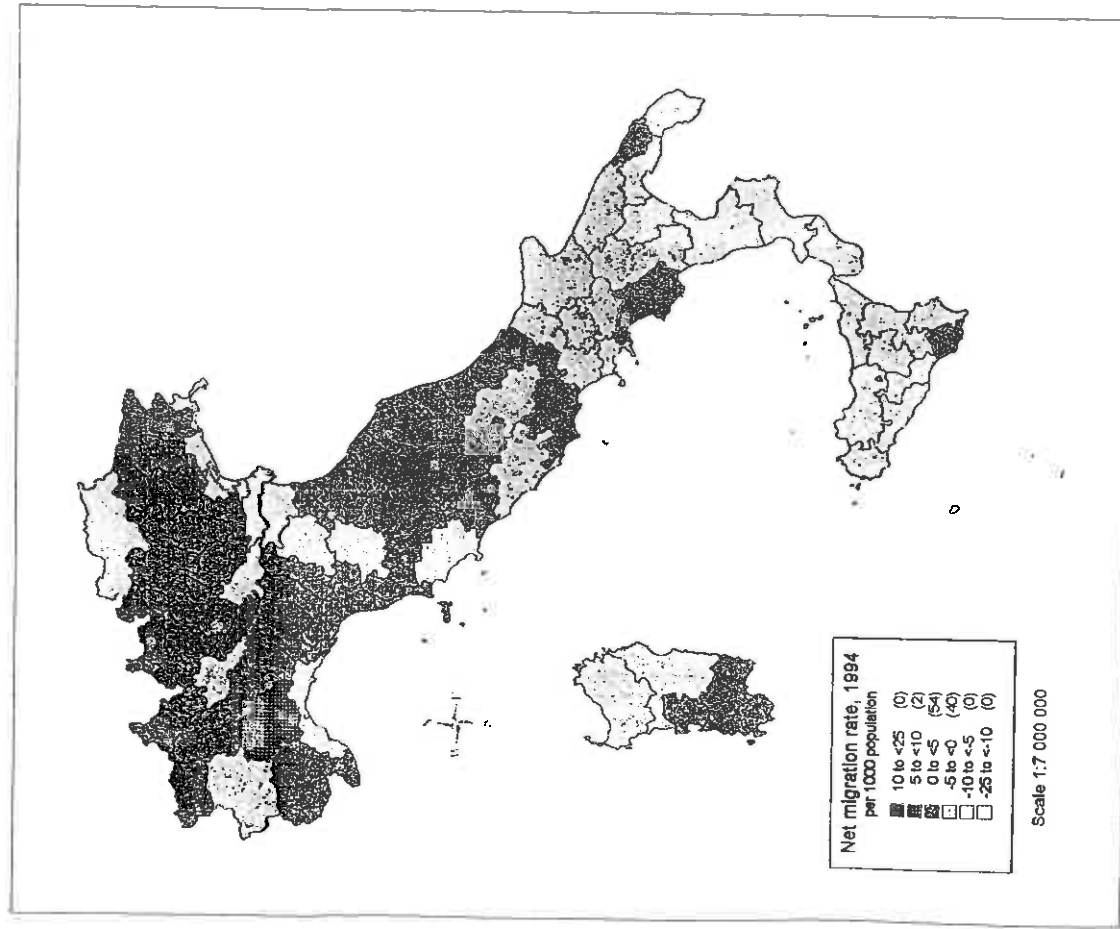
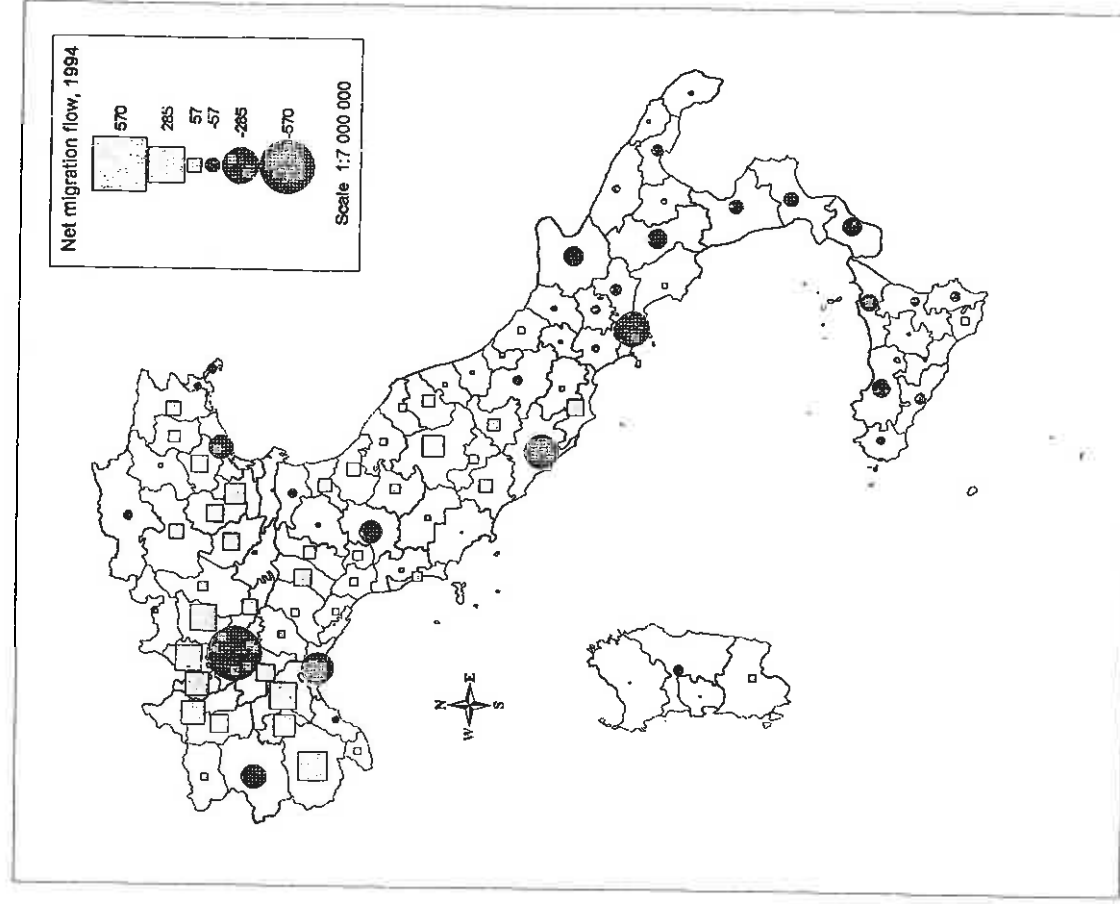


Figure 24B: Net migration by province, ages 75+, Italy, 1994: flows



5.1.5 Migration and gender

In the analysis of the relationship between migration and the life course we have not considered the extent to which there is significant variation of provincial migration by gender. There are significant differences between men and women in their migration intensities but only in a fairly narrow age band between ages 16 and 40. The differences in numbers of men and women migrating are a product of these small differences and underlying gender-age distribution. Van Imhoff *et al.* (1997, Figure 3, p.150) plot out-migration rates for Italian regions against age for men and for women for the 1987-1991 period. The rates are virtually coincident between ages 0 and 17, declining from 9 or 10 per thousand population at age 0 to around 3 per thousand at age 17. The migration rates then climb steeply. Male rates ascend faster and to a higher peak of 14 or 15 per thousand at ages 23 to 25, while female rates reach only 11 or 12 per thousand at those ages. After age 25 both male and female rates decline in parallel but with female rates reaching given levels 2 to 3 years earlier than male rates. Between 40 and 75 both male and female rates are around 2 or 3 per thousand before rising to around 4 at the very oldest ages. The male curve shows a very small peak centred on age 60. Apart from the differences in migration intensities between ages 17 and 40, do men and women have different spatial patterns of migration? The analysis of van Imhoff *et al.* (1997) suggests that the differences in origin-destination patterns between the sexes are insignificant once sex-age differences are controlled for. In other words, it is sufficient to examine the age-specific patterns of migration without introducing the additional classification of gender.

5.2 Migration flows

In the previous section of the report we have examined the spatial patterns of total net migration for the 95 provinces of Italy, broken down by age. These data show how the life course affects destination selection, on balance, but do not say much about how origins and destinations are linked. To look at these linkages we must examine the matrix of migration flows between the 95 provinces.

There are a large number of origin-destination pairs in such a matrix: 9025 counting cases where origins and destinations are the same and 8930 if we just consider cases where they are different. The 95 intra-province migration flows are also supplied by ISTAT for both 1984 and 1994; they refer to inter-municipality (commune) moves within a province. They are by far the most numerous migrations but do not impact on population redistribution between provinces.

In order to analyse the structure of the inter-provincial migration flows we need to reduce the number of variables to a smaller set through grouping. Figure 12 shows the schema adopted while the Appendix provides a comprehensive look up table showing how provinces are assigned to the various aggregations. Provinces group into twenty regions. Regional groupings of provinces can be aggregated into five larger divisions. The provinces in Valle d'Aosta, Piemonte, Lombardia and Liguria form the North West. The provinces of Trentino-Alto Adige, Friuli-Venezia Giulia, Venezia and Emilia Romagna make up the North East. The provinces of Toscana, Umbria and Marche and Lazio were combined into the Centre. The provinces

in Abruzzi-Molise, Puglia, Campania, Basilicata and Calabria make up the South Mainland, while Sardegna and Sicilia constitute the South Islands division.

Within these five divisions, the ten provinces containing the largest cities (with populations exceeding 400 thousand inhabitants) were grouped into a metropolitan category. The 85 remaining provinces were assigned to the non-metropolitan category. To parallel the two category metropolitan/non-metropolitan dichotomy, the Mezzogiorno (South Mainland plus South Islands) was labelled "the South" and the other five regions "the North".

We proceed by analysing the pattern of migration using a North-South filter, metropolitan/non-metropolitan filter, a five division mesh and finally the combined metropolitan/non-metropolitan and five division framework.

5.2.1 South to North flows

Italy has, since unification in 1861, failed to achieve convergence in level of economic development of the northern and southern parts of the country. Since the late 1950s, there has been a concerted effort to improve living conditions, infrastructure and employment in the South.

The Economist (1997, p.93) reports

"Southerners' lives have improved beyond recognition: the *mezzogiorno* is no longer plagued by malaria, malnutrition and illiteracy. Yet the differences between north and south are no less than they were in the 1960s."

The unemployment rate in the South was 4 to 6 % higher than the rate in the North between 1970 and 1985, but since 1985 the gap has widened to 10 to 15% in the 1990s. Southern labour productivity is stuck at around 80% of northern. The North of Italy is one of Europe's richest regions, the South one of the poorest. Add to these economic differences the considerable demographic differences between a low fertility, natural loss North and a high fertility, natural gain South, and the result is a substantial surplus of young labour in southern Italy available to move north, given the right opportunities.

Table 6 assembles figures on south to north migration for selected years (see Bonifazi, Chiappa and Heins 1997 for a full time series graph for the 1955-93 period). Throughout the period the South has experienced net migrant loss to the North. The losses were far higher prior to the 1974 oil shock than thereafter. In the 1950s and 1960s the demand for labour in the northern economy was high and large scale migration resulted. Since 1974, job opportunities in northern Italy have been fewer in relation to available labour, so that, despite rising southern unemployment, net migration flows from South to North have been lower. In two years, 1984 and 1985, net losses were very small indeed and the South actually gained from the North West division; this flow was probably made up of southern origin workers, laid off as a result of industrial restructuring, returning to their native provinces. Since the mid-1980s South to North losses have persisted but at a lower level.

Table 7 gives the North-South gross and net flows for 1984 and 1994. The statistics indicate an increase in the net flow to the North from 1984 to 1994, despite a decline in both North to South and South to North migration. The latter flow declined less than the North to South flow.

Table 6: North-South migration in Italy over 4 decades, 1955-94

Year	Migration Flow (1000s)		
	South to North	North to South	Net Flow to North
1956-57 ¹	116	39	77
1966-67 ¹	179	82	97
1955-71 ² (annual average)			127
1976-77 ¹	142	92	60
1984 ³	102	86	16
1972-86 ² (annual average)			49
1986-87 ¹	104	72	32
1994 ³	92	61	31

Sources: 1. Bonaguidi and Terra Abrami (1996), p.232.

2. Pasquali (1990), Tables 4 and 6.

3. This study using ISTAT statistics on provincial migration.

Table 7: Migration between North and South provinces, Italy, 1984 and 1994

Origin	Destination		Total Italy	Netflow
	North	South		
1984				
North	685.7	86.1	771.8	15.8
South	101.9	315.9	417.8	-15.8
Italy	787.6	402.1	1189.7	0.0
1994				
North	678.7	60.9	739.6	33.5
South	92.3	277.9	370.2	-33.5
Italy	771.0	338.8	1109.7	0.0

Source: ISTAT statistics on provincial migration.

Notes: 1. Migration flows are in 1000s.

2. The diagonal flows include intra-provincial migration between communes.

3. The grouping of provinces into North and South is indicated in Table 5 and in Figure 13.

Table 8: Migration between metropolitan and non-metropolitan provinces, Italy, 1984 and 1994

Origin	Destination		Total Italy	Net Inflow
	Metro	Non-Metro		
1984				
Metro	300.6	147.0	447.6	-33.4
Non Metro	113.6	628.5	742.0	33.4
Italy	414.2	775.5	1189.7	0.0
1994				
Metro	295.2	131.6	426.8	-39.5
Non Metro	92.1	590.9	683.0	39.5
Italy	387.3	722.5	1109.7	0.0

Source: ISTAT statistics on provincial migration.

Notes: 1. Migration flows in 1000s.

2. The diagonal flows include intra-provincial migration between communes.

3. The grouping of provinces into North and South is indicated in Table 5 and in Figure 12.

5.2.2 *Metropolitan/non-metropolitan flows*

Table 8 shows the flows between the 10 metropolitan provinces and the 85 non-metropolitan. Non-metropolitan provinces gain 33.4 thousand migrants in 1984 though net exchanges with metropolitan provinces but this gain increases to 39.5 thousand in 1994. Again the flows between the two province categories both decrease between the two years but the flow from metropolitan to non-metropolitan provinces decreases by less than the reverse flow.

5.2.3 *Flows into, out of and between the five divisions*

The North as defined above is usefully broken down into divisional components. Tables 9 and 10 provide the gross and net flows between divisions and the associated total flows for our two selected years. These statistics confirm the decreases in migration volume between the two years. The level of net migration changes in a more varied way. The North West in 1984 is revealed as a region of net out-migration, dominated by losses from the metropolitan regions of Torino and Milano. Bonaguidi and Terra Abrami (1996, p.238) report losses for these regions in 1977-8 and 1987-8 with latter being only 75% of the former. Table 9 reports that in 1994 the North West was a net gainer of migrants. The North East is the region with the highest net inflows and improves this position between the two years.

Table 9 sets out the gross migration flows between the major regions. Net migration balances are computed from Table 9's gross flows in Table 10. Most inter-municipal migrants migrate between municipalities within provinces and between provinces within major regions (the diagonal elements of the table). Both this "local" migration and inter-regional migration declined between 1984 and 1994. Only two cells in Table 9 exhibit increases in migration volume between the two years. These are migration within the North East and migration into the North East from the Mezzogiorno. Flows into the Mezzogiorno exhibit the greatest relative decreases, particularly the flow from the North West. This reflects the failure to close the gap in living standards between the South and the other regions (Table 4).

The position of the divisions can be summarized as follows. The North West loses to the other four divisions in 1984 and to two of the other four divisions in 1994. The North East gains from all four other divisions in both 1984 and 1994. The Centre gains from all the other divisions except the North East in both years. The South Mainland loses to all other divisions in both years. The South Islands lost to the northern divisions in both 1984 and 1994 but gained from the South Mainland. This pattern of migration reflects the following factors: the decline of the economic dynamic of the oldest industrial region, the North West; the increasing economic dynamism of the North East and Centre regions with their networks of small and medium sized firms located in small and medium sized cities (Salvatori 1997); the continuing problem of structural unemployment in the Mezzogiorno which shows no sign of abatement; a continued attraction of the Centre division to migrants from the declining North West and stagnating South.

Table 9: Gross migration flows between divisions, Italy, 1984 and 1994

Origin	Year	Destination					Total
		North West	North East	Centre	South Mainland	South Islands	
North West	1984	307.2	16.0	14.9	30.9	18.9	388.0
	1994	305.9	13.9	11.5	18.7	11.5	361.5
	ratio	100	87	77	61	61	93
North East	1984	11.2	161.3	8.0	8.4	4.2	193.2
	1994	9.7	170.2	6.5	7.1	3.2	196.7
	ratio	87	106	81	85	77	102
Centre	1984	10.5	8.1	148.4	17.0	6.7	190.7
	1994	9.6	7.1	144.3	15.0	5.3	181.3
	ratio	92	88	97	88	79	95
South Mainland	1984	30.9	12.5	27.2	195.3	5.5	271.4
	1994	26.9	15.6	23.3	183.9	4.9	254.6
	ratio	87	124	86	94	89	94
South Islands	1984	16.3	5.1	9.8	5.2	109.9	146.4
	1994	13.9	5.2	7.3	4.4	84.8	115.6
	ratio	85	103	75	83	77	79
Total	1984	376.2	203.1	208.4	256.9	145.2	1189.7
	1994	366.0	212.0	192.9	229.1	109.7	1109.7
	ratio	97	104	93	89	76	93

Source: ISTAT statistics on provincial migration.

Notes:

1. Migration in 1000s. Flows and totals are independently rounded.
2. Migration flows within major regions include intra-province migration, i.e. migration between municipalities (communes) within the province, and migration between provinces within the major regions.
3. The grouping of provinces into North and South is indicated in Table 5 and in Figure 12.

Table 10: Net internal migration flows between divisions, Italy, 1984 and 1994

Origin	Year	Destination					Total
		North West	North East	Centre	South Mainland	South Islands	
North West	1984	0	4.8	4.4	0.04	2.5	11.8
	1994	0	4.2	1.9	-8.2	-2.4	-4.5
North East	1984	-4.8	0	-0.06	-4.1	-0.9	-9.9
	1994	-4.2	0	-0.6	-8.4	-2.0	-15.3
Centre	1984	-4.4	0.06	0	-10.2	-3.1	-17.7
	1994	-1.9	0.6	0	-8.3	-2.0	-11.6
South Mainland	1984	-0.04	4.1	10.2	0	0.3	14.5
	1994	8.2	8.4	8.3	0	0.5	25.4
South Islands	1984	-2.5	0.9	3.1	-0.3	0	1.2
	1994	2.4	2.0	2.0	-0.5	0	6.0
Total	1984	-11.8	9.9	17.7	-14.5	-1.2	0
	1994	4.5	15.3	11.6	-25.4	-6.0	0

Source: ISTAT statistics on provincial migration.

Notes:

1. Migration is reported in 1000s.
2. The grouping of provinces into North and South is indicated in Table 5 and in Figure 12.

5.2.4 Migration between metropolitan and non-metropolitan provinces by division

Earlier we observed the significance of migration out of the provinces containing Italy's largest cities. What happens when we intersect this classification and that of the five major regions? In Table 11 are assembled the key outflow, inflow and net flow statistics which enable us to answer this question.

- Within each major region, non-metropolitan provinces have more favourable net migration balances than metropolitan regions.
- The contrast between the net balances of metropolitan provinces and non-metropolitan becomes sharper in 1994.
- In 1994 the metropolitan provinces of the North West, North East and Centre divisions lost migrants while the non-metropolitan provinces gained migrants. The metropolitan provinces of the South Mainland and South Islands also lost through internal migration.
- The major exceptions to the pattern of metropolitan loss and non-metropolitan gain are the southern divisions in 1994 where there were also losses from non-metropolitan provinces, which in the case of the South Islands exceeded losses from the metropolitan province (Palermo).

Table 11: Migration flow totals, provinces grouped by divisions and metropolitan status, Italy, 1984 and 1994

Division Metro status	1984			1994		
	Outflow	Inflow	Net Flow	Outflow	Inflow	Net Flow
North West						
Metro	79.4	55.6	-23.8	64.3	46.9	-17.4
Non Metro	48.3	60.3	12.0	39.8	61.6	21.9
North East						
Metro	13.0	13.2	0.3	12.7	12.4	-0.3
Non Metro	32.7	42.3	9.6	27.2	42.9	15.6
Centre						
Metro	41.4	46.2	4.8	37.9	31.3	-6.6
Non Metro	31.4	44.2	12.9	26.4	44.6	18.2
South Mainland						
Metro	35.9	21.8	-14.2	31.4	17.9	-13.5
Non Metro	65.1	64.7	-0.4	61.0	49.0	-12.0
South Islands						
Metro	10.4	9.9	-0.6	8.5	6.7	-1.7
Non Metro	33.7	33.3	-0.7	27.5	23.3	-4.2

Source: ISTAT statistics on provincial migration.

Notes:

1. Migration is reported in 1000s. The flows and net flows are independently rounded.
2. The grouping of provinces into North and South is indicated in Table 5 and in Figure 12.

5.2.5 *Migration flows between the ten province groups*

We can gain further insight into the spatial pattern of migration by examining the origin-destination flows between the ten province groups. Rather than examine the origin-destination matrix itself, we instead select the vector of inflows to a province group and set it against the outflows from the province group of interest to other groups as columns in Table 12. The net flow between pairs of province groups is set out alongside the flow and counterflow. Finally, the flow statistics for 1994 are arranged alongside those for 1984 in Table 12.

By far the largest flow in each case is within each province group, because of importance of short distance migration. The second largest flow is between neighbouring metropolitan and non-metropolitan province groups. So, for example, in 1984 29.8 thousand migrations have origins in North West metropolitan provinces. The counterflow amounts to 17.1 thousand, leaving a gain of 12.7 thousand to the North West non-metropolitan provinces. The corresponding gain in 1994 is 16.7 thousand net migrations.

This relationship is repeated in the other regions. The North East non-metropolitan provinces gain 1.5 and 2.5 thousand net migrations, in 1984 and 1994 respectively; the Centre non-metropolitan provinces gain 4.1 and 8.3 thousand net migrations in 1984 and 1994 from the Centre metropolitan provinces; the South Mainland non-metropolitan provinces receive 5.8 and 4.7 thousand net migrations in 1984 and 1994 from the South Mainland metropolitan provinces. The South Islands non-metropolitan provinces gain 0.3 and 0.1 thousand net migrations from Palermo province. The process of metropolitan deconcentration is underway in Italy and has become more important over the 1984 to 1994 decade. The flow from metropolitan provinces to non-metropolitan increases between 1984 and 1994 in all divisions except the South Mainland and South Islands, while all the counterflows decrease. The attractiveness of metropolitan provinces to both residents and potential in-migrants has diminished.

By counting the number of net inflows recorded in Table 12 we can gain an idea of the hierarchy of attractiveness of the province groups, the maximum score being 9 in each case. In 1984 the most attractive province groups are those of the Centre region, followed by those of the North East. The North West, South Mainland and South Islands province groups bring up the tail. However, within four of five major regions the metropolitan provinces are less attractive. By 1994 the attractiveness of metropolitan groups in the Centre region has fallen. Both North West province groups have recovered attractiveness while those of the South Mainland and South Islands are even less attractive to migrants.

Table 12: Migration flows and counter flows, for metropolitan and non-metropolitan provinces, by division, Italy, 1984 and 1994

Region 1	Region 2	1984			1994		
		Flow	Counter	Net	Flow	Counter	Net
North West Metro	NW Metro	123225	123225	0	117685	117685	0
	NW Non-Metro	29824	17092	-12732	32565	15837	-16728
	NE Metro	1032	732	-300	876	612	-264
	NE Non-Metro	8098	4447	-3651	6756	3616	-3140
	CE Metro	3862	2782	-1080	2365	2542	177
	CE Non-Metro	4831	2767	-2064	4135	2342	-1793
	SM Metro	4174	4984	810	2269	3394	1125
	SM Non-Metro	15941	13415	-2526	8732	11339	2607
	SI Metro	2132	1596	-536	1049	1294	245
	SI Non-Metro	9469	7737	-1732	5528	5941	413
North West Non-Metro	NW Metro	17092	29824	12732	15837	32565	16728
	NW Non-Metro	137084	137084	0	139794	139794	0
	NE Metro	687	634	-53	604	619	15
	NE Non-Metro	6227	5424	-803	5642	4839	-803
	CE Metro	2489	2283	-206	1519	1972	453
	CE Non-Metro	3748	2662	-1086	3486	2757	-729
	SM Metro	1862	2968	1106	1590	2688	1098
	SM Non-Metro	8920	9493	573	6138	9501	3363
	SI Metro	1137	1128	-9	634	1077	443
	SI Non-Metro	6153	5888	-265	4335	5630	1295
North East Metro	NW Metro	732	1032	300	612	876	264
	NW Non-Metro	634	687	53	619	604	-15
	NE Metro	21410	21410	0	23461	23461	0
	NE Non-Metro	7641	6147	-1494	7937	5482	-2455
	CE Metro	839	888	49	571	713	142
	CE Non-Metro	790	813	23	971	752	-219
	SM Metro	332	643	311	246	632	386
	SM Non-Metro	1177	1955	778	1110	2357	1247
	SI Metro	189	225	36	158	214	56
	SI Non-Metro	618	853	235	449	724	275
North East Non-Metro	NW Metro	4447	8098	3651	3616	6756	3140
	NW Non-Metro	5424	6227	803	4839	5642	803
	NE Metro	6147	7641	1494	5482	7937	2455
	NE Non-Metro	126107	126107	0	133331	133331	0
	CE Metro	3125	3193	68	1863	2768	905
	CE Non-Metro	3261	3181	-80	3066	2878	-188
	SM Metro	1618	2872	1254	1283	3357	2074
	SM Non-Metro	5306	7058	1752	4487	9217	4730
	SI Metro	601	824	223	510	889	379
	SI Non-Metro	2779	3214	435	2091	3418	1327
Centre Metro	NW Metro	2782	3862	1080	2542	2365	-177
	NW Non-Metro	2283	2489	206	1972	1519	-453
	NE Metro	888	839	-49	713	571	-142
	NE Non-Metro	3193	3125	-68	2768	1863	-905
	CE Metro	52468	52468	0	53097	53097	0
	CE Non-Metro	17272	13174	-4098	17796	9492	-8304
	SM Metro	1876	4419	2543	1486	2906	1420
	SM Non-Metro	8655	12057	3402	7364	8712	1348
	SI Metro	817	1139	322	545	791	246
	SI Non-Metro	3594	5073	1479	2707	3070	363

Table 12: Continued

Region 1	Region 2	1984			1994		
		Flow	Counter	Net	Flow	Counter	Net
Centre Non-Metro	NW Metro	2767	4831	2064	2342	4135	1793
	NW N-Metro	2662	3748	1086	2757	3486	729
	NE Metro	813	790	-23	752	971	219
	NE N-Metro	3181	3261	80	2878	3066	188
	CE Metro	13174	17272	4098	9492	17796	8304
	CE N-Metro	65480	65480	0	63925	63925	0
	SM Metro	1375	3303	1928	1600	4043	2443
	SM N-Metro	5092	7430	2338	4536	7625	3089
	SI Metro	407	640	233	320	742	422
	SI N-Metro	1883	2971	1088	1721	2731	1010
South Mainland Metro	NW Metro	4984	4174	-810	3394	2269	-1125
	NW N-Metro	2968	1862	-1106	2688	1590	-1098
	NE Metro	643	332	-311	632	246	-386
	NE N-Metro	2872	1618	-1254	3357	1283	-2074
	CE Metro	4419	1876	-2543	2906	1486	-1420
	CE N-Metro	3303	1375	-1928	4043	1600	-2443
	SM Metro	57432	57432	0	63680	63680	0
	SM N-Metro	15361	9565	-5796	13225	8494	-4731
	SI Metro	210	184	-26	229	179	-50
	SI N-Metro	1157	774	-383	887	719	-168
South Mainland Non-Metro	NW Metro	13415	15941	2526	11339	8732	-2607
	NW N-Metro	9493	8920	-573	9501	6138	-3363
	NE Metro	1955	1177	-778	2357	1110	-1247
	NE N-Metro	7058	5306	-1752	9217	4487	-4730
	CE Metro	12057	8655	-3402	8712	7364	-1348
	CE N-Metro	7430	5092	-2338	7625	4536	-3089
	SM Metro	9565	15361	5796	8494	13225	4731
	SM N-Metro	112951	112951	0	98535	98535	0
	SI Metro	731	779	48	795	693	-102
	SI N-Metro	3388	3489	101	2957	2759	-198
South Islands Metro	NW Metro	1596	2132	536	1294	1049	-245
	NW N-Metro	1128	1137	9	1077	634	-443
	NE Metro	225	189	-36	214	158	-56
	NE N-Metro	824	601	-223	889	510	-379
	CE Metro	1139	817	-322	791	545	-246
	CE N-Metro	640	407	-233	742	320	-422
	SM Metro	184	210	26	179	229	50
	SM N-Metro	779	731	-48	693	795	102
	SI Metro	13054	13054	0	14202	14202	0
	SI N-Metro	3915	3656	-259	2588	2506	-82
South Islands Non-Metro	NW Metro	7737	9469	1732	5941	5528	-413
	NW N-Metro	5888	6153	265	5630	4335	-1295
	NE Metro	853	618	-235	724	449	-275
	NE N-Metro	3214	2779	-435	3418	2091	-1327
	CE Metro	5073	3594	-1479	3070	2707	-363
	CE N-Metro	2971	1883	-1088	2731	1721	-1010
	SM Metro	774	1157	383	719	887	168
	SM N-Metro	3489	3388	-101	2759	2957	198
	SI Metro	3656	3915	259	2506	2588	82
	SI N-Metro	89301	89301	0	65455	65455	0

5.2.6 Migration fields of selected provinces

One useful way to gain an idea of the structure of inter-provincial migration flows is to plot maps (not reproduced here) of net migration for individual provinces and to describe the flow patterns revealed. In this section of the report we summarize the flow patterns for ten provinces selected as representative of their province group (division by metro/non-metro).

Torino (North West metropolitan). This province loses to all other provinces in 1984 and most provinces in 1994. In 1994 gains are made from about half of provinces in the Capital and Mezzogiorno regions.

Bologna (North East metropolitan). Bologna loses to nearly all provinces in Emilia Romagna, Veneto, Marche and some provinces in Lazio. It gains from most of the provinces in the North West, from about half the provinces in the North East and Centre regions, and from most of the Mezzogiorno. The pattern is relatively stable between 1984 and 1994.

Roma (Centre metropolitan). Roma loses migrants to virtually all Capital, Centre, North East and North West provinces, gaining only from some provinces around Milano. However, from the Southern half of Peninsula Italy and Sicilia there are only gains.

Napoli (South Mainland metropolitan). This metropolis loses migrants to all other provinces in 1984 and only gains small numbers from four provinces (in Sicilia) in 1994. This reflects its severely depressed economy (23% unemployment in 1993 and a GDP per capita figure only 70% of the EUR12 average in 1989-91).

Palermo (South Islands metropolitan). This province loses to virtually all provinces in northern and central Italy and to about half provinces in the South Mainland and South Islands. Gains are made from non-metropolitan provinces in Sicilia, Calabria and a scattering in other regions.

Bergamo (North West ^{non}metropolitan). This non-metropolitan province in Lombardia gains from most North West Provinces and about half North East provinces. Losses occur to provinces on the southern side of the Po Valley, in Emilia Romagna and to provinces in the Centre of Italy, except Roma. Bergamo gains migrants from most Mezzogiorno regions. The 1994 pattern is similar to that of 1984.

Verona (North East ^{non}metropolitan). Verona gains migrants from a majority of Italian provinces except for those to the west and north in North East Italy and about half the Centre provinces.

Arezzo (Centre non-metropolitan). Arezzo gains strongly from Firenze but loses to Centre provinces to the south and east. It loses to more North West and North East provinces than it gains from, but gains from most provinces to the south in both years.

Catanzaro (South Mainland non-metropolitan). This Calabrian province experiences losses in both years to most provinces in the country. The only exceptions in 1984 are Napoli, Salerno, Benevento, Reggio Calabria and Ragusa. In 1994 another six Mezzogiorno provinces contribute to migrant gains in Catanzaro.

Nuoro (South Islands non-metropolitan). Nuoro province loses to about half of Italy's provinces, with the largest net losses to neighbouring provinces in Sardinia. Losses occur to most but not all provinces in

central and northeastern Italy. On the other hand small gains are made from North West provinces and from the Mainland South and half of Sicilia's provinces. These net flows are, however, quite small.

These ten portraits of provincial migration fields highlight the structuring of migration flows along both regional and metropolitan/non-metropolitan dimensions. The Centre and North East divisions are the most attractive to migrants. Non-metropolitan provinces in the North West also attract migrants. Metropolitan provinces in the North West and South Mainland suffer severe losses, particularly the latter. Non-metropolitan provinces in the South Mainland also see large net outflows reflecting the poor state of the regional economy.

6. RELATIONSHIPS BETWEEN POPULATION DYNAMICS AND THE SETTLEMENT SYSTEM

6.1 Relationship to the urban system

To determine the influence of proximity to the large urban centres on population change and net migration, a definition of the urban system needs to be established. The one adopted here is fairly crude but useful. Communes with populations (in 1986) of 100,000 or more were identified as urban nodes. There are 45 such communes, listed in Table 13. The remaining 8059 communes are then assigned to their nearest urban node commune.

We then define a series of settlement rings around urban nodes: (1) an urban core of communes close to the node with intense daily interaction, (2) a ring of suburban communes and satellite towns with moderate interaction with the node, (3) an outer area with minor commuting by some residents to the urban node, using simple distance bands. A scheme is used which defines core communes to be those within 20km of the node centre, ring communes to lie from 20 up to 50km from their node centre, outer area communes to be from 50 up to 100km from their node centre and rural areas to be 100 km or more from the urban node centre.

Table 14 reports on population change between 1984 and 1994 aggregated to the rings around urban nodes. The table reports the changes by the divisions used in the migration flows analysis, by the urban nodes identified as metropolitan and collects the other 35 urban regions into residual categories. Note that the population changes reported include both natural change and external migration balance as well as net internal migration.

In the North West, North East and Centre divisions, the urban cores of metropolitan cities lose population, their urban rings gain population and their outer rings (communes 50 or more km from the urban node) lose population with the exception of the Roma outer ring of communes. The degree of decentralization from the Roma urban core of communes is particularly marked. For the other urban regions in these sections of the country, urban cores still gain population along with their rings, though their outer areas lose population.

In the Mezzogiorno strong natural increase means that both cores and rings gain population in both the large (metropolitan) and small cities. On balance, however, gains are greater in the urban rings than in the urban cores.

Table 13: A list of urban communes with populations of 100,000 or more, Italy 1986

No.	Province	Node Comune	1986 Population (1000s)	No.	Province	Node Comune	1986 Population (1000s)
1	Torino	Torino	1117.2	24	Forlì	Rimini	127.8
2	Novara	Novara	102.1	25	Firenze	Firenze	448.3
3	Alessandria	Alessandria	100.5	26	Firenze	Prato	160.2
4	Genova	Genova	762.9	27	Livorno	Livorno	175.8
5	La Spezia	La Spezia	115.4	28	Pisa	Pisa	104.5
6	Milano	Milano	1604.8	29	Perugia	Perugia	142.3
7	Milano	Monza	123.1	30	Terni	Terni	111.6
8	Bergamo	Bergamo	122.1	31	Ancona	Ancona	106.5
9	Brescia	Brescia	206.7	32	Roma	Roma	2840.3
10	Bolzano	Bolzano	105.2	33	Napoli	Napoli	1212.4
11	Verona	Verona	265.9	34	Napoli	Torre del Greco	103.6
12	Vicenza	Vicenza	114.6	35	Salerno	Salerno	157.4
13	Venezia	Venezia	346.1	36	Pescara	Pescara	131.3
14	Padova	Padova	234.1	37	Foggia	Foggia	156.5
15	Trieste	Trieste	252.4	38	Bari	Bari	371.0
16	Piacenza	Piacenza	109.0	39	Taranto	Taranto	244.1
17	Parma	Parma	179.0	40	Palermo	Palermo	701.8
18	Reggio nell'	Reggio nell'	130.4	41	Messina	Messina	260.2
	Emilia						
19	Modena	Modena	180.3	42	Catania	Catania	380.3
20	Bologna	Bologna	459.1	43	Siracusa	Siracusa	117.6
21	Ferrara	Ferrara	149.5	44	Sassari	Sassari	119.6
22	Ravenna	Ravenna	138.0	45	Cagliari	Cagliari	233.8
23	Forlì	Forlì	110.8				

Table 14: Population change for communes by urban region and urban zone, Italy, 1984-94

Urban region	Absolute change 1984-94 (1000s)			Percentage change 1984-94		
	Core <20km	Ring 20-<50km	Outer ≥50km	Core <20km	Ring 20-<50km	Outer ≥50km
NORTH WEST						
Torino	-82	14	5	-4.7	1.9	1.0
Genova	-82	9	-12	-9.8	2.6	-3.1
Milano	-152	18	-	-6.6	3.8	-
Other Cities	101	4	-8	2.9	0.1	-1.6
NORTH EAST						
Venezia	-23	18	-2	-4.5	2.7	-0.4
Bologna	-34	12	-	-5.1	10.2	-
Other Cities	48	-8	-2	1.1	-0.2	-0.2
CENTRE						
Firenze	-43	12	-2	-6.5	3.7	-1.7
Roma	-147	133	40	-5.1	15.4	5.6
Other Cities	9	13	-10	0.6	0.7	-1.3
SOUTH						
Napoli	20	38	13	0.9	0.7	2.5
Bari	10	36	4	1.6	5.9	1.9
Palermo	12	3	-8	1.4	1.0	-0.8
Other Cities	53	80	-6	1.2	2.1	0.1

Source: Computed from commune populations for 1984 and 1994 supplied by ISTAT and centres of gravity supplied by the GISCO project of EUROSTAT.

6.2 Relationship to the degree of urbanization/rurality

ISTAT (1986) has published a multivariate classification of the communes of Italy, using census indicators. Three classifications are produced: (1) type of commune (4 types), (2) commune group (9 groups) which are a further breakdown of types and (3) the traditional physical terrain categories of plain, hill and mountain communes. Tables 15, 16 and 17 organise the commune data on population change and its components in these three classifications for 1984 and 1994 (all components) and just population change for 1985-93.

Tables 15 and 16 show that both urban communes as a whole and the largest in particular lost population through net internal migration in both 1984 and 1994, though rates of net out-migration were higher in 1984. This net out-migration was reinforced by a switch from low natural increase in 1984 to small natural decreases in 1994. These losses and the gains made by semi-urban communes (Table 15) or by medium or smaller towns and cities (Table 16) suggest that a process of urban deconcentration is in train in Italy. The deconcentration process spreads out even to rural communes which show gains through internal migration in both 1984 and 1994. These gains are reinforced by the highest levels of natural increase among either the commune types or commune groups to produce relatively high population growth in 1984 in rural areas and moderate growth in 1994. Again Tables 15 and 16 show that net external migration is a uniform phenomenon, although it is clearly higher in 1994 than in 1984.

6.3 Relationship to physical terrain

Table 17 classifies communes by physical terrain type. The results suggest that the long term shift noted by King (1987) from mountain and hill communes to plain communes may be at an end. The turning point may well have occurred in the 1984 to 1994 period. The rate of net internal migration increases dramatically for mountain communes between the two years. Further investigation of the regional location of such gains is needed. The figures in Table 15 to 17 also suggest that the internal migration flows reported in the ISTAT commune accounts may contain some errors in that they should produce a net balance for Italy as a whole of zero. This problem was discussed in section 3 but it was felt to be sufficiently small in impact not to require estimation of the distribution of the "other reasons" categories of deregistration and registration.

Table 15: Components of population change by type of commune, Italy, 1984 and 1994

Type of commune	Rates per 1000 population			
	Population Change	Net Migration Internal	Net Migration External	Natural Increase
1984				
Urban	- 1.3	- 2.0	0.4	0.3
Semi-urban	6.6	5.6	0.4	0.6
Semi-rural	1.4	4.3	0.9	- 3.9
Rural	8.7	1.9	1.2	5.7
Total	2.7	1.0	0.6	1.1
1985-93				
Urban	- 4.1			
Semi-urban	5.8			
Semi-rural	0.6			
Rural	2.0			
Total	- 0.2			
1994				
Urban	-0.3	-0.3	1.1	-1.2
Semi-urban	6.1	5.3	1.1	-0.3
Semi-rural	3.1	6.3	1.2	-4.4
Rural	3.5	1.1	-0.6	3.0
Total	2.2	1.9	0.8	-0.4

Source: computed from ISTAT (1984, 1994) with a classification developed in ISTAT (1986).

Notes:

1. All rates are computed by dividing the component flow by the average population at risk for the period.
2. The 1985-93 change refers to the period from 1.1.85 to 31.12.93. The population change rates are annual equivalents.

Table 17: Components of population change per 1000 population by altitude zone, Italy, 1984 and 1994

Altitude Zone	Population Change	Net Migration		Natural Increase
		Internal	External	
1984				
Plain	2.0	0.1	0.5	1.5
Hill	4.3	2.2	0.7	1.3
Mountain	- 0.0	0.3	0.7	- 1.0
1985-93				
Plain	- 0.1			
Hill	0.6			
Mountain	- 2.6			
1994				
Plain	1.0	- 0.0	0.9	0.1
Hill	2.8	2.4	0.7	- 0.4
Mountain	5.2	6.8	0.6	- 2.2

Source: computed from ISTAT (1984, 1994) with a classification developed in ISTAT (1986).

Notes:

1. All rates are computed by dividing the component flow by the average population at risk for the period.
2. The 1985-93 change refers to the period from 1.1.85 to 31.12.93. The population change rates are annual equivalents.

Table 16: Components of population change per 1000 population by groups of commune, Italy, 1984 and 1994

Group No.	Commune Group	Population change	Net migration		Natural Increase
			Internal	External	
1984					
4	Urban, large	- 9.7	- 11.0	0.1	1.2
3	Urban, medium	0.0	- 0.5	0.5	0.0
1	Urban, small, service	6.7	7.9	0.7	- 1.9
2	Urban, small, prof.	10.2	7.2	0.3	2.6
6	Semi-urban, ring	8.7	7.5	0.4	0.9
5	Semi-urban, outer	4.1	3.4	0.4	0.4
7	Semi-rural, middle	1.5	5.3	1.2	- 5.0
8	Semi-rural, poor	1.2	2.6	0.3	- 1.7
9	Rural	8.7	1.9	1.2	5.7
1985-93					
4	Urban, large	- 12.1			
3	Urban, medium	- 2.9			
1	Urban, small, service	5.0			
2	Urban, small, prof.	7.6			
6	Semi-urban, ring	7.3			
5	Semi-urban, outer	3.9			
7	Semi-rural, middle	0.4			
8	Semi-rural, poor	0.9			
9	Rural	2.0			
1994					
4	Urban, large	- 6.1	- 7.0	1.1	- 0.2
3	Urban, medium	0.5	0.9	1.1	- 1.5
1	Urban, small, service	1.5	0.7	1.3	- 0.5
2	Urban, small, prof.	6.7	3.6	1.6	1.6
6	Semi-urban, ring	6.8	5.8	0.9	0.1
5	Semi-urban, outer	5.1	4.9	1.3	- 0.8
7	Semi-rural, middle	3.4	7.5	1.3	- 5.4
8	Semi-rural, poor	2.5	4.0	1.1	- 2.6
9	Rural	3.5	1.1	- 0.6	3.0

Source: computed from ISTAT (1984, 1994) with a classification developed in ISTAT (1986).

Notes:

1. All rates are computed by dividing the component flow by the average population at risk for the period.
2. The 1985-93 change refers to the period from 1.1.85 to 31.12.93. The population change rates are annual equivalents.

6.3 Relationship to population density

Table 18 extends the analysis of population change by classifying communes by population density. This yields relationships with a continuous variable which can be replicated across European countries for comparative analysis (whereas urban or socio-economic classifications tend to be particular to countries). The relationship revealed is one of net internal migration loss in the most dense communes in both 1984 and 1994 and gains in less dense communes (with densities of less than 20 persons per hectare). However, the relationship is not linear: net internal migration peaks at intermediate densities. Communes in the lowest density category lose through internal migration in 1984 and show only low gains in 1994.

Table 18: Components of population change per 1000 population by population density of commune, Italy, 1984 and 1994

Population Density (persons per sq.km.)	Population Change	Net Migration		Natural Increase
		Internal	External	
1984				
< 50	- 1.9	-0.5	1.0	- 2.5
50 - < 100	3.4	2.5	0.9	0.0
100 - < 500	6.2	3.9	0.7	1.7
50 - < 1000	6.1	4.2	0.5	1.5
1000 - < 2000	4.3	2.4	0.3	1.6
2000 - < 4000	- 2.6	- 3.4	0.1	0.6
4000 - < 6000	- 0.3	- 2.8	1.0	1.6
6000 +	- 10.8	- 11.7	0.1	0.9
Total	2.7	1.0	0.6	1.1
1985-93				
< 50	- 3.7			
50 - < 100	0.5			
100 - < 500	3.3			
50 - < 1000	2.9			
1000 - < 2000	0.9			
2000 - < 4000	- 4.6			
4000 - < 6000	- 4.7			
6000 +	- 12.9			
Total	- 0.2			
1994				
< 50	- 2.5	1.1	0.6	- 4.2
50 - < 100	1.5	3.0	0.4	- 1.9
100 - < 500	3.9	3.4	0.7	- 0.1
50 - < 1000	4.2	3.0	0.9	0.2
1000 - < 2000	9.4	8.0	0.9	0.6
2000 - < 4000	- 0.9	- 0.8	0.8	- 0.9
4000 - < 6000	- 5.1	- 7.1	1.2	0.8
6000 +	- 5.7	- 6.5	1.2	- 0.4
Total	2.3	1.9	0.8	- 0.4

Source: computed from ISTAT (1984, 1994) and EUROSTAT (1981, 1991).

Notes:

1. All rates are computed by dividing the component flow by the average population at risk for the period.
2. The 1985-93 change refers to the period from 1.1.85 to 31.12.93. The population change rates are annual equivalents.

6.4 Relationship between migration and unemployment

Unemployment has traditionally been seen as a motivating push factor behind inter-regional migration. Labour force members who fail to find work in their home region leave and seek work elsewhere. Regions of high unemployment are therefore also regions of high out-migration and net migration losses, under this argument.

We have already seen, the discussion of South to North migration, that this argument is too simple. Two regions are involved in migration - an origin and a destination. Even if unemployment is high in an origin region, migration will not occur unless there are job opportunities at the destination. So in section 5.2.1 we saw that, although the 1984-94 decade has seen widening differences in unemployment between provinces, particularly between northern and southern provinces, there has not been a substantial increase in net out-migration.

Table 19 sets out unemployment rates and net migration rates for provinces in 1984 and 1994. What relationship is revealed? Table 20 provides the bivariate correlations. The patterns of both unemployment and net migration persist across the decade, with a correlation of 0.82 between unemployment rate in 1984 and in 1994, and of 0.78 between net migration rate in 1984 and in 1994. The correlations between unemployment rates and net migration rates are all negative, as expected, but moderate. Surprisingly, 1984 net migration rates are more closely correlated with 1994 unemployment than 1984 unemployment. This confirms earlier conclusions from a review of longer run trends that 1984 may not have been a typical year.

Table 21 reports on a calculation of mean net migration for provinces grouped according to unemployment class. Where unemployment rates are below average, net migration is positive. Where unemployment is at average levels or higher, net migration losses are experienced. The relationship is, however, clearer and more regular in 1994 than in 1984. In 1984 unemployment misery was more evenly spread across provinces and this served to dampen migration. In 1994 the variation in unemployment across provinces was greater (with more provinces in both high and low classes), and so there was more opportunity for migration between high and low unemployment provinces.

The final piece of evidence is assembled in Table 22 which reports two indicators of the migration flows between provinces in different unemployment classes. Net migration flows are shown in the first two panels for 1984 and 1994, while percentage effectiveness (net migration as a percentage of gross migration) are reported in the bottom two panels. The figures show that provinces in the high unemployment groups lose to provinces in the lower unemployment groups. However, the relationship is stronger in 1994 than in 1984 in both volume of net migration and effectiveness, although there are exceptions to the relationship in both years. In 1994 the highest unemployment category has much higher losses (25,000 net migrants) than in 1984 (under 1,000) and effectiveness indicators vary between 14 and 28% in 1994 compared with between 2 and 9% in 1984. The association between unemployment and migration is thus an important one, stronger in 1994 than in 1984, but it is not an exclusive one for provinces. It must be combined with the phenomenon of residential decentralization from metropolitan provinces (revealed in the map and metro/non-metro analysis) to provide a fuller explanation of Italy's migration flows.

Table 19: Unemployment and net migration rates for provinces, Italy, 1984 and 1994

Province	Un- emp rate %	Net mig rate /1000	Un- emp rate %	Net mig rate /1000	Province	Un- emp rate %	Net mig rate /1000	Un- emp rate %	Net mig rate /1000
Name	1984	1984	1994	1994	Name	1984	1984	1994	1994
Torino	11.3	-6.3	10.7	-2.70	Perugia	11.1	2.9	9.2	3.7
Vercelli	6.9	0.9	5.6	2.00	Terni	14.1	0.7	9.3	2.3
Novara	7.1	0.5	7.2	3.30	Pesaro	11.7	1.2	7.1	4.1
Cuneo	4.8	3.4	3.2	3.80	Ancona	7.7	2.1	6.6	2.6
Asti	5.2	4.7	4.8	5.00	Macerata	5.0	0.9	6.0	2.9
Alessandria	5.2	2.6	6.5	4.90	Ascoli Pice	5.4	0.9	7.1	1.9
Aosta	6.0	3.2	5.6	3.70	Viterbo	13.3	4.2	12.8	7.1
Imperia	7.8	2.2	8.2	4.10	Rieti	10.3	2.9	10.0	3.6
Savona	8.7	2.2	8.9	2.90	Roma	8.7	0.6	11.2	-1.5
Genova	11.0	-2.1	10.9	-2.30	Latina	9.7	4.5	11.3	4.8
La Spezia	11.6	0.0	12.2	3.80	Frosinone	15.4	0.9	11.2	0.7
Varese	7.1	-0.2	7.2	0.80	Caserta	16.0	3.3	22.7	0.6
Como	5.9	1.4	5.1	2.70	Benevento	9.5	-0.4	9.9	-1.6
Sondrio	5.4	0.5	5.5	1.00	Napoli	14.7	-4.5	25.2	-3.9
Milano	8.2	-1.8	7.8	-2.40	Avellino	9.6	1.3	14.9	-0.5
Bergamo	7.3	1.5	3.7	2.90	Salerno	15.8	-0.8	17.0	-0.1
Brescia	7.0	1.1	5.8	1.20	L'Aquila	10.9	0.7	7.6	2
Pavia	7.0	2.2	4.5	3.40	Teramo	7.1	2.5	8.6	1.7
Cremona	7.8	2.2	4.4	4.90	Pescara	12.8	-0.2	11.3	0.4
Mantova	6.6	1.5	4.9	2.40	Chieti	8.0	2.0	8.5	1.8
Bolzano-Bozen	4.7	-1.4	2.9	-0.30	Isernia	11.1	-0.9	15.8	0.9
Trento	7.6	1.3	5.6	2.70	Campobasso	9.9	1.1	16.7	0.7
Verona	7.7	1.3	6.3	0.90	Foggia	8.7	-1.9	14.5	-3.5
Vicenza	7.9	1.1	4.3	0.50	Bari	9.6	-0.4	12.5	-1
Belluno	9.2	0.0	4.2	1.90	Taranto	16.5	0.3	17.6	-2.6
Treviso	8.9	1.8	4.7	2.30	Brindisi	12.9	-0.9	16.7	-2.3
Venezia	11.7	-1.1	8.7	-1.70	Lecce	16.8	0.1	18.2	-1.3
Padova	11.1	1.0	6.8	1.80	Potenza	7.5	-0.8	17.1	-1.2
Rovigo	10.9	0.4	9.5	1.00	Matera	18.3	-2.0	15.3	-2.8
Pordenone	8.5	1.3	6.0	1.20	Cosenza	18.4	-0.9	21.6	-1.7
Udine	7.3	1.5	6.2	1.5	Catanzaro	15.1	-0.5	21.9	-4.3
Gorizia	12.3	-1.1	8.9	2.9	Reggio Calabria	14.3	-1.8	20.3	-4
Trieste	10.6	-0.8	9.9	-0.5	Trapani	14.3	0.3	16.0	-0.4
Piacenza	8.9	1.5	6.3	2	Palermo	12.9	-0.5	22.4	-1.4
Parma	5.3	2.2	4.4	3.2	Messina	23.3	-1.1	25.3	-2.5
Reggio Emilia	6.3	2.9	4.1	5.9	Agrigento	12.7	-0.1	22.0	-2
Modena	7.1	1.3	5.6	2	Caltanissetta	22.6	-2.1	26.1	-0.8
Bologna	7.7	1.3	4.5	1.2	Enna	19.4	-1.8	25.9	-1.8
Ferrara	15.4	-0.4	11.5	0.6	Catania	13.0	0.0	21.8	-0.5
Ravenna	9.5	0.9	8.4	2.6	Ragusa	11.5	1.3	15.5	1.7
Forlì	10.8	2.4	7.0	2.4	Siracusa	12.3	-0.4	22.7	-2.2
Massa Carra	10.7	3.8	14.1	1.7	Sassari	13.8	2.1	17.2	1.6
Lucca	8.7	1.7	6.6	2.2	Nuoro	19.2	-3.3	19.1	-1.4
Pistoia	7.7	2.2	7.1	3.6	Oristano	16.7	1.4	20.7	-0.1
Firenze	8.9	2.1	8.6	-0.9	Cagliari	22.4	0.7	21.2	-0.5
Livorno	13.1	1.9	14.9	-0.4					
Pisa	9.2	2.3	8.2	3.4					
Arezzo	8.7	1.7	5.2	2.8					
Siena	10.0	2.2	5.5	3.1					
Grosseto	11.8	2.6	9.9	4					

Source: ISTAT statistics.

Table 20: Correlations of unemployment and net migration rates for Italian provinces, 1984 and 1994

	Unemployment rate 1994	Net migration rate 1984	Net migration rate 1994
Unemployment rate 1984	0.82	-0.43	-0.52
Unemployment rate 1994	1.00	-0.45	-0.65
Net migration rate 1984		1.00	0.78
Net migration rate 1994			1.00

Source: Computed from ISTAT statistics on migration, unemployment and labour force for 1984 and 1994.

Table 21: Net migration flows and rates by unemployment class, Italy, provinces, 1984 and 1994

Unemployment class %	No. of provinces	Net migrants	Population (1000s)	Net migration rate (/1000)
1984				
0-<4	0	0	0	0
4-<8	30	20,386	14,566.7	1.40
8-<12	36	-6,258	24,798.1	-0.25
12-<16	19	-11,391	12,594.5	-0.90
16-<20	7	-1,877	2,931.5	-0.64
20+	3	-860	1,686.1	-0.51
Total	95	0	56,576.9	0
1994				
0-<4	3	4,685	1,948.0	2.41
4-<8	36	28,536	20,367.4	1.40
8-<12	23	-3,760	14,602.5	-0.26
12-<16	10	-783	4,338.6	-0.18
16-<20	9	-3,734	4,706.9	-0.79
20+	14	-24,944	11,240.2	-2.22
Total	95	0	57,203.6	0

Source: Computed from ISTAT statistics on migration, unemployment and labour force for 1984 and 1994.

Notes:

1. The national unemployment rate in 1984 was 10.5% and in 1994 was 11.3%.

Table 22: Net inter-provincial migration and migration effectiveness by unemployment class of origin and destination, Italy, 1984 and 1994

Origin unemployment class (%)	Destination unemployment class (%)						
	0-<4	4-<8	8-<12	12-<16	16-<20	20+	Total
1984 net migration							
0-<4	0	0	0	0	0	0	0
4-<8	0	0	-15377	-4355	-528	-126	-20386
8-<12	0	15377	0	-7742	-874	-503	6258
12-<16	0	4355	7742	0	-129	-577	11391
16-<20	0	528	874	129	0	346	1877
20+	0	126	503	577	-346	0	860
Total	0	20386	-6258	-11391	-1877	-860	0
1994 net migration							
0-<4	0	-1936	-1873	-119	-136	-621	-4685
4-<8	1936	0	-10041	-3157	-4440	-12834	-28536
8-<12	1873	10041	0	856	-1295	-7715	3760
12-<16	119	3157	-856	0	161	-1798	783
16-<20	136	4440	1295	-161	0	-1976	3734
20+	621	12834	7715	1798	1976	0	24944
Total	4685	28536	-3760	-783	-3734	-24944	0
1984 % effectiveness							
0-<4	0	0	0	0	0	0	0
4-<8	0	0.0	-14.3	-11.3	-5.6	-2.4	-3.2
8-<12	0	14.3	0.0	-7.7	-3.7	-4.3	0.6
12-<16	0	11.3	7.7	0.0	-1.0	-5.5	2.2
16-<20	0	5.6	3.7	1.0	0.0	8.7	1.7
20+	0	2.4	4.3	5.5	-8.7	0.0	1.1
Total	0	3.2	-0.6	-2.2	-1.7	-1.1	0.0
1994 % effectiveness							
0-<4	0.0	-15.7	-26.1	-14.0	-11.0	-21.1	-5.5
4-<8	15.7	0.0	-14.2	-18.2	-22.8	-28.3	-3.2
8-<12	26.1	14.2	0.0	4.2	-8.9	-21.5	0.7
12-<16	14.0	18.2	-4.2	0.0	2.0	-18.6	0.6
16-<20	11.0	22.8	8.9	-2.0	0.0	-13.6	2.6
20+	21.1	28.3	21.5	18.6	13.6	0.0	5.8
Total	5.5	3.2	-0.7	-0.6	-2.6	-5.8	0.0

8. SYNTHESIS AND CONCLUSIONS

Regional and local population change in Italy is a complex phenomenon. To understand it properly we must take into account each of the components of population change: natural change, internal migration and immigration/emigration. The patterns of population change are the product of the interaction of natural change which varies between Italian regions and between plain, hill and mountain communes within regions and of migration change which is fuelled by regional economic differences and by the pressures for urban decentralization, particularly out of the larger cities.

1. There are gains and losses at the commune scale in every Italian region. The patterns of gains and losses resemble a mosaic and there will be exceptions to all the generalisations highlighted below.
2. **Rural depopulation** is a continuing phenomenon but it affects only small pockets in the mountain areas, principally in the northern, central and southern Apennines. Natural loss is an important contributor to population losses in northern pockets, while net out-migration is more important in southern pockets. Communes in the remotest locations or with the lowest densities are not (yet) taking part in the urban deconcentration processes prevalent in much of Italy.
3. Population losses through net outflows of migrants occur from the largest cities in all regions but are particularly marked for those with the greatest economic problems. Deindustrialization affects the North West metropolises and lack of a competitive economy affects Southern metropolitan provinces. **Urban deconcentration** through internal migration from the ten largest metropolitan centres is now well established. Deconcentration from the capital city, Rome, is especially strong into neighbouring provinces, which represents an extended **suburbanisation** process. This deconcentration can be interpreted as an extension of the metropolitan commuting fields by migrants seeking pleasanter residences away from urban congestion and pollution.
4. This deconcentration is directed towards smaller cities and towns in central and northern Italy, which have dynamic economies or serve as pleasant places to live. This population shift to lower density provinces can be interpreted as evidence of **counterurbanisation**.
5. **Regional shifts** are still important, particularly in the young adult ages of labour force entry. These net out-migration flows are closely linked to the dual nature of the Italian economy. In 1994 the sharp differences between southern regions and the rest of Italy generated heavy out-migration of young adults seeking work. Ten years earlier, in 1984, when unemployment levels were not as high and more evenly spread, net out migration from the Mezzogiorno was lower. However, in the Mezzogiorno, in both urban core, urban ring and remoter communes, natural increase still compensates for net out-migration and population growth continues.
6. **Future projections** of these regional population dynamics sees northern regions losing population at an accelerating rate and the zone of loss spreading down in Italian peninsula, under a baseline scenario which continues the patterns of 1990-94 into the future. There is the possibility that labour shortages in northern provinces will be the consequence of this future population decline and associated ageing of the population and that these shortages will restimulate South to North migration. In human affairs every trend sows the seeds of its destruction.

References

- Bachi R (1993) Geostatistical methods. The experience of the Statistical Atlas of Italy. Paper presented at the 49th Session of the International Statistical Institute, Florence.
- Bonaguidi A and Terra Abrami V (1992) The metropolitan ageing transition and metropolitan redistribution of the elderly in Italy. Chapter 8 in Rogers A *et al.* (ed.) *Elderly migration and population redistribution: a comparative study*. Belhaven, London.
- Bonaguidi A and Terra Abrami V (1996) The pattern of internal migration: the Italian case. Chapter 13 in Rees P, Stillwell J, Convey A and Kupiszewski M (eds.) *Population Migration in the European Union*, John Wiley & Sons, Chichester. Pp.231-245.
- Bonifazi C, A Chieppa and F Heins (1997) Inter-provincial migration in Italy 1995-1993. Paper presented at the European Population Conference, Kraków, Poland, 11-13 June. Istituto di Ricerche sulla Popolazione, Consiglio Nazionale delle Ricerche, Roma, Italy.
- Council of Europe (1995) *Recent demographic developments in Europe: 1995*. Council of Europe Publishing and Documentation Service, Strasbourg.
- Council of Europe (1996) *Recent demographic developments in Europe: 1996*. Council of Europe Publishing and Documentation Service, Strasbourg.
- Dorling D (1995) *A new social atlas of Britain*. John Wiley & Sons, Chichester
- European Commission (1994) *Competitiveness and cohesion: trends in the regions. Fifth periodic report on the social and economic situation and development of the regions of the community*. Office for Official Publications of the European Communities, Luxembourg.
- EUROSTAT (1995a) *Demographic Statistics 1995*. Office for Official Publications of the European Communities, Luxembourg.
- EUROSTAT (1995b) *Regional Statistics 1995*. Office for Official Publications of the European Communities, Luxembourg.
- EUROSTAT/NEI(1994) Two long-term regional scenarios for the European Union. Study Co-financed by DG XVI of the European Commission.
- EUROSTAT/NIDI/Statistics Netherlands (1997) *Regional population scenarios for the countries of the European Union*. Statistical Office of the European Communities, Luxembourg. May.
- Garzanti (1993) *Grande Atlante Geografico e Storico*. Touring Club Italiano, Milano.
- Golini A (1974) *Distribuzione della Popolazione, Migrazioni Interne, e Urbanizzazione in Italia*. Istituto di Demografia, Roma.
- Graziani A (1983) The subsidized South. *Mezzogiorno d'Europa*, 3, 79-85.
- ISTAT (1986) Classificazione dei comuni secondo le caratteristiche urbane e rurali. *Note e Relazioni*, anno 1986, no.2. Istituto Centrale di Statistica, Roma.
- ISTAT (1988) *Atlante Statistico Italiano*. Roma.
- ISTAT (1992) *Atlante Statistico Italiano. Analisi Geostatistica*. Roma.
- King R (1987) *Italy*. Harper and Row, London.

- Kupiszewski M (1996) Two maps of population change in Poland. Paper presented to the Council of Europe, Meeting of the Group of Specialists on Internal Migration and Regional Population Dynamics, February 1996, Strasbourg.
- Lemmi E (1995) The national settlement system of Italy at the beginning of the 1990s. *Geographia Polonica*, 66, 51-64.
- Mancinelli M (1996) The coastal population in the community part of the Mediterranean Basin: Spain, Portugal, Italy and Greece. Report, Dipartimento di Studi Geoeconomici, Statistici e Storici per l'Analisi Regionale, Facoltà di Economia e Commercio, Università degli Studi "La Sapienza" di Roma, Italia. Chapter III, Italy. Pp.167-278.
- Pasquali P (1990) Evoluzione della popolazione italiana e delle sue componenti dal 1871 al 1987. Chapter 3.2 in [editor, title, place of publication, publisher]. Pp.109-119.
- Rees P (1996) Projecting the national and regional populations of the European Union using migration information. Chapter 18 in Rees P, Stillwell J, Convey A and Kupiszewski M (eds.) *Population Migration in the European Union*, John Wiley & Sons, Chichester. Pp. 331-364.
- Rees P, Durham H and Kupiszewski M (1996) Internal migration and regional population dynamics in Europe: United Kingdom case Study. Report prepared for the Council of Europe (Directorate of Social and Economic Affairs, Population and Migration Division) and for the European Commission (Directorate General V, Employment, Industrial Relations and Social Affairs, Unit E1, Analysis and Research on the Social Situation). Also available as *Working Paper 96/20*, School of Geography, University of Leeds.
- Rees P and Kupiszewski M (1996) Internal migration and regional population dynamics: a feasibility study for the Council of Europe. *Working Paper 96/1*, School of Geography, University of Leeds.
- Salvatori F (1997) Population mobility and new industrial districts: the case of the Third Italy. Chapter 11 in Blotevogel H and Fielding A (eds.) *People, jobs and mobility in the new Europe*. John Wiley, Chichester. Pp. 217-225.
- The Economist (1997) Italy's economy: dual market. *The Economist*, May 31st 1997. Pp.93-94.
- Todisco E (1994) Demologia dei comuni. In Università degli Studi di Roma "La Sapienza", Dipartimento di Studi Geoeconomici, Statistici e Storici per l'Analisi Regionale, *Scritti in Onore di Mario Lo Monaco*. Edizioni Kappa, Roma. Pp. 353-369.
- Todisco E, M Mancinelli (1997) The coastal population in some European Union countries: Spain, Italy, Portugal. Paper presented at the XXXVII European Congress of Regional Science Association, Rome, 26-29 August 1997.
- van Imhoff E, N van der Gaag, L van Wissen and P Rees (1997) The selection of internal migration models for European regions. *International Journal of Population Geography*, 3, 137-159.
- Vitali O (1990) *Mutamenti nelle aree urbane*. F. Angeli, Milano.
- Webb J W (1963) The natural and migrational components of population changes in England and Wales, 1921-31. *Economic Geography*, 39, 2, 130-148.
- Williams A M, King R and Warnes A (1997) A place in the sun: international retirement migration from northern to southern Europe. *European Urban and Regional Studies*, 4 (2), 115-134.

APPENDIX: A master look up table providing the classifications of provinces used in the report

Provinces	Abb	NUTS3	Sum	Region	Abb	NUTS	2 (94)	NUTS 2	Sum	NUTS 1 region	Abb	NUTS	1 (94)	Sum	Division	Abb	Sum	N/S	Sum	Metro/Non-metro	Sum
1	TO	R311	1	Piemonte	PIE	R311	1	IT11	1	Nord Ovest	NO	R31	1	1	North West	INOC	1	North	1	Metro	1
Varelli	VC	R312	2	Piemonte	PIE	R312	2	IT12	2	Nord Ovest	NO	R32	2	2	North West	INOC	2	North	2	Non-metro	2
Novara	NO	R313	3	Piemonte	PIE	R313	3	IT13	3	Nord Ovest	NO	R33	3	3	North West	INOC	3	North	3	Non-metro	3
Cuneo	CN	R314	4	Piemonte	PIE	R314	4	IT14	4	Nord Ovest	NO	R34	4	4	North West	INOC	4	North	4	Non-metro	4
Asti	AT	R315	5	Piemonte	PIE	R315	5	IT15	5	Nord Ovest	NO	R35	5	5	North West	INOC	5	North	5	Non-metro	5
Alessandria	AL	R316	6	Piemonte	PIE	R316	6	IT16	6	Nord Ovest	NO	R36	6	6	North West	INOC	6	North	6	Non-metro	6
Aosta	AO	R317	7	Valle d'Aosta	VDA	R317	7	IT17	7	Nord Ovest	NO	R37	7	7	North West	INOC	7	North	7	Non-metro	7
Imperia	IM	R318	8	Liguria	LIG	R318	8	IT18	8	Nord Ovest	NO	R38	8	8	North West	INOC	8	North	8	Non-metro	8
Savona	SV	R319	9	Liguria	LIG	R319	9	IT19	9	Nord Ovest	NO	R39	9	9	North West	INOC	9	North	9	Non-metro	9
Genova	GE	R320	10	Liguria	LIG	R320	10	IT20	10	Nord Ovest	NO	R40	10	10	North West	INOC	10	North	10	Non-metro	10
La Spezia	SP	R321	11	Liguria	LIG	R321	11	IT21	11	Nord Ovest	NO	R41	11	11	North West	INOC	11	North	11	Non-metro	11
Varese	VA	R322	12	Lombardia	LOM	R322	12	IT22	12	Nord Ovest	NO	R42	12	12	North West	INOC	12	North	12	Non-metro	12
Como	CO	R323	13	Lombardia	LOM	R323	13	IT23	13	Nord Ovest	NO	R43	13	13	North West	INOC	13	North	13	Non-metro	13
Sondrio	SO	R324	14	Lombardia	LOM	R324	14	IT24	14	Nord Ovest	NO	R44	14	14	North West	INOC	14	North	14	Non-metro	14
Milano	MI	R325	15	Lombardia	LOM	R325	15	IT25	15	Nord Ovest	NO	R45	15	15	North West	INOC	15	North	15	Non-metro	15
Bergamo	BG	R326	16	Lombardia	LOM	R326	16	IT26	16	Nord Ovest	NO	R46	16	16	North West	INOC	16	North	16	Non-metro	16
Brescia	BS	R327	17	Lombardia	LOM	R327	17	IT27	17	Nord Ovest	NO	R47	17	17	North West	INOC	17	North	17	Non-metro	17
Pavia	PV	R328	18	Lombardia	LOM	R328	18	IT28	18	Nord Ovest	NO	R48	18	18	North West	INOC	18	North	18	Non-metro	18
Crema	CR	R329	19	Lombardia	LOM	R329	19	IT29	19	Nord Ovest	NO	R49	19	19	North West	INOC	19	North	19	Non-metro	19
Mantova	MN	R330	20	Lombardia	LOM	R330	20	IT30	20	Nord Ovest	NO	R50	20	20	North West	INOC	20	North	20	Non-metro	20
Bolzano-Bozen	BZ	R331	21	Trentino-Alto Adige	TRE	R331	21	IT31	21	Nord Est	NE	R51	21	21	North East	INOR	21	North	21	Non-metro	21
Trento	TN	R332	22	Trentino-Alto Adige	TRE	R332	22	IT32	22	Nord Est	NE	R52	22	22	North East	INOR	22	North	22	Non-metro	22
Verona	VR	R333	23	Verona	VEN	R333	23	IT33	23	Nord Est	NE	R53	23	23	North East	INOR	23	North	23	Non-metro	23
Vicenza	VI	R334	24	Verona	VEN	R334	24	IT34	24	Nord Est	NE	R54	24	24	North East	INOR	24	North	24	Non-metro	24
Beluno	BL	R335	25	Verona	VEN	R335	25	IT35	25	Nord Est	NE	R55	25	25	North East	INOR	25	North	25	Non-metro	25
Treviso	TV	R336	26	Verona	VEN	R336	26	IT36	26	Nord Est	NE	R56	26	26	North East	INOR	26	North	26	Non-metro	26
Venezia	VE	R337	27	Verona	VEN	R337	27	IT37	27	Nord Est	NE	R57	27	27	North East	INOR	27	North	27	Non-metro	27
Padova	PD	R338	28	Verona	VEN	R338	28	IT38	28	Nord Est	NE	R58	28	28	North East	INOR	28	North	28	Non-metro	28
Rovigo	RO	R339	29	Verona	VEN	R339	29	IT39	29	Nord Est	NE	R59	29	29	North East	INOR	29	North	29	Non-metro	29
Pordenone	PN	R340	30	Friuli-Venezia Giulia	FVG	R340	30	IT40	30	Nord Est	NE	R60	30	30	North East	INOR	30	North	30	Non-metro	30
Udine	UD	R341	31	Friuli-Venezia Giulia	FVG	R341	31	IT41	31	Nord Est	NE	R61	31	31	North East	INOR	31	North	31	Non-metro	31
Gorizia	GO	R342	32	Friuli-Venezia Giulia	FVG	R342	32	IT42	32	Nord Est	NE	R62	32	32	North East	INOR	32	North	32	Non-metro	32
Trieste	TS	R343	33	Friuli-Venezia Giulia	FVG	R343	33	IT43	33	Nord Est	NE	R63	33	33	North East	INOR	33	North	33	Non-metro	33
Piacenza	PC	R344	34	Emilia-Romagna	EMI	R344	34	IT44	34	Nord Est	NE	R64	34	34	North East	INOR	34	North	34	Non-metro	34
Parma	PR	R345	35	Emilia-Romagna	EMI	R345	35	IT45	35	Nord Est	NE	R65	35	35	North East	INOR	35	North	35	Non-metro	35
Reggio Emilia	RE	R346	36	Emilia-Romagna	EMI	R346	36	IT46	36	Nord Est	NE	R66	36	36	North East	INOR	36	North	36	Non-metro	36
Modena	MO	R347	37	Emilia-Romagna	EMI	R347	37	IT47	37	Nord Est	NE	R67	37	37	North East	INOR	37	North	37	Non-metro	37
Bologna	BO	R348	38	Emilia-Romagna	EMI	R348	38	IT48	38	Nord Est	NE	R68	38	38	North East	INOR	38	North	38	Non-metro	38
Ferrara	FE	R349	39	Emilia-Romagna	EMI	R349	39	IT49	39	Nord Est	NE	R69	39	39	North East	INOR	39	North	39	Non-metro	39
Ravenna	RA	R350	40	Emilia-Romagna	EMI	R350	40	IT50	40	Nord Est	NE	R70	40	40	North East	INOR	40	North	40	Non-metro	40
Forlì	FO	R351	41	Emilia-Romagna	EMI	R351	41	IT51	41	Nord Est	NE	R71	41	41	North East	INOR	41	North	41	Non-metro	41
Pesaro	PS	R352	42	Marche	MAR	R352	42	IT52	42	Nord Est	NE	R72	42	42	North East	INOR	42	North	42	Non-metro	42
Ancona	AN	R353	43	Marche	MAR	R353	43	IT53	43	Nord Est	NE	R73	43	43	North East	INOR	43	North	43	Non-metro	43
Macerata	MC	R354	44	Marche	MAR	R354	44	IT54	44	Nord Est	NE	R74	44	44	North East	INOR	44	North	44	Non-metro	44
Ascoli Piceno	AP	R355	45	Marche	MAR	R355	45	IT55	45	Nord Est	NE	R75	45	45	North East	INOR	45	North	45	Non-metro	45
Massa Carrara	MS	R356	46	Toscana	TOS	R356	46	IT56	46	Nord Est	NE	R76	46	46	North East	INOR	46	North	46	Non-metro	46
Lucca	LU	R357	47	Toscana	TOS	R357	47	IT57	47	Nord Est	NE	R77	47	47	North East	INOR	47	North	47	Non-metro	47
Pistoia	PT	R358	48	Toscana	TOS	R358	48	IT58	48	Nord Est	NE	R78	48	48	North East	INOR	48	North	48	Non-metro	48
Firenze	FI	R359	49	Toscana	TOS	R359	49	IT59	49	Nord Est	NE	R79	49	49	North East	INOR	49	North	49	Non-metro	49

Sources for codes by column:

This study
 NUTS system 1994
 ISTAT migration files
 EUROSTAT/INIDI/Statistics Netherlands (1997)
 NUTS system 1994
 NUTS system order
 NUTS system order
 NUTS system order
 NUTS system order

Notes: Abb = Abbreviation; Sum = Serial number used in data files

APPENDIX: Continued

Province	Abb	NUTS3	Sum	Region	Abb	NUTS	2 (94)	NUTS	1 (94)	Abb	NUTS	Sum	NUTS 1 region	Abb	NUTS	1 (94)	Sum	Division	Abb	Sum	N/S	Sum	Metro/	Sum
1 Livorno	LI	R3515	49	Toscana	TOS	R351	751	9	Centro	CE	R35	5	Centro	CE	R35	5	5	Centre	IC	3	North	1	Non-met	2
Pisa	PI	R3518	50	Toscana	TOS	R351	751	9	Centro	CE	R35	5	Centro	CE	R35	5	5	Centre	IC	3	North	1	Non-met	2
Arezzo	AR	R3517	51	Toscana	TOS	R351	751	9	Centro	CE	R35	5	Centro	CE	R35	5	5	Centre	IC	3	North	1	Non-met	2
Siena	SI	R3518	52	Toscana	TOS	R351	751	9	Centro	CE	R35	5	Centro	CE	R35	5	5	Centre	IC	3	North	1	Non-met	2
Grosseto	GR	R3519	53	Toscana	TOS	R351	751	9	Centro	CE	R35	5	Centro	CE	R35	5	5	Centre	IC	3	North	1	Non-met	2
Perugia	PG	R3521	54	Umbria	UMB	R352	752	10	Centro	CE	R35	5	Centro	CE	R35	5	5	Centre	IC	3	North	1	Non-met	2
Terni	TR	R3522	55	Umbria	UMB	R352	752	10	Centro	CE	R35	5	Centro	CE	R35	5	5	Centre	IC	3	North	1	Non-met	2
Viterbo	VT	R3601	56	Lazio	LAZ	R36	756	12	Lazio	LA	R36	6	Lazio	LA	R36	6	6	Centre	IC	3	North	1	Non-met	2
Rieti	RI	R3602	57	Lazio	LAZ	R36	756	12	Lazio	LA	R36	6	Lazio	LA	R36	6	6	Centre	IC	3	North	1	Non-met	2
Roma	RM	R3603	58	Lazio	LAZ	R36	756	12	Lazio	LA	R36	6	Lazio	LA	R36	6	6	Centre	IC	3	North	1	Non-met	2
Latina	LT	R3604	59	Lazio	LAZ	R36	756	12	Lazio	LA	R36	6	Lazio	LA	R36	6	6	Centre	IC	3	North	1	Non-met	2
Frosinone	FR	R3605	60	Lazio	LAZ	R36	756	12	Lazio	LA	R36	6	Lazio	LA	R36	6	6	Centre	IC	3	North	1	Non-met	2
Caserta	CE	R3701	61	Campania	CAM	R37	757	13	Campania	CA	R37	7	Campania	CA	R37	7	7	Centre	IC	3	North	1	Non-met	2
Benevento	BN	R3702	62	Campania	CAM	R37	757	13	Campania	CA	R37	7	Campania	CA	R37	7	7	Centre	IC	3	North	1	Non-met	2
Napoli	NA	R3703	63	Campania	CAM	R37	757	13	Campania	CA	R37	7	Campania	CA	R37	7	7	Centre	IC	3	North	1	Non-met	2
Avellino	AV	R3704	64	Campania	CAM	R37	757	13	Campania	CA	R37	7	Campania	CA	R37	7	7	Centre	IC	3	North	1	Non-met	2
Salerno	SA	R3705	65	Campania	CAM	R37	757	13	Campania	CA	R37	7	Campania	CA	R37	7	7	Centre	IC	3	North	1	Non-met	2
L'Aquila	AQ	R3811	66	Abruzzo	ABR	R381	757	14	Abruzzo-Molise	AM	R38	8	Abruzzo-Molise	AM	R38	8	8	Centre	IC	3	North	1	Non-met	2
Teramo	TE	R3812	67	Abruzzo	ABR	R381	757	14	Abruzzo-Molise	AM	R38	8	Abruzzo-Molise	AM	R38	8	8	Centre	IC	3	North	1	Non-met	2
Pescara	PE	R3813	68	Abruzzo	ABR	R381	757	14	Abruzzo-Molise	AM	R38	8	Abruzzo-Molise	AM	R38	8	8	Centre	IC	3	North	1	Non-met	2
Chieti	CH	R3814	69	Abruzzo	ABR	R381	757	14	Abruzzo-Molise	AM	R38	8	Abruzzo-Molise	AM	R38	8	8	Centre	IC	3	North	1	Non-met	2
Isernia	IS	R3821	94	Molise	MOL	R382	757	15	Abruzzo-Molise	AM	R38	8	Abruzzo-Molise	AM	R38	8	8	Centre	IC	3	North	1	Non-met	2
Campobasso	CB	R3822	70	Molise	MOL	R382	757	15	Abruzzo-Molise	AM	R38	8	Abruzzo-Molise	AM	R38	8	8	Centre	IC	3	North	1	Non-met	2
Foggia	FG	R3911	71	Puglia	PUG	R391	759	16	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Bari	BA	R3912	72	Puglia	PUG	R391	759	16	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Taranto	TA	R3913	73	Puglia	PUG	R391	759	16	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Brindisi	BR	R3914	74	Puglia	PUG	R391	759	16	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Lecco	LE	R3915	75	Puglia	PUG	R391	759	16	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Potenza	PZ	R3921	76	Basilicata	BAS	R392	759	17	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Matera	MT	R3922	77	Basilicata	BAS	R392	759	17	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Cosenza	CS	R3931	78	Calabria	CAL	R393	759	18	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Catanzaro	CZ	R3932	79	Calabria	CAL	R393	759	18	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Reggio Calabria	RC	R3933	80	Calabria	CAL	R393	759	18	Sud	SU	R39	9	Sud	SU	R39	9	9	Centre	IC	3	North	1	Non-met	2
Trapani	TP	R3A01	81	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Palermo	PA	R3A02	82	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Messina	ME	R3A03	83	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Agigento	AG	R3A04	84	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Carbonara	CL	R3A05	85	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Enna	EN	R3A06	86	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Catania	CT	R3A07	87	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Ragusa	RG	R3A08	88	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Siracusa	SR	R3A09	89	Sicilia	SIC	R3A	759	19	Sicilia	SI	R3A	10	Sicilia	SI	R3A	10	10	Centre	IC	3	North	1	Non-met	2
Sassari	SS	R3B01	90	Sardegna	SAR	R3B	759	20	Sardegna	SA	R3B	11	Sardegna	SA	R3B	11	11	Centre	IC	3	North	1	Non-met	2
Nuoro	NU	R3B02	91	Sardegna	SAR	R3B	759	20	Sardegna	SA	R3B	11	Sardegna	SA	R3B	11	11	Centre	IC	3	North	1	Non-met	2
Cagliari	CA	R3B04	92	Sardegna	SAR	R3B	759	20	Sardegna	SA	R3B	11	Sardegna	SA	R3B	11	11	Centre	IC	3	North	1	Non-met	2
Oristano	OR	R3B03	95	Sardegna	SAR	R3B	759	20	Sardegna	SA	R3B	11	Sardegna	SA	R3B	11	11	Centre	IC	3	North	1	Non-met	2

Sources for codes by column

10 -8 This study
 11 -9 NUTS system 1995
 13 -11 NUTS system order
 14 -12 This study
 15 -13 EUROSTAT/NUTS Statistics Netherlands (1997)
 16 -14 NUTS system 1994
 17 -15 NUTS system order
 18 -16 NUTS system order
 19 -17 NUTS system order
 20 -18 NUTS system order
 21 -19 NUTS system order
 22 -20 NUTS system order
 23 -21 NUTS system order
 24 -22 NUTS system order
 25 -23 NUTS system order
 26 -24 NUTS system order
 27 -25 NUTS system order
 28 -26 NUTS system order
 29 -27 NUTS system order
 30 -28 NUTS system order
 31 -29 NUTS system order
 32 -30 NUTS system order
 33 -31 NUTS system order
 34 -32 NUTS system order
 35 -33 NUTS system order
 36 -34 NUTS system order
 37 -35 NUTS system order
 38 -36 NUTS system order
 39 -37 NUTS system order
 40 -38 NUTS system order
 41 -39 NUTS system order
 42 -40 NUTS system order
 43 -41 NUTS system order
 44 -42 NUTS system order
 45 -43 NUTS system order
 46 -44 NUTS system order
 47 -45 NUTS system order
 48 -46 NUTS system order
 49 -47 NUTS system order
 50 -48 NUTS system order
 51 -49 NUTS system order
 52 -50 NUTS system order
 53 -51 NUTS system order
 54 -52 NUTS system order
 55 -53 NUTS system order
 56 -54 NUTS system order
 57 -55 NUTS system order
 58 -56 NUTS system order
 59 -57 NUTS system order
 60 -58 NUTS system order
 61 -59 NUTS system order
 62 -60 NUTS system order
 63 -61 NUTS system order
 64 -62 NUTS system order
 65 -63 NUTS system order
 66 -64 NUTS system order
 67 -65 NUTS system order
 68 -66 NUTS system order
 69 -67 NUTS system order
 70 -68 NUTS system order
 71 -69 NUTS system order
 72 -70 NUTS system order
 73 -71 NUTS system order
 74 -72 NUTS system order
 75 -73 NUTS system order
 76 -74 NUTS system order
 77 -75 NUTS system order
 78 -76 NUTS system order
 79 -77 NUTS system order
 80 -78 NUTS system order
 81 -79 NUTS system order
 82 -80 NUTS system order
 83 -81 NUTS system order
 84 -82 NUTS system order
 85 -83 NUTS system order
 86 -84 NUTS system order
 87 -85 NUTS system order
 88 -86 NUTS system order
 89 -87 NUTS system order
 90 -88 NUTS system order
 91 -89 NUTS system order
 92 -90 NUTS system order
 93 -91 NUTS system order
 94 -92 NUTS system order
 95 -93 NUTS system order
 96 -94 NUTS system order
 97 -95 NUTS system order
 98 -96 NUTS system order
 99 -97 NUTS system order
 100 -98 NUTS system order
 101 -99 NUTS system order
 102 -100 NUTS system order
 103 -101 NUTS system order
 104 -102 NUTS system order
 105 -103 NUTS system order
 106 -104 NUTS system order
 107 -105 NUTS system order
 108 -106 NUTS system order
 109 -107 NUTS system order
 110 -108 NUTS system order
 111 -109 NUTS system order
 112 -110 NUTS system order
 113 -111 NUTS system order
 114 -112 NUTS system order
 115 -113 NUTS system order
 116 -114 NUTS system order
 117 -115 NUTS system order
 118 -116 NUTS system order
 119 -117 NUTS system order
 120 -118 NUTS system order
 121 -119 NUTS system order
 122 -120 NUTS system order
 123 -121 NUTS system order
 124 -122 NUTS system order
 125 -123 NUTS system order
 126 -124 NUTS system order
 127 -125 NUTS system order
 128 -126 NUTS system order
 129 -127 NUTS system order
 130 -128 NUTS system order
 131 -129 NUTS system order
 132 -130 NUTS system order
 133 -131 NUTS system order
 134 -132 NUTS system order
 135 -133 NUTS system order
 136 -134 NUTS system order
 137 -135 NUTS system order
 138 -136 NUTS system order
 139 -137 NUTS system order
 140 -138 NUTS system order
 141 -139 NUTS system order
 142 -140 NUTS system order
 143 -141 NUTS system order
 144 -142 NUTS system order
 145 -143 NUTS system order
 146 -144 NUTS system order
 147 -145 NUTS system order
 148 -146 NUTS system order
 149 -147 NUTS system order
 150 -148 NUTS system order
 151 -149 NUTS system order
 152 -150 NUTS system order
 153 -151 NUTS system order
 154 -152 NUTS system order
 155 -153 NUTS system order
 156 -154 NUTS system order
 157 -155 NUTS system order
 158 -156 NUTS system order
 159 -157 NUTS system order
 160 -158 NUTS system order
 161 -159 NUTS system order
 162 -160 NUTS system order
 163 -161 NUTS system order
 164 -162 NUTS system order
 165 -163 NUTS system order
 166 -164 NUTS system order
 167 -165 NUTS system order
 168 -166 NUTS system order
 169 -167 NUTS system order
 170 -168 NUTS system order
 171 -169 NUTS system order
 172 -170 NUTS system order
 173 -171 NUTS system order
 174 -172 NUTS system order
 175 -173 NUTS system order
 176 -174 NUTS system order
 177 -175 NUTS system order
 178 -176 NUTS system order
 179 -177 NUTS system order
 180 -178 NUTS system order
 181 -179 NUTS system order
 182 -180 NUTS system order
 183 -181 NUTS system order
 184 -182 NUTS system order
 185 -183 NUTS system order
 186 -184 NUTS system order
 187 -185 NUTS system order
 188 -186 NUTS system order
 189 -187 NUTS system order
 190 -188 NUTS system order
 191 -189 NUTS system order
 192 -190 NUTS system order
 193 -191 NUTS system order
 194 -192 NUTS system order
 195 -193 NUTS system order
 196 -194 NUTS system order
 197 -195 NUTS system order
 198 -196 NUTS system order
 199 -197 NUTS system order
 200 -198 NUTS system order
 201 -199 NUTS system order
 202 -200 NUTS system order
 203 -201 NUTS system order
 204 -202 NUTS system order
 205 -203 NUTS system order
 206 -204 NUTS system order
 207 -205 NUTS system order
 208 -206 NUTS system order
 209 -207 NUTS system order
 210 -208 NUTS system order
 211 -209 NUTS system order
 212 -210 NUTS system order
 213 -211 NUTS system order
 214 -212 NUTS system order
 215 -213 NUTS system order
 216 -214 NUTS system order
 217 -215 NUTS system order
 218 -216 NUTS system order
 219 -217 NUTS system order
 220 -218 NUTS system order
 221 -219 NUTS system order
 222 -220 NUTS system order
 223 -221 NUTS system order
 224 -222 NUTS system order
 225 -223 NUTS system order
 226 -224 NUTS system order
 227 -225 NUTS system order
 228 -226 NUTS system order
 229 -227 NUTS system order
 230 -228 NUTS system order
 231 -229 NUTS system order
 232 -230 NUTS system order
 233 -231 NUTS system order
 234 -232 NUTS system order
 235 -233 NUTS system order
 236 -234 NUTS system order
 237 -235 NUTS system order
 238 -236 NUTS system order
 239 -237 NUTS system order
 240 -238 NUTS system order
 241 -239 NUTS system order
 242 -240 NUTS system order
 243 -241 NUTS system order
 244 -242 NUTS system order
 245 -243 NUTS system order
 246 -244 NUTS system order
 247 -245 NUTS system order
 248 -246 NUTS system order
 249 -247 NUTS system order
 250 -248 NUTS system order
 251 -249 NUTS system order
 252 -250 NUTS system order
 253 -251 NUTS system order
 254 -252 NUTS system order
 255 -253 NUTS system order
 256 -254 NUTS system order
 257 -255 NUTS system order
 258 -256 NUTS system order

