

Internal Migration and Regional Population Dynamics in 1980s and 1990s in Finland

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Abstract

The aim of this paper is to examine the population change in Finland between the second half of the 1980s and 1990s and to interpret the processes underlying this change, based on data from 1996. In particular we compare the patterns of internal migration and population change in Finland in the 1980s (using data for 1984) and the 1990s (using data for 1996) and establish the contribution of internal migration to regional population change against the contributions of natural change. Finally, one of the consequences of internal migration, namely the change of sex composition of population in communes, is discussed.

Background

For the investigation of population dynamics and migration in Finland data on population stocks, internal in- and out-migration, fertility and mortality for 452 municipalities were collected. Data for 1984,

1994 and 1996 were converted to the administrative divisions of the country as in 1998, for which we had digital boundaries. The extraordinary sophistication of spatial statistics in Finland, in which all records in the country's population register are given accurate geo-coordinates, allowed a direct extraction of statistical data for various years recalculated to the predefined spatial division. The Research and Development Centre of Kajaani at the University of Oulu and Statistics Finland very kindly provided us with most of the data recalculated to the 1998 administrative division of the country.

Population change in Finland by communes 1984-1996

The Finnish population increased by 5% over the 12 year-period 1984-1996. Out of 452 communes and municipalities, a minority of 200 increased their population in this period (Figure 1). The growth of large cities was about twice as fast as the growth of the entire country. Among cities with over 100 000 inhabitants, the slowest growth was observed in Turku,

Helsinki and Tampere which increased their populations by 3%, 10% and 11% respectively, but within these urban agglomerations some municipalities grew vigorously. Espoo in the Helsinki metropolitan area, the location for NOKIA's Headquarters and many divisions, grew by amazing 28%. The fastest growth of population occurred not in the large city cores but in their suburban rings. The Helsinki agglomeration's inner ring of suburban communes (the municipalities of Vantaa, Tuusula, Kerava, Sipoo) experienced growth between 10 and 20%. In the outer ring increases were even higher with Pornainen gaining 44%, and Järvenpää, Kirkkonummi, Nurmijärvi, and Mäntsälä all showed gains more than 20 percent of their 1984 populations. The entire region of Uusimaa constitutes a growth pole for population. An equally dynamic growth of population and a similar spatial pattern can be seen in the Turku agglomeration. The inner ring of municipalities surrounding Turku demonstrated faster growth than the inner ring of the Helsinki agglomeration. Around Turku exists a cluster of municipalities with remarkably high population increases: Merimasku with 42%

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increase and the communes of Velkua, Lemu, Masku and Vahto with increases exceeding 30 %.

The smaller urban centres show patterns of population growth and concentration similar to the large ones. Tampere, Jyväskylä and Oulu have all been growing themselves quite quickly as did their suburban rings. Small urban centres, around 50000 in population, show moderate growth with two exceptions – medium growth of Joensuu and decline of Kotka, typical of the entire Kymenlaakso region.

Population decline features mostly in sparsely populated municipalities, in central and northern parts of the country. Most affected were communes of western regions of Satakunta and Etelä-Pohjanmaa (South Ostrobothnia) as well as those lying on the Russian border. Out of 24 such municipalities only 4 increased their populations over the period 1984-1996. In fact the Eastern part of Finland suffers the greatest depopulation in rural areas. All rural communes of the Pohjois-Karjala (North Karelia) and Kainuu regions and substantial part of Etelä-Savo and Pohjois-Savo regions suffered population decrease.

The picture of population change in Finland is pretty clear and uniform: very fast growing suburban rings, growing urban centres and depopulating countryside.

Migration patterns by municipality 1984 and 1996

In 1984 224 municipalities had positive net migration rate and 228 negative. A clear pattern of subur-

banisation was visible, with core cities (Helsinki, Turku, Oulu, Vaasa, Jyväskylä) all losing population due to migration and their suburban rings gaining population. Urban agglomerations have created large growth poles, extending in the south to almost entire regions. This is the case in the Varsinais-Suomi and Uusimaa regions.

The largest net migration losses were suffered by municipalities in the North, along the Finnish-Russian boundary and in northern Pirkanmaa, Etelä-Pohjanmaa (South Ostrobothnia), Keski-Pohjanmaa (Central Ostrobothnia) or Pohjois-Pohjanmaa (North Ostrobothnia).

In 1996 109 municipalities had positive net migration and 343 negative. Comparison of these numbers with those for 1984 suggests that a process of concentration of population occurred in fewer municipalities in 1996. The largest cities (Helsinki, Turku, Tampere, Oulu, Vaasa, Kotka, Jyväskylä) all gained population due to migration. In all these cities except Vaasa and Kotka net migration gains exceeded, in one year, 1% of the resident population. Their suburban rings enjoyed varying fortunes: Helsinki's immediate suburbs grew, but more distant municipalities changed from high gains in 1984 to medium gains or medium losses in 1996. The suburbs of Turku, Tampere and Vaasa partly grew and partly declined, sending a mixed message, whereas Kotka's suburbs lost population.

The geographical distribution of net migration losses in rural areas and small towns remains unchanged from 1984 to 1996, but the intensity of losses was significantly higher in 1996 than

in 1984, with 128 units (more than a quarter) losing net more than 10 persons per 1000 inhabitants. The geographical extension of the negative net migration also increased substantially. Positive net migration could be found roughly south of Vaasa – Joensuu line and nearby Oulu.

Migration preferences of Finns have changed significantly between 1984 and 1996. In 1984 we could observe clear process of rural depopulation coupled with suburbanisation. In 1996 rural depopulation continued at a faster pace, but the process of suburbanisation was clearly visible only in the Helsinki agglomeration and much weakened by very significant migration gains of the core city. In other smaller agglomerations urban concentration prevailed with high gains in core cities and mixture of gains and losses in suburban rings.

The demographic sources of population change

The demographic sources of population change stem from integrated effects of natural increase and net migration in each municipality. The interplay of these factors will be examined in detail based on 1996 data. It has been conducted using a classification devised by John Webb in 1963 and applied to a study on population change in England and Wales in the years 1921-1931. A more detailed summary of Webb's schema can be found in Table 1, in the original Webb (1963) paper and in Kupiszewski, Durham and Rees (1997).

Class code	Type of growth	Population change	Number of municipalities
A	Natural increase exceeds migration loss	Positive	27
B	Natural increase exceeds migration gain	Positive	25
C	Migration gain exceeds natural increase	Positive	39
D	Migration gain exceeds natural decrease	Positive	19
E	Natural decrease exceeds migration gain	Negative	26
F	Natural decrease exceeds migration loss	Negative	161
G	Migration loss exceeds natural decrease	Negative	47
H	Migration loss exceeds natural increase	Negative	108

Table 1. Types of population growth in Finland in 1996 (Source: Webb 1963 and computed from the data provided by the Statistics Finland and Research and Development Centre of Kajaani of the University of Oulu).

The Webb classification identifies the direction of population change, signs of net migration and natural growth and the leading force behind the population change. As Table 1 and Figure 2 show, population of 76% of municipalities in Finland declined in 1996.

The most worrying group of communes are those in which both components, net migration and natural growth, are negative (type F and G). The most frequent reason for losing population was due to natural decrease exceeding migration loss (class F, 161 that is over 1/3 of all units). To this class belong mainly rural communes in the East Finland, some of communes of the Lappi (Lappland) region, all communes of the Lahti region except the growing town itself and two surrounding municipalities, and a number of communes in central and eastern Finland. Type G where migration loss exceeds natural decrease is not very common in Finland (47 units) and forms a mosaic pattern in central, southern and western Finland. These two classes, with profound structural problems in

the development of population, account for 46% of all municipalities in Finland.

Class E, to which belong units where natural decrease exceeds migration gain are not very numerous (26) and mostly located in southern part of the country. Class H (migration loss is greater than natural increase) with 108 units is typical for rural areas north of Vaasa. Class H is found adjacent to class F communes. The entire northern and eastern part of country, except cities and their suburbs, demonstrated population losses in 1996.

Growing municipalities are mainly large cities and their suburbs, of which 27 grew due to natural increase higher than migration loss (type A). The communes which have both positive natural increase and net migration (types B and C), and therefore sound demographic growth, are quite few (64 altogether). Typically, municipalities with growing population are either cities (Helsinki, Tampere, Kotka, Joensuu, Vaasa, Jyväskylä, Oulu, Rovaniemi) or suburban municipalities surrounding these large cities or towns.

The consequences of migration – sex structure deformation

Long term migration from rural to urban areas may have an impact on population structures. As the population dynamics of Finland clearly show the process of depopulation of rural and remote areas, we examined whether there are any peculiarities in the sex structures of population. In order to investigate the phenomenon a set of sex ratios for total population and by age were prepared. These ratios are the number of females per 100 males by communes. Such indicators basically show the surplus or deficiency of females in comparison to males in a given administrative unit.

There are two overlapping patterns of unequal spatial distribution of males and females. One is regional – relating the sex ratios to latitude and remoteness from urban centres. Figure 3 shows clearly that south from the Vaasa-Joensuu line there is a prevalence of municipalities in which the number of females exceeds the number of males. In the eastern part of this area there are

substantially fewer female-dominated communes than in the western. North of the Vaasa-Joensuu line there is a dominant pattern of male dominated rural communes. A second pattern is the attraction of urban agglomerations and sub-urban areas to female migrants. Particularly large proportions of females can be seen in cities and large towns. This is also the case in the northern cities of Oulu and Rovaniemi. Such a pattern prevails for both total population and for all age groups between 15 and 59 years. Sex ratio for the age group 0-14 shows most communes falling in the 90 to 100 class, reflecting the male surplus at birth only marginally altered through migration. Communes with surplus of boys or girls do not constitute any particular pattern. This is mostly because the gender of offspring has very limited impact on the migration decisions of families. On the other hand, in the age groups 60-74 and 75+ the dominance of the female population is overwhelming and covers almost all territory with exception of some most northern and north-eastern communities. Such an imbalance is mostly due to higher male mortality. However, the spatial differentiation of the magnitude of female domination expresses migration preferences. In the oldest age group (75+) only two municipalities have more males than females. Migration induced distortion of sex structures observed in Finland is very similar to those observed in

Poland (Kupiszewski, Durham, Rees 1997), and in a number of other post-socialist countries.

Summary and conclusions

Both natural increase and internal migration has played a role in the shaping of population distribution of Finland. They have distinct geographical patterns which are unfavourable, in terms of population dynamics, to the remote areas in the east and north of the country and favourable to the south and west, coastal areas, urban agglomerations and suburban areas. Depopulation of remote rural areas is a serious demographic problem.

Urban concentration is a dominant feature of the Finnish migration system. At the sub-regional level suburbanisation is visible, but is not as strong as in the overcrowded metropolises of Western Europe. We can confirm Tervamäki's (1987) conclusion that migration streams constitute a multi-level structure.

Regional patterns of migration show strong transfers of population from the north and east to the south and to a lesser extent to the west of the country. In particular, the Baltic coast with the Helsinki agglomeration and Turku has a strong attraction to migrants. Migration is sex-selective, with a much higher propensity of females to leave remote and rural areas and go to urban centres and the southern part of the country. The result

of such a process are significant gender imbalances: a deficiency of females in rural areas in particular in the north and the east of the country and a surplus in urban and semi-urban areas.

Acknowledgments

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Figure 1: Population change by municipality, Finland, 1984-1996

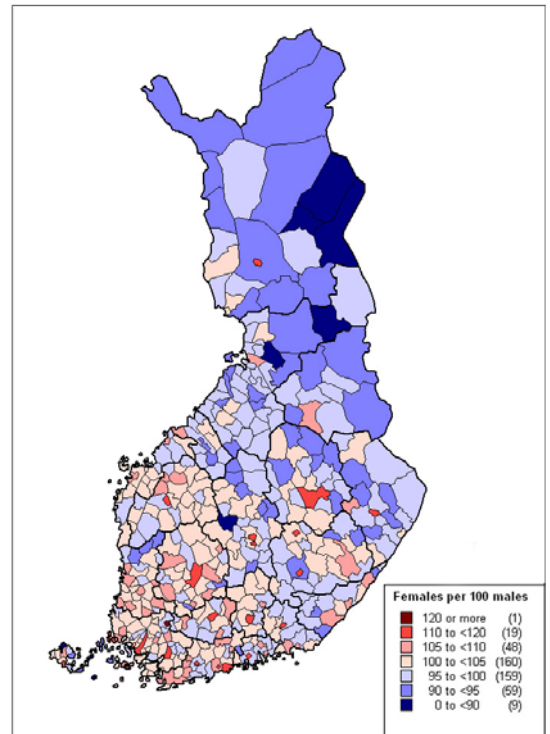
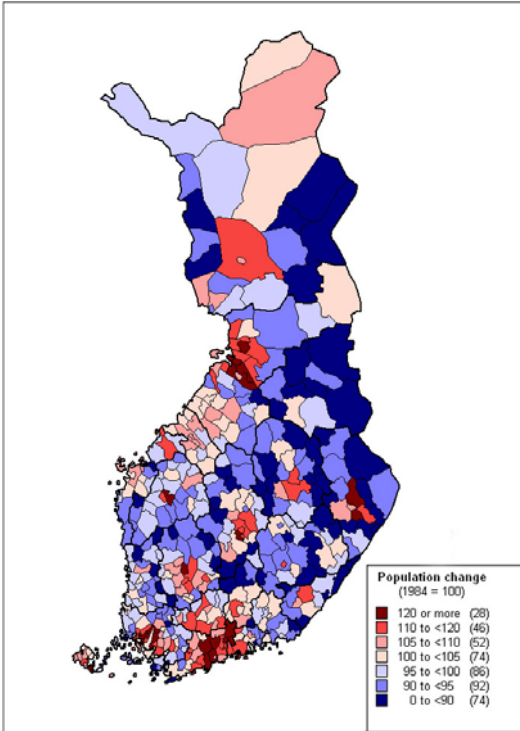


Figure 3: Females per 100 males, all ages, Finland, 1996

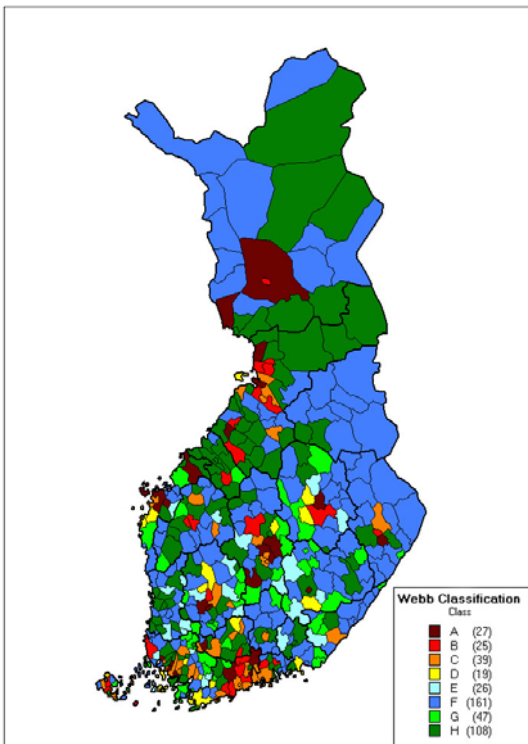


Figure 2: The Webb classification of Finnish municipalities, 1996