The performance of the Finnish labour markets in the 1990s

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Web Reports No. 1
Institute of Migration
2002

Contents

Preface

The performance of the local labour markets is important to analyze because they are so called functional regions. This approach has been chosen in the Nordic project where the researchers have been from Finland, Iceland, Norway and Sweden. The coordinator has been Nordic Centre for Spatial Development, Nordregio. The joint results have been published in *Local labour market performance in Nordic countries*, edited by Lars Olof Persson, Nordregio R2001:9.

This report consists of the wider results of the Finnish case study. This research is basically financed by Nordregio and Ministry of the Interior.

Turku, November 2002

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1. Policies affecting labour markets and migration in Finland

1.1 Labour force policy

Starting in the end of 1950s, the significance of agriculture as a source of employment in Finland began to diminish. This was followed by the demand for work. Hence, in the 1960s, population moved from the countryside into urban centres and, towards the end of the decade, to Sweden to look for jobs. The problem of unemployment was initially dealt with by creating public service jobs, especially road construction work. The so-called ”shovel policy” began to change as the Government brought about the general unemployment insurance system in 1960. The oil crisis of the 1970s caused a regression, which contributed to the rise of the unemployment rate. In 1977 the Government set it as an objective to decrease the rate of unemployment from that time figure 7 per cent to 2.5 per cent. In the 1980s, there were two types of unemployment problems: the traditional wide unemployment permeating the developing regions and a new type of unemployment of the urban areas. In the beginning of the 1980s, the Government once more aimed at decreasing the unemployment rate to 2.5 %, that means practically full employment.

Enforced employment had to be given up in the 1990s because Finland was hit by the century’s gravest depression. In the beginning of the 1990s the number of the unemployed in Finland approached half a million. The unemployment rate, which was below the overall average of the OECD countries in the 1980s, had risen up to almost 20 % of the labour force. Recovery from this immense depression has been slow and taken place at a different pace in different areas. The largest centers of Southern Finland were first to shed the negative effects of the depression. The high number of the long-term and aged unemployed has maintained the constantly high rate of unemployment. Unemployment benefits and the possibility of unemployment retirement have eased the conditions among the aged unemployed. The high education level and the increase of employment in the end of the 1990s have alleviated the position of the young in labour markets (Kalela 1989, Tilastokeskus 1999).

Almost 70 % of the employed population of Finland work in the private sector. Full-day employment is the norm in virtually all areas. Only approximately 10 % of the labour force are employed part-time. In 1997, 12 % of the labour force had occasionally done telecommuting. Short-term and temporary employment have become more common in the working life of the 1990s (Valtioneuvoston kanslia 1998).

There has been a shortage of professionals in many fields of business in Finland, e.g. in the areas of construction works, electronics and electricity during the recent years. Concurrently there is a high rate of unemployment especially among the less educated. In the future, manpower shortage is going to increase, since the number of working-aged people is going to decrease in the next decade. Contradictory with the labour force shortage is, for example, the fact that the age of students in higher education in Finland is the highest among the OECD countries. In addition, on average Finns retire quite early, usually at the age of 59. What will be needed most in the future is an increasing amount of ”flexible labour force”; various new practices are needed in order to adapt and participate in working life, for example, by working part-time or distributing jobs among different groups or different co-operatives. This also calls for the development of different telecommuting solutions and flexible job settlements as well as the adaptation of the aged labour force into labour markets in a more effective way than today. The displaced and the aged will become the primary subjects of labour force policies. Lack of education, advanced age and long-term unemployment are factors that are often co-existent. Education is an effective measure to prevent displacement in labour. For example, it has been proved that labour force policy training enhances the probability of employment (EVA 1997, Keränen et al. 1995; Valtioneuvoston kanslia 1998).

Regional mobility was at its peak in Finland in the turn of the 1960s and 1970s. Professional mobility was still relatively brisk during the second half of the 1980s, but slowed down in the 1990s. Labour market mobility is at its peak at the point of arrival to the labour market, because the young change their profession and place of residence most frequently. Regional mobility is most abundant among the 17–25 year-olds, but decreases rapidly after this age span. For instance possession of an apartment can hinder migration, because the movers often have difficulties selling their apartments in a region with net migration loss. On the other hand, at the same time there is a shortage of rental apartments in the gaining regions (EVA 1997; Valtioneuvoston kanslia 1998).

Regional mobility through labour force policy training has proven to be an efficient promoter of employment. Mobility improvement includes, among other things, support of telecommuting and expanding the local labour market areas. In the improvement of professional mobility, the primary fields are: training measures, e.g. the differentiation of labour force training; expansion of transform education; emphasis on personnel training; and creating indenture training models for the needs of small enterprises. In order to promote mobility, e.g. in Kainuu a ”fly to work” –program has been carried out within the Lex Kainuu -scheme. This means that, for example, when an unemployed construction worker from Kainuu is employed on a construction site in Southern Finland, he can commute weekly for an economical price by using specific flights. It is hard to combine the measures needed to promote regional mobility of manpower and the objectives of balanced regional development. Vital regional centres in different parts of the country are in a key position because they can support their surrounding regions. Supportive employment is going to be directed into the growth centres, where long-term unemployment is worst. In remote areas local initiative is supported (EVA 1997, EVA 1999, Kalela 1989, Valtioneuvoston kanslia 1998).

1.2 Regional policy

Inside the Ministry of the Interior, regional development and its co-ordination is managed by the regional development department. The differences of development between regions are levelled both by means of national regional policies and the Finnish application of the European Union’s regional and structural policies, since the EU membership from the beginning of 1995. The municipalities and the state hold responsibility of regional development. Province unions formed by municipalities act as regional development authorities responsible for drawing up the program for their operation regions in co-operation with the other operatives in the area.

The national regional policy in Finland is guided by the law of regional development (1135/93), which became effective at the beginning of 1994. The law is supplemented by the amendment of regional development (1315/93). The objective of the law is to promote independent development of the regions and development that is regionally balanced. The objective is pursued through program-based regional policies and by scaling enterprise support of a region-policy nature according to the national support distribution. The Government settled on the Finnish national support regions in December 1999 for the 2000–2006 period. Subsidies, mostly those connected with regional policies and entrepreneurial activity, are directed and scaled according to the support regions. The principles of regional policies and the general guidelines of development as well as measures under the Government jurisdiction are defined in objective programs of which the last was approved in 2000. The objective program also includes a decision of the general guidelines of the orientation of regional development funds. Regional development funds are funds pointed out by different administrative fields, with which realisation of regional development objectives and regional development programs drawn to carry out the objectives can be promoted.

Regional development programs are programs devised under supervision of the coalition of the counties. They are used to bring together and direct the development work that takes place in the counties. The programs include the objectives and strategies of development of the county and they are drawn in co-operation with the coalition of the counties, the state officials of the county’s municipalities and other operatives.

Based in the regional development law there is also the competency centre program used to support regional specialisation and co-operation between different competency centres. The Government named

eight competency centres in 1994 and three national network competency centres a year later. In the end of 1998 14 regional competency centres and two national network competency centres were reinforced to carry out the competency centre program during the years 1996–2006. The competency centre program has improved the opportunities of internationally competitive entrepreneurial activity with demand for high skills to gain position and development in different regions in Finland. Its objective is to recognise regional strengths and to add the number of products and services based on top competency. Finland's competency centre program and the co-operation of cities, institutes of higher and further education and the business world is an essential part of city policies and internationalising of the metropolitan areas. The focus of the competency centres is in local activity and they are situated particularly in regions with higher education institutes (Sisäasiainministeriö 2000).

In Finland in the structural funding period of 1995–99, funding has been directed to the rural and regional policy through the European Union's regional objective programs 2, 5b and 6. In addition, funding has been received for community initiatives, e.g. from programs such as LEADER and INTERREG, and also funding intended for agriculture in the EU and administration of employment. In the period of 1995–99 the funding directed through the programs is considered to have renewed and diversified Finnish regional, economic and labour force policy. The regional objective programmes for the programming period of 2000–2006 is now functioning and its evaluation will be carried out later (EVA 1999, Sisäasiainministeriö 2000).

The different actions of the public sector have had a notable effect on the development of regional policy. The welfare state, which has been under construction from the 1960s, is clearly considered to be a part of extended regional policy. The disperse placement of the universities, based on the decisions of the Government, which was in its time discussed in a heated manner, has in retrospect clearly had a positive influence of the development of the regions. The regional policy of the 1970s and 1980s has been estimated to have succeeded in industrialisation of developing regions as well as curbing migration (EVA 1999).

Towards the end of the 1990s the increased migration directed to the growth centres in the southern part of the country, Helsinki, Turku, Tampere and Jyväskylä, and to Oulu in the Northern Ostrobothnia, was gradually started to be seen as a problem. People migrate in search of jobs and studies. Net migration gain goes to only a few of the central regions and most of the municipalities of the country experience net migration loss. The issue has had extensive coverage in the Finnish media during the last few years. There are two kinds of opinions. On the other hand, the development is seen as taking its natural course, that is, Finland continues to urbanize. Migration should indeed not be dampened, but on the contrary more services and housing should be built in the regions experiencing net migration gain. On the other hand, there are expectations of curbing migration by means of regional policy. In the net migration loss regions the age distribution is distorted and services disappear along with the people who are leaving. It is considered important to create new jobs also outside the central regions.

There have been also discussions about the rural and urban policy. They are not opposite for each other: rural policy can be seen as the exploitation of the strengths of the countryside and the urban policy using the strengths of the urban areas (Aronen & Fagerlund 1999).

1.3 Higher education policy

Education and research are a central part of the Finnish strategy. The general policy of the Government emphasizes competency and knowledge, which benefits all the regions in the country equally. An educational position is available to the whole age group that is finishing their comprehensive education. Higher education is offered to 60–65 % of the age group. The Finnish higher education system is developed in a way that the universities and polytechnics complement each other. A new development plan for education and research for 1999–2004 has been approved in December 1999 (Opetusministeriö 2000).

Finland has 20 universities – ten multidisciplinary institutions, six specialist institutions (technology and economics) and four art academies – all of them state-run and engaged in both education and research. The university network covers the entire country (Figure 1). In the 1920s there was a university in only two cities, in Helsinki and Turku. In the end of the 1950s the University of Oulu was founded, and the 1960s were times of rapid regional expansion and witnessed the founding of the

Helsinki
Helsinki School of Economics and Business Administration
University of Helsinki
Academy of Fine Arts
Sibelius Academy
Swedish School of Economics and Business Administration
University of Art and Design
TheatreAcademy
Espoo
Helsinki University of Technology
Turku
University of Turku
Åbo Akademi University
Turku School of Economics and Business Administration
Lappeenranta
Lappeenranta University of Technology
Tampere
University of Tampere
Tampere University of Tecnology
Jyväskylä
University of Jyväskylä
Joensuu
University of Joensuu
Vaasa
University of Vaasa
Kuopio
University of Kuopio
Oulu
University of Oulu
Rovaniemi
University of Lapland

Figure 1. The university cities in Finland (Source: Ministry of Education 1998).

universities of Jyväskylä, Tampere, Vaasa and Lappeenranta. The last regional universities were founded in the 1970s in Joensuu, Kuopio and Rovaniemi. The expansion of university education to Eastern and Northern Finland was, at the same time, an indication of the realisation of regional policy. In 1998 there were approximately 147 000 students in the Finnish universities. The number of students has increased by 32 % in the period of 1990–98 (Ministry of Education 1998).

There was a rapid growth in resources and an increase in independent decision-making from the mid-1980s up to 1990. In the 1990s, the functional independence of universities has continued to grow, while attention has focused increasingly on improving performance and quality. University resources have deteriorated as a consequence of general economic problems. The objective is that the universities shall develop their own profiling in their areas of strength. The number of doctorate degrees is intended to be increased from the current number of approximately 1 000 per year. Also shared projects between universities and enterprises are promoted further. The Government has announced an action programme for structural development aimed at rationalising higher education. The current polytechnic experiments will result in the establishment of a distinct non-university sector of higher education (Ministry of Education 1998).

Finland has gradually built up a non-university sector of higher education consisting of polytechnics. By the year 2000, the two-sector system of higher education will be fully developed. Polytechnics are being formed by upgrading the specialized institutions which previously offered vocational higher education and by merging them to new, multifield institutions. The reform of vocational higher education is being implemented as a gradual process of experimentation and development. In the first phase, several temporary polytechnics started operations in 1991. Parliament passed an act on a system of permanent polytechnics in 1995, and the first permanent polytechnics commenced work in August 1996. In 1999 there were 31 polytechnics subordinate to educational administration, of which 24 were permanent and 7 were temporary. In 2000 there were 29 permanent polytechnics in different regions in Finland. In 1998 the total number of students in Finland's polytechnics was over 82 000 (Ministry of Education 1998).

2. Data

The subject of the research is the working-aged population, i.e. those 16–74 years of age, in the nine local labour market areas in 1990–91 and 1996–97. Three local labour market areas representing major cities (Helsinki, Tampere and Turku), three regional centres (Oulu, Jyväskylä and Rovaniemi) and three smaller centres (Rauma, Kajaani and Lohja) have been chosen (Figure 2). A local labour market area consists of a central municipality and of those of the surrounding municipalities from which at least 10 % of the employed commute to the central municipality according to the working statistics of 1996. The regional division dates to 1st of January, 1999.

In accordance to this setting, stream chart material (gross stream) has been obtained from Statistics Finland, according to the primary field of activity of the population in the chosen labour market areas. The stream data serves to show the mobility between different labour market status groups from year t to year t+1. Hence it is possible to determine what has happened to a migrant, who has been unemployed in year t, by the end of the next year in the labour market; whether she/he has been employed following the migration, if she/he is still unemployed or perhaps outside the labour force. To which sector of business life the unemployed person has been employed after the migration from the viewpoint of demand of manpower.

There is separate data on those who migrated out of the labour market areas, those who migrated into the labour market areas and those who stayed where they were. There is also the material of

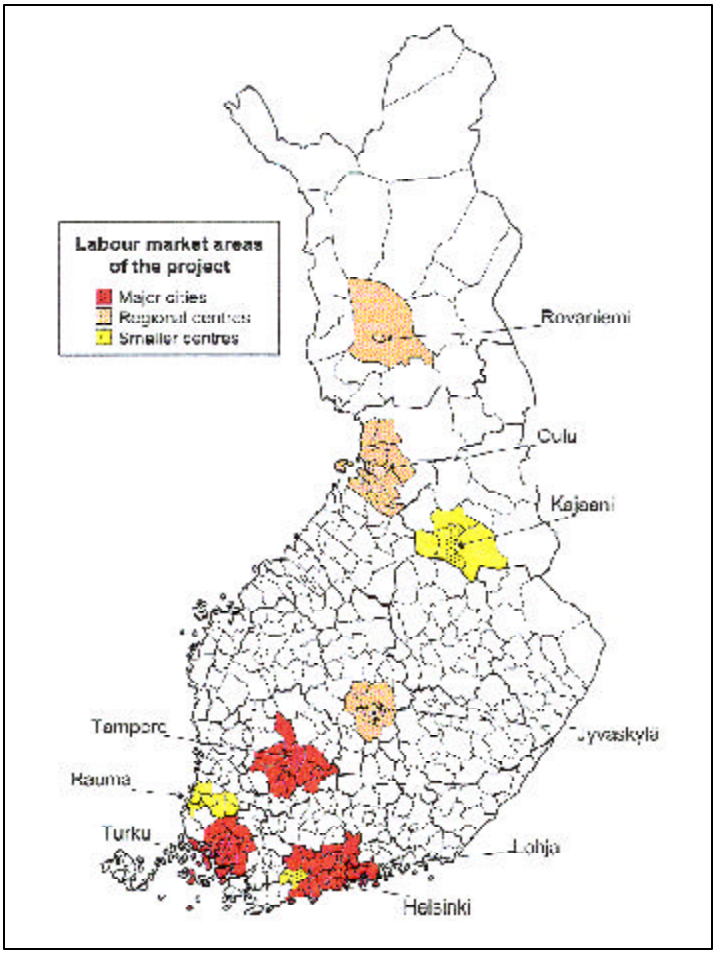

Figure 2. The project area in Finland (Map: Institute of Migration/ University of Oulu, Research and Development Centre of Kajaani).

international migration. The out-migrants have migrated away permanently from inside the labour market area's boundaries. The in-migrants have moved inside the boundaries from other parts of the country. The stayers are those people who have not changed their local labour market area during the period of t to t+1 years. The research data is from the period of 1990–91, when Finland sank into depression, and from the period of 1996–97, when Finland was emerging from the depression.

The working-aged population is examined according to different demographic and socio-economic characteristics, such as age, sex, education, field of business and status in the labour market. The age variable is grouped as follows: 16–24 years of age, 25–34 years of age, 35–44 years of age, 45–64 years of age and 65–74 years of age. Education is mainly looked at according to comprehensive level, secondary level and higher level. The fields of business include 1) agriculture, forestry and mining; 2) industry and energy and water maintenance; 3) construction; 4) commerce, accommodation and nourishment; 5) transportation and traffic; 6) financing and business services; 7) public services and 8) other activity and unknown activity. Status in the labour market is divided into the employed, the unemployed and those outside the labour force. Of those outside the labour force the activity of students has been examined separately. PC-Axis and Excel have been used in the processing of research data. Besides the stream data, other material of Statistics Finland has been used (e.g. the regional database). There has been also great use for the internet pages of the study municipalities.

3. Description of the study area

3.1 The labour market areas

Helsinki, situated in the southern coast in Uusimaa, is the largest city in Finland and the capital of the country. It was founded in 1550 and moved to its current place in 1640. The town is part of the province of Southern Finland. 15 % of the jobs in the whole country are situated in Helsinki (and 27 % in the Helsinki district) and most of them (4/5) are in the field of service. Activities most typical for the Helsinki district are finance and business services, wholesale trade and, from industry, the electronic and graphic industries and construction. Most of the headquarters of the major domestic enterprises are situated in Helsinki. In addition the country's largest port and international airport are found there. A great amount of education from all fields is offered in addition to diverse cultural services. There were 539 363 residents in Helsinki at the end of 1997. There are seven higher education institutes in Helsinki and one in the neighbouring municipality of Espoo. In addition there are over 70 vocational institutes and a polytechnic in the capital district (Helsinki, Espoo, Vantaa and Kauniainen). Despite the abundant offering of education there are not enough places of further education for the young in Helsinki after comprehensive school. Helsinki attracts students from elsewhere to its seats of learning (Kaupunki-indikaattorit 1998). The 19 municipalities of the *Helsinki local labour market area* belong to the Uusimaa county excluding Sipoo and Porvoo, which belong to Itä-Uusimaa. The local labour market area borders in the west on the Lohja local labour market area. Helsinki pulls workers widely from the whole area of Uusimaa. Commuting to Helsinki is greatest from Vantaa, Kauniainen, Espoo, Kerava and Sipoo.

The city of *Tampere* is situated between Lake Pyhäjärvi and Lake Näsijärvi. The city was founded in 1779. It has grown due to industry. Nowadays the city dwellers are employed, besides industry, by e.g. commerce and many high technology enterprises. The city is also known for its wide educational and cultural offerings. There were 188 726 residents in Tampere in 1997 and Tampere is the third largest city in Finland. There are two universities in Tampere. There are also two polytechnics in the city: the Tampere Polytechnic and the Pirkanmaa Polytechnic (temporary). There are several institutes offering other kinds of vocational and adult education in Tampere. The municipalities of the *Tampere local labour market area* (16) are all inside the regional boundaries of Pirkanmaa. Commuting to Tampere is greatest from Pirkkala, Ylöjärvi, Lempäälä and Kangasala.

Turku is the oldest city in Finland (founded in the Middle Ages in 1229) and it is situated in south-western Finland in the delta of the Aura River. It is a port, and a commerce and exhibition city of national importance. The most noteworthy employers are public services, industry, commerce, and finance and insurance. Turku is also an important centre of education. The population of Turku was 168 772 in 1997 and it is the fifth largest city in Finland. There are three universities in Turku. In addition the Turku Polytechnic, the Vocational Institute of Turku and the Vocational Adult Education Centre of Turku are situated there. The 28 municipalities of the *Turku local labour market area* are all part of the Varsinais-Suomi county and are situated surrounding the city of Turku, bordering on the county boundary in the north and at the same time to the Rauma local labour market area. Commuting to Turku is greatest from Rusko, Kaarina, Raisio, Lieto, Vahto and Masku.

The city of *Oulu* is situated at the coast of the Gulf of Bothnia, at the delta of the Oulu River. It was founded in 1610. Oulu is the most important industry and education centre in Northern Finland and the capital of the Oulu province. The significance of the university has been substantial to the development of the city. The industry and services are major employers. There were 113 567 people living in Oulu in 1997. There is a university in Oulu and also the Oulu Polytechnic. Several vocational institutes belong to the vocational training municipality union of the Oulu district. In addition there is the Vocational Adult Education Centre of Oulu and the Conservatory of Oulu in the city. The municipalities (14) of the *Oulu local labour market area* represent Northern Ostrobothnia. Oulu pulls commuters from a wide area, proportionally most from Kiiminki, Oulunsalo, Kempele and Haukipudas.

Jyväskylä is situated in central Finland in the northern end of Päijänne Lake. It received town status in 1837. The University of Jyväskylä was founded in 1966, but it was preceded by a seminar from 1863. Jyväskylä is known for its many industrial enterprises, but it is also a significant educational centre (”the Athens of Finland”). In 1997 Jyväskylä’s population was 76 194. The university, the Jyväskylä Polytechnic and several institutes of secondary education are found in Jyväskylä. The 8 municipalities of the *Jyväskylä local labour market area* represent the county of Central Finland. Commuting to Jyväskylä is greatest from the rural municipality of Jyväskylä and Muurame.

Rovaniemi is the capital of the Lapland province and received town status in 1960. Most of the jobs are in services. Rovaniemi has become a remarkable educational centre in Northern Finland. In 1997 the population of Rovaniemi was 35 718. Besides a university, Rovaniemi houses the Rovaniemi Polytechnic, several vocational institutes and an adult training centre. The two municipalities of the *Rovaniemi local labour market area*, which is situated in the Lapland province, are Rovaniemi and the rural municipality surrounding it.

The port town of *Rauma* is situated in the coast of the Bothnia Sea. It received town status in 1442. Industry is the main employer and services are close behind. Rauma is one of the biggest ports in Finland. There were 37 654 inhabitants in Rauma in 1997. A teacher-training institute, a filial of the University of Turku, operates in Rauma as well as the Satakunta Polytechnic. In addition there are four high schools and an adult high school. The Rauma Vocational Institute consists of units of different fields of training. The municipalities of the *Rauma local labour market area* are in the Satakunta county except for Pyhäranta, which is part of the Varsinais-Suomi county.

Kajaani, situated on the shore of Oulu Lake, was founded in 1651. There are wide stretches of uninhabited wilderness surrounding the town area. Kajaani is a town of industry, services and education. The country’s largest garrison is also situated there. Most of the inhabitants receive their income from services, but also electronics and the wood-processing industry are firmly planted. There were 36 541 inhabitants in Kajaani in 1997. Some units of the University of Oulu and the Kajaani Polytechnic operate in Kajaani. The Kainuu Vocational Institute and the Kajaani-Institute represent the vocational institutes. Adult training is given e.g. in the adult vocational education centre and in the Kajaani Development Centre. There are two high schools and an incorporated adult high school. The *Kajaani local labour market area* in Kainuu is formed by, besides Kajaani, the surrounding municipalities of Paltamo, Vuolijoki and Sotkamo, from all of which there is an equal amount of commuting to Kajaani.

Lohja is a town from year 1969 in the western Uusimaa on the shore of the Lohja Lake and the municipality of Lohja was annexed to it in the beginning of 1997. Finland’s first iron mine operated in Lohja from year 1542 onwards. There is an abundance of electronic and construction material industry. The greatest part of the labour force is in the fields of public services and industry. The population of Lohja was 34 127 in 1997. Besides two high schools and an incorporated adult high school, there is the federation of municipalities in vocational education, which consists of four vocational institutes. There is also functioning the Espoo-Vantaa Polytechnic in the region. In addition there is adult training in the municipality, e.g. the Centre for Extension Studies and the Vocational Adult Education Centre of Länsi-Uusimaa. The municipalities of the *Lohja local labour market area*, Lohja and its western neighbours Sammatti and Karjalohja, are situated in Uusimaa.

3.2 Population characteristics

Basic features of Finland’s regional development after the Second World War have been urbanization and regional concentration. Both the production activity and the population have increasingly concentrated to the growing central regions, especially to Southern Finland. The change has not occurred uniformly but has experienced drastic cycles. Concentration advanced very rapidly during the years of the ”great migration” from the beginning of the 1950s to the middle of the 1970s. From there onwards the change was significantly slower until the first years of the 1990s, but during this decade population concentration has accelerated again.

After the depression of the beginning of the 1990s the growth of both population and the amount of jobs have concentrated to a few of the largest metropolitan districts, especially the capital district. On

the other hand, concentration to the district centres and regional centres has happened throughout the country. Regional concentration and urbanization are closely connected with economic growth and change of the economical structures. During the periods of rapid economic growth the urban living conditions act as the head of growth enhancing the concentration of production, jobs and population to the large metropolitan areas. A new characteristic of the last few years in regional population development is that many of the smaller towns have become net migration loss areas. This concerns especially the industrial towns marked by one-sided production structure, but also many regional centres. One reason for the escalation of migration in the 1990s has been the change of law concerning the residency policy towards students that took effect in the summer of 1994: starting then, students can have become residents in their locality of study. This is shown in the statistics as a sudden increase of migration. In spite of its rapid urbanization, Finland is still one of the least urbanized countries in Western Europe. The regional structure is still exceptionally decentralised compared to other countries. In Finland the proportion of city dwellers in the whole population is 64 % according to the data of year 1996, whereas the average of the EU countries is over 80 % (Loikkanen 1998).

The largest local labour market area is the Helsinki local labour market area and of the cities the Tampere and Turku districts have approximately the same number of inhabitants (Table 1). The next largest are the regional centres of Oulu and Jyväskylä. Rauma represents one of the smaller centres, although it has more inhabitants than the regional centre of Rovaniemi. 47 % of the total population lived in the nine local labour market areas in 1997. The average population change in the period of 1990–97 has been 3 % and 8 % in the nine local labour market areas. The local labour market areas have thus mostly experienced net migration gain, while net migration loss is experienced in many parts of the country. The Oulu local labour market area has grown the most and Rauma has experienced the greatest loss. The population of Oulu has grown most of all the regions for the whole 1990s and the Kajaani and Rauma regions turned to loss in their population development in 1992–93. Along with Oulu, Helsinki is increasing its population most heavily. The excess of the births in 1997 had the greatest significance in population growth in the local labour market areas of Oulu, Rovaniemi and Lohja. In the same year, in the major cities and regional centres, students brought about the greatest part of net migration gain. Helsinki also receives plenty of highly educated in-migrants. Unemployed people migrated abundantly especially to Turku and Jyväskylä. Older and less educated people migrated away from the Helsinki district, whereas students migrate away from the smaller centres. In the Statistics Finland prognosis for the year 2030, the local labour market areas that will grow most are the Oulu, Helsinki and Tampere areas. The population of Rauma and Kajaani will continue to diminish. The local labour market areas will grow substantially more than the average of the whole country.

The number of jobs decreased in the whole country 13 % in 1990–97. In the Oulu, Tampere, Helsinki, Turku and Jyväskylä local labour market areas their decrease was under the average of the whole country, whereas it was greater for the others, particularly in Rovaniemi and Kajaani (see Table 1). In 1997 52 % of the jobs in Finland were in the nine local labour market areas. The unemployment figures

Table 1. Population and jobs of local labour market areas in 1997 in addition to change in 1990–97 in Finland (%) (Data: Statistics Finland).

Local labour market area	Population 1997	Population change 1990–97 (%)	Jobs 1997	Job changes 1990–97 (%)
Helsinki	1 242 039	10,1	579 261	-10,1
Tampere	326 586	6,6	131 755	-8,1
Turku	314 290	5,5	127 582	-11,0
Oulu	189 802	11,1	73 836	-4,9
Jyväskylä	145 811	7,6	54 173	-12,8
Rovaniemi	57 633	6,7	20 778	-18,8
Rauma	67 971	-1,6	25 929	-16,0
Kajaani	55 481	-1,3	19 400	-18,2
Lohja	36 808	2,4	13 620	-14,3
All LM-areas	2 436 421	8,1	1 046 334	-10,3
Finland	5 147 349	3,0	2 022 521	-13,3

can be compared to the change of the number of jobs: unemployment has been highest in Kajaani and Rovaniemi during both of the years of observation (Figure 3). The average unemployment rate of the local labour market areas in 1997 (the unemployed in proportion to the labour force) is lower than the average of the whole country (17 %). Unemployment was at its peak in the whole country in 1994 (20 %), after which it has decreased. Towards the end of 1999 the employment rate in Finland was 13.4 %.

The cumulative distribution of jobs, i.e. the regional accumulation according to municipality in 1997 is examined in Figure 4. The outer boundaries of the local labour market areas are presented in bold. In the method jobs are first set into proportion with the population of the municipality and the municipalities are then organised by level of performance. The cumulative sum of jobs is calculated starting from the weakest municipality, until 20, 40, 60, 80 and 100 % of the jobs are reached. 267 municipalities belong to the lowest (weakest) class. Nine municipalities belong to the highest class, one of which is the city of Helsinki. Turku, Tampere, Oulu, Jyväskylä and Rovaniemi are in the next best class. Kajaani and Lohja are in the second lowest class. Thus it can be examined regionally how many municipalities are needed to reach each 20 % of all the jobs in Finland.

The jobs in Finland have been grouped in Figure 5 by municipality according to population. Helsinki stands out both by its population and its jobs. In addition one can see the points of Turku, Tampere, Oulu, Espoo and Vantaa. These six cities are the municipalities in Finland with over 100 000 residents and they have jobs accordingly, 42–58 % of their population. Most of Finland's municipalities have a small population and they cluster to the lower corner of the diagram.

In the local labour market areas the net migration (including emigration and immigration) has been more positive than in the whole country on average, particularly in 1997 measured as per mil of the population. In 1990 all local labour market areas except Rauma experienced net migration gain and Rovaniemi gained most in proportion to population (Figure 6). In 1997 the situation is different. The five most populated local labour market areas received the greatest net migration gain; also Lohja gained. The proportional net migration of the gaining areas has risen towards the end of the 1990s. Other local labour market areas are behind, Kajaani the most. Net migration of Rauma stayed negative for the 1990s, Kajaani's migration flow turned to loss in 1991 and Rovaniemi's in 1996. The Lohja area had a period of net migration loss in 1992–1996, but started to gain later on.

The labour market areas are located in the surroundings of the urban areas and the labour force employed in the agriculture is lower in these areas compared to the national average (Table 2). The most of the employed working in the labour intensive manufacturing sector is found in Tampere and in

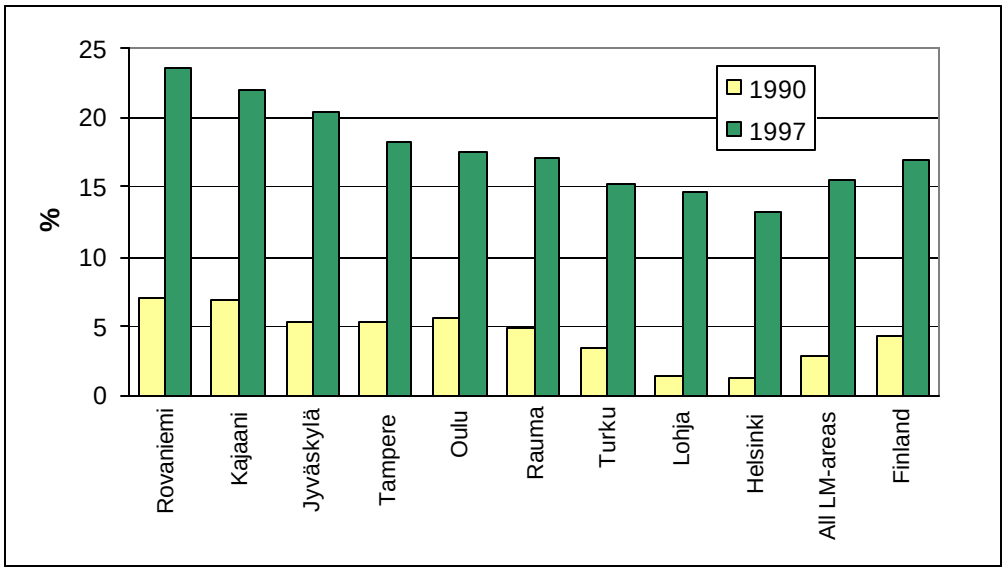

Figure 3. Unemployment rate within local labour market areas and Finland in 1990 and 1997 (%) (Data: Statistics Finland).

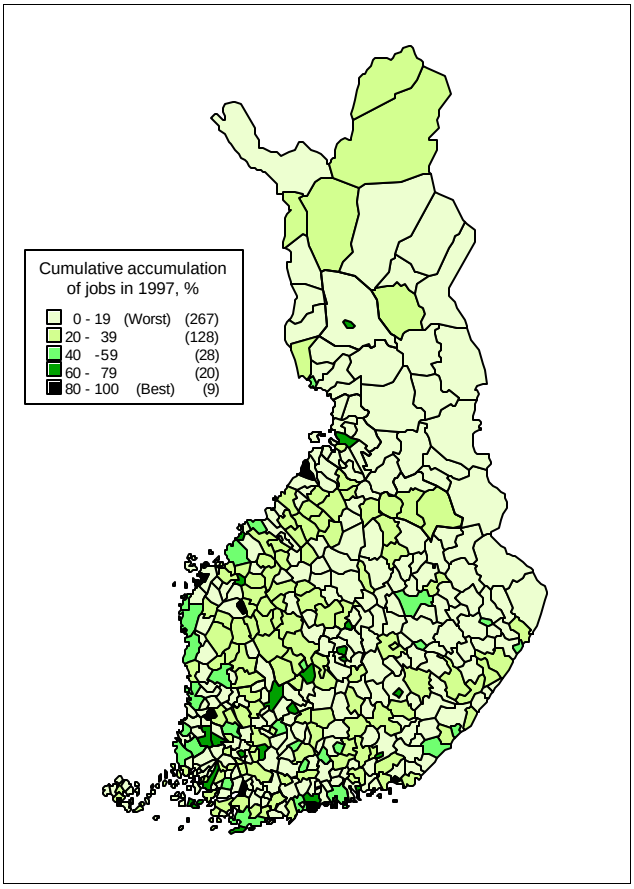

Figure 4. Cumulative accumulation of jobs in Finland in 1997 (Data: Statistics Finland, Map: Institute of Migration/ University of Oulu, Research and Development Centre of Kajaani).

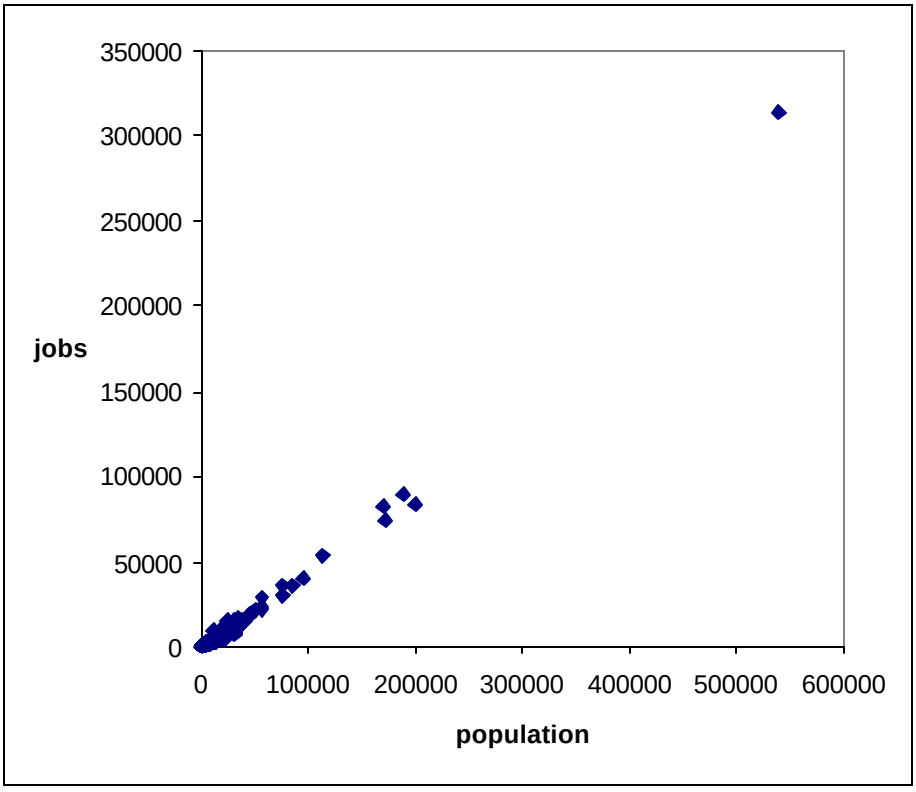

Figure 5. Jobs by municipality according to population in Finland in 1997 (Data: Statistics Finland).

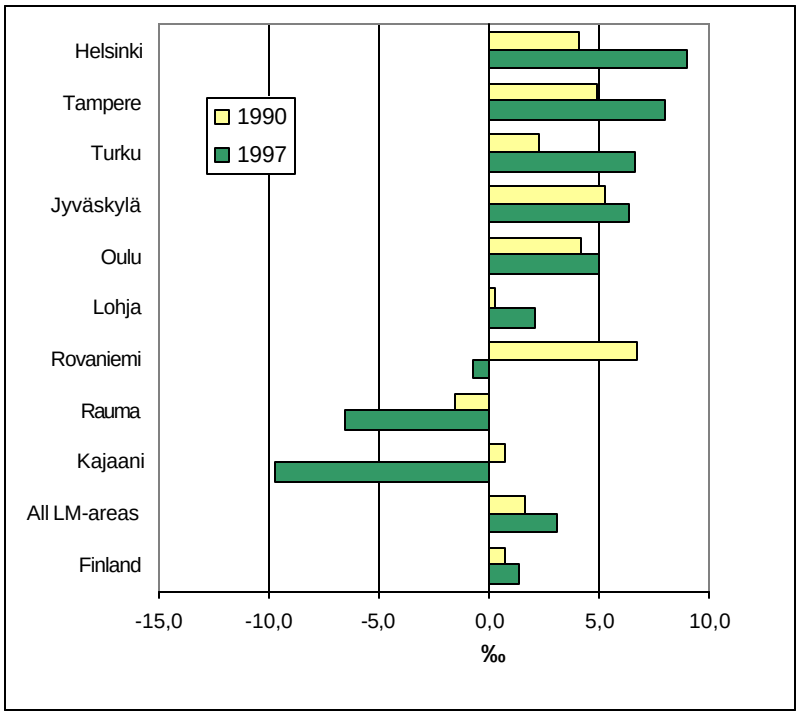

Figure 6. Net migration within local labour market areas in Finland in 1990 and 1997 as per mil of population (Data: Statistics Finland).

Table 2. Structure of production in 1997 by sectors in Finland. Per cent employed in the labour market areas (Data: Statistics Finland).

Sector	Helsinki	Tampere	Turku	Oulu	Jyväs-kylä	Rova-niemi	Rauma	Kajaani	Lohja	Finland
1. Primary/mining	0,9	2,7	3,7	3,1	3,4	3,7	5,9	7,0	4,4	6,1
2. Manuf. Raw material	1,6	4,6	2,7	3,5	2,7	0,4	9,0	4,7	9,6	4,1
3. Manuf. Labour int.	3,5	10,0	7,6	3,7	7,1	3,2	9,1	6,0	8,0	7,5
4. Machine/transport	2,8	5,6	6,2	1,6	7,1	2,4	10,9	3,3	3,3	3,9
5. Electro	3,5	2,9	3,0	10,0	1,5	0,8	0,8	3,3	5,9	2,7
6. Printing/publishing	2,4	1,5	1,6	1,2	2,0	0,9	1,3	1,0	1,3	1,5
7. Energy	1,8	1,2	1,4	1,6	1,3	2,6	2,5	1,6	1,8	1,5
8. Construction	4,7	5,5	6,4	5,7	5,5	6,0	6,3	5,9	8,4	5,5
9. Retail	5,8	6,1	5,8	5,7	6,0	6,2	5,7	6,4	6,2	5,9
10. Wholesale	10,0	5,8	5,6	5,0	4,3	4,3	3,4	3,6	6,2	6,0
11. Hotel/restaurant	3,4	2,9	2,4	2,8	3,3	3,7	2,1	2,7	3,9	2,9
12. Transport	6,1	4,5	6,4	4,5	3,8	4,8	6,3	4,7	3,6	5,4
13. Post/telecom.	2,6	2,2	1,9	2,2	2,2	2,9	1,2	1,5	1,8	1,9
14. Finance	14,1	9,6	10,8	9,3	9,1	9,9	8,6	8,1	8,3	9,9
15. Inf. technology	1,9	1,1	0,6	0,8	1,2	0,3	0,3	0,6	0,7	0,9
16. Public adm.	7,0	5,3	5,5	5,4	6,9	11,6	4,9	7,5	3,6	5,9
17. Health and Social	12,3	14,3	15,3	18,3	15,5	18,7	11,4	16,7	12,4	13,9
18. Education, R&D	7,9	7,6	7,9	10,4	11,0	11,4	5,7	9,0	5,8	7,4
19. Other services	6,0	4,8	3,8	3,6	4,4	4,6	3,2	4,4	3,4	4,2
20. Unspecified	1,7	1,7	1,6	1,5	1,7	1,7	1,6	2,2	1,5	2,8
All sectors	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

machine/transport sector Rauma has the highest percentage. Relatively the most of the electronics and electricity labour is found in Oulu labour market area. Wholesale and finance sectors are emphasised in Helsinki area and public administration is remarkable in Rovaniemi area. The relative amount of employed working in health and education sectors are the greatest in Rovaniemi, Jyväskylä and Oulu.

3.3 Income level

In Figure 7 the state taxable income per income earner in Finland in 1997 is presented as an index according to municipality. The boundaries of the local labour market areas are presented in bold. There are 69 municipalities that surpass the average income limit of the whole country, and most of them are situated in the local labour market areas of Helsinki, Turku and Tampere. Municipalities from different income classes are situated inside the boundaries of the local labour market areas, e.g. in the Jyväskylä, Oulu and Kajaani areas. In Figure 8 the income levels of the local labour market areas in 1994 and 1997 are compared. Compared to the average of the whole country the average incomes are higher in the local labour market areas, but there are differences in income levels between the local labour market areas. The highest income level is in the Helsinki area and also Lohja, Turku, Oulu and Tampere surpass the average. Rauma reaches the average in 1997. It is notable that in the mentioned areas the income level has stayed more or less the same or grown, but in Jyväskylä and especially in Rovaniemi and Kajaani the income level has dropped substantially from 1994 to 1997.

According to researches the income level of the migrants changes rapidly during the migration and the next years as a part of adaptation to the labour market. The increase of the income level of the migrants is more rapid than the general income level increase of the base population of the same age. The change of income level is observed to be rapid particularly in the Helsinki district, which gets migrants who are on average younger than the ones who migrate to other areas. The income development of the migrants has a great significance to the district's regional economy and labour market. The typical migrants form a dynamic and rapidly developing group in the areas' enterprises and other places of work in the years following the migration (Sisäasiainministeriö 1998).

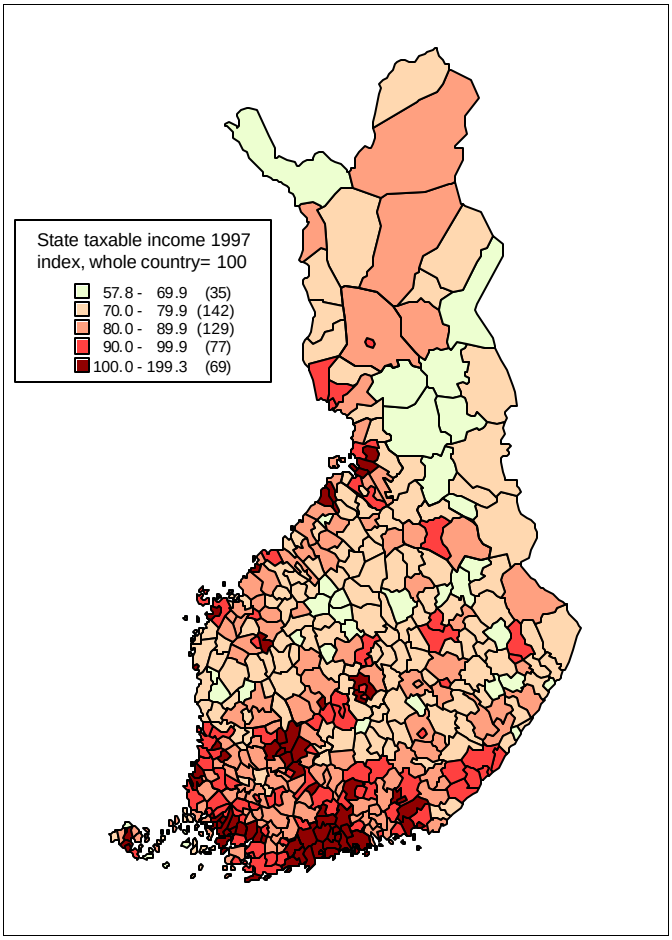

Figure 7. State taxable income per income earner in Finland in 1997. Whole country = 100. (Data: Statistics Finland, Map: Institute of Migration/ University of Oulu, Research and Development Centre of Kajaani).

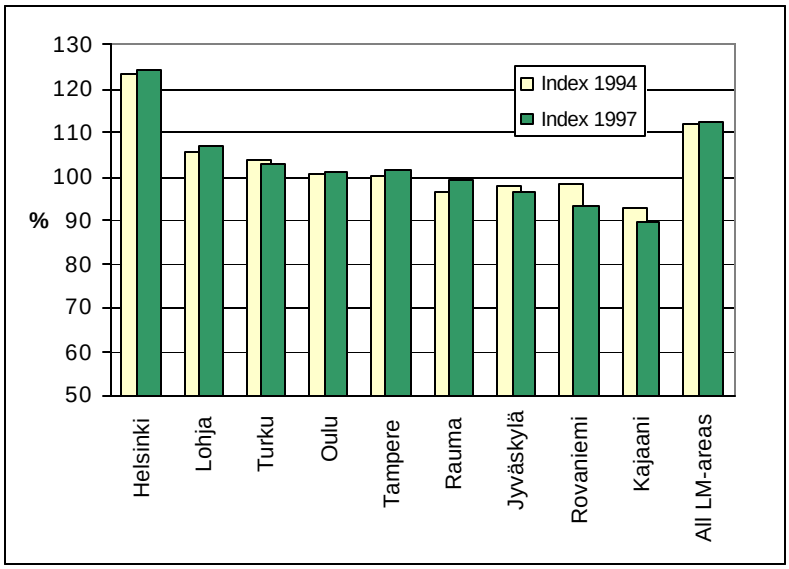

Figure 8. State taxable income per income earner in the local labour market areas in Finland in 1994 and 1997. Whole country = 100. (Data: Statistics Finland).

3.4 Education level

The proportion of the educated has risen constantly in Finland and development has occurred also in the 1990s. In 1997 43 % of those over 15 years in the whole country had a comprehensive education, 44 % had a secondary level degree and 13 % a higher level degree. Regionally the level of education varies as follows: the greater the proportion of people in population centres, the greater the education level of the population. In the cities the education level of the population was in the end of 1997 22 % higher than in rural municipalities. 17 % of city dwellers have a higher level degree compared to 8 % of inhabitants of rural areas. According to counties the education differences of the population are not particularly great, except for Uusimaa. Uusimaa had an education level 12 % higher than the average of the country in 1997. On the other hand, differences in education level between municipalities are big. The education level of the male population over 15 years is still higher than that of women, but women under 55 are already more educated than men. The education level of women has indeed risen faster than that of men in the 1990s.

Migration affects the regional education levels of the population. Of those who migrated in 1990–95 a quarter had a comprehensive education, whereas they represent 45 % of the whole population (Table 3). There were 22 % of those with a higher education whereas their proportion of the whole population is 12 %. Education increases propensity to migrate. Most of the migrants had a secondary level degree. The strong migration of the latter part of the 1990s has increased the differences in education levels between counties.

Table 3. Migrants in 1990-95 according to level of education and compared with the total population. (Source: Tilastokeskus 1998).

Level of education	Migrants in 1990–95	%	Education structure of total population (over 15 yrs.) in 1995 (%)
Comprehensive level	93 822	24	45
Secondary level	210 050	54	43
Higher education	85 446	22	12
Total	389 318	100	100

Examined by regions, the counties that had a clear net migration gain were in 1995 Uusimaa, Pirkanmaa and Varsinais-Suomi. Uusimaa is different from the other net migration gain regions in that more people with a comprehensive education migrated out than in. The Central Finland county had a net migration balance as a whole, but lost a relatively large number of people with a higher education and gained those with a comprehensive education. Among the counties that lost educated population the most were Lapland and Satakunta. Of all the migrants over 80 % went to cities and densely populated municipalities and almost 20 % to the countryside. The higher the education level of the migrants, the greater the number that migrated to the cities. Emigration became more lively after 1992 and also immigration increased.

The 20 universities in Finland are situated in 11 localities (see Figure 1). In 1998 they had a total of approximately 147,000 students. In the same year polytechnics were found in 22 localities and they had over 82,000 students. The proportion of students coming from the counties of universities was highest in the universities of the Helsinki district; over half of the students came from Uusimaa in virtually all of the universities in the area. A quarter of the students of Åbo Akademi come from Varsinais-Suomi but the university also attracts Swedish-speaking youngsters from a wide area. Also the universities of Lapland and Oulu collect students from all around northern Finland. The regional influence of the universities can be examined by comparing the differences between those taken as students from the respective county and those who have received jobs there. Of all the universities of the capital district a greater number of the graduates were placed in Uusimaa than was the number of students taken from the region. Also of the graduates of the Tampere University of Technology a greater number were placed in Pirkanmaa than what had been taken into the institution (Table 4). Of the polytechnics the

Table 4. Proportion of the first-year university students taken from the counties of the universities and the employment of graduates in the counties where their institutions are situated in. (Source: Tilastokeskus 1998).

University	County	A	B
Helsinki LMA	Uusimaa		
Swedish School of Economics and BusinessAdministration		86	95
Helsinki School of Economics and BusinessAdministration		78	93
University of Helsinki		62	77
Helsinki University of Technology		61	83
Theatre Academy		60	68
University of Art and Design		57	65
Academy of Fine Arts		48	
Sibelius-Academy		35	60
Turku LMA	Varsinais-Suomi		
University of Turku		46	50
Turku School of Economics and BusinessAdministration		42	40
Åbo Akademi University		27	39
Tampere LMA	Pirkanmaa		
University of Tampere		39	38
Tampere University of Technology		31	48
Jyväskylä LMA	Central Finland		
University of Jyväskylä		26	29
Oulu LMA	North Ostrobothnia		
University of Oulu		47	52
Rovaniemi LMA	Lapland		
University of Lapland		41	40

A = proportion of new students taken from counties of the universities compared to the total of first-year students in universities in 1996 (%)
B = employment of university graduates (1993–96) in the county where their university is situated (% of employed in the county where the university is situated)

Table 5. Proportion of the first-year polytechnic students taken from the counties of the polytechnics and the employment of graduates in the counties where their institutions are situated in (Source: Tilastokeskus 1998).

Polytechnic	County	A	B
Helsingin LMA	Uusimaa		89
Helsingin Business Polytechnic		80	
Espoon-Vantaa Institute of Technology		72	
Haaga Institute Polytechnic		71	
Turku LMA	Varsinais-Suomi		75
Turku Polytechnic		69	
Tampere LMA	Pirkanmaa		69
Tampere Polytechnic		60	
Jyväskylä LMA	Central Finland		75
Jyväskylä Polytechnic		54	
Oulu LMA	North Ostrobothnia		80
Oulu Polytechnic		73	
Rauma LMA	Satakunta		65
Satakunta Polytechnic		59	
Kajaani LMA	Kainuu		67
Kajaani Polytechnic		67	
Rovaniemi LMA	Lapland		66

A = proportion of first-year students taken from counties of polytechnic institutions compared to the total of first-year students in polytechnic institutions in autumn 1997 (%): Permanent polytechnic institutions.
B = employment of polytechnic graduates (1994–96) in the county where their institution is situated (% of employed).

polytechnics of Uusimaa, Northern Ostrobothnia and Varsinais-Suomi are regional, because 70–80 % of their students come from the region and 75–90 % are employed in their own region (Table 5).

4. The performance of the local labour markets

4.1 Field of business and education

The initial data is the sum of stayers, domestic in-migrants and out-migrants in the local labour market areas. The difference between the employed who entered the field of business and those who left has been calculated according to the eight fields of business in the two periods of observation. The results are the balances of the fields of business. From 1990 to 1991 the balance is negative in virtually all fields of business in the local labour market areas (Figure 9). The public services make an exception with a positive balance in many areas. The net change is in accordance with the population and number of jobs in the regions: Helsinki has the greatest absolute losses, over 45 000 jobs; among Rovaniemi, Rauma, Kajaani and Lohja the balances are at the same level. The greatest proportional losses in the local labour market areas are in the fields of industry, construction and trade. Of the major cities most proportional losses have been in trade, construction and industry in Helsinki and industry in Tampere and Turku. Of the regional centres greatest losses are in industry in Oulu and Jyväskylä and in the Jyväskylä area agriculture has experienced the greatest proportional losses of all the observation fields. In Rovaniemi construction has been the main loser. In the areas of the highest unemployment, the smaller centres, industry has most loss. In Lohja the construction's loss is proportionally the greatest of the nine areas.

From 1996 to 1997 the situation was almost the opposite, i.e. nearly all the fields got more jobs, with an exception in agriculture and the class "other" (Figure 10). The public services and the industry have

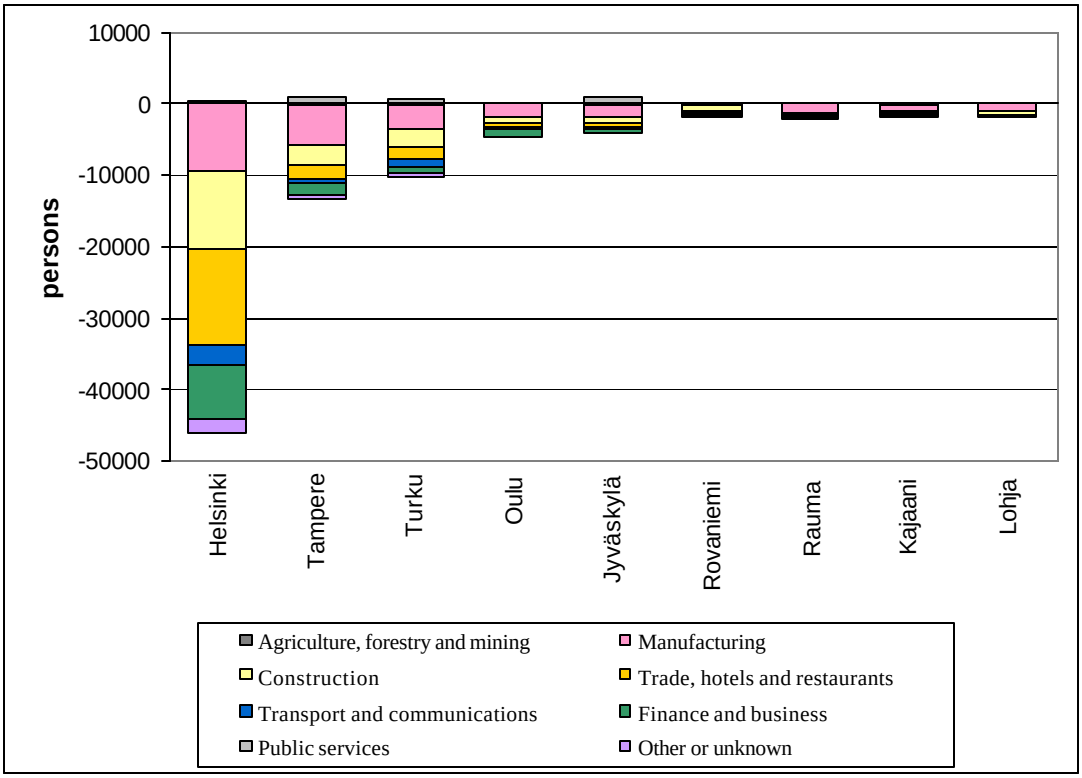

Figure 9. Net change of the employed according to field of business in the local labour market areas in Finland in 1990–91 (Data: Statistics Finland).

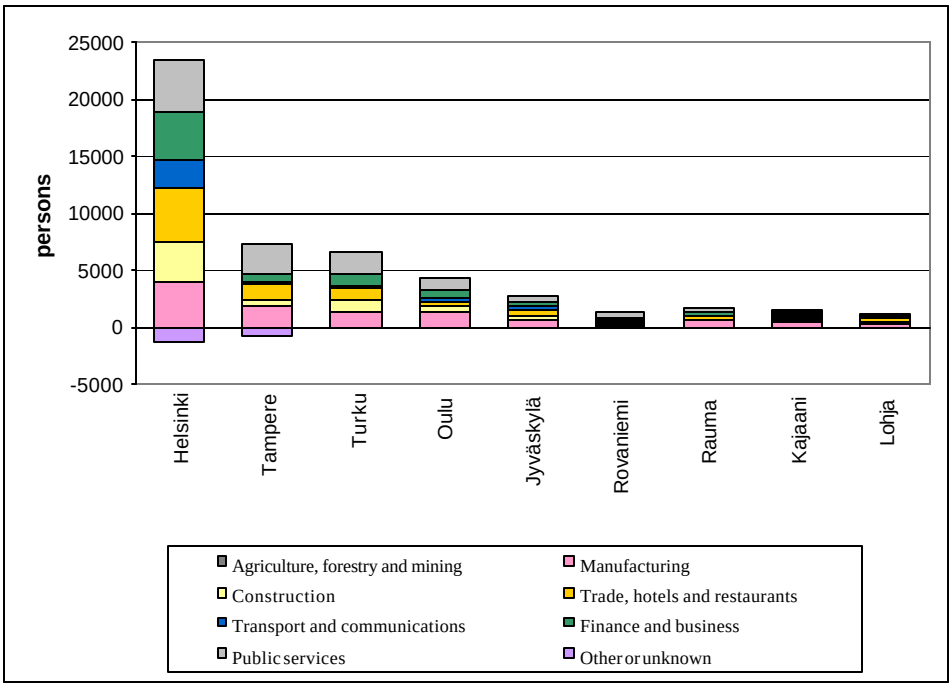

Figure 10. Net change of the employed according to field of business in the local labour market areas in Finland in 1996–97 (Data: Statistics Finland).

received most people, but also trade, construction and financing have gained. Industry has received the proportionally largest numbers in Rauma and Kajaani, public services in Tampere and Rovaniemi. Construction and trade has received the largest numbers in Lohja. The differences in the balances of the two observation periods reflect the economic structure of the local labour market areas' central municipalities. When the number of jobs in a field is large, e.g. in construction in Lohja, a lot of losses are experienced in the beginning of the depression, but after depression abates, the field recovers quite quickly.

The food industry had the greatest job losses in 1990–91 in the major city and regional centre areas. In 1996–97 the number of jobs increased in the food industry and also in the electricity and electronics industry particularly in Helsinki, Oulu and Jyväskylä. Of the smaller centres, Rauma lost jobs in the paper and metal industry in addition to the food industry, and Kajaani in paper industry. In 1996–97 Rauma got the greatest number of food industry jobs and Kajaani, where the effects of the depression were still felt, gained jobs in the metal industry.

The net change of the education level has been calculated from the sum of stayers, in-migrants and out-migrants. There are five classes of the education level. In the period of 1990–91 the proportion of people with comprehensive and lower secondary education was decreased substantially; they made up on average 77 % of the employed, while their proportion of the total population is 65 % (Figure 11). When one compares the loss to the education structure of the total population in 1990 in the local labour market areas, one perceives that those with higher level education experienced less reductions (approximately 6 %) than was their proportion of the employed (14 %). The reductions were directed relatively most heavily to the comprehensive level employed of Rauma, Lohja, Turku and Helsinki.

In 1996–97, when the net change of the education level had turned positive, the proportion of those with upper secondary level education increased most (on average 41 % of the employed, whereas their proportion of the total population is 23 %) and particularly the proportion of the comprehensive level increased least (on average 24 %, 36 % of total population) (Figure 12). One explanation to this is that between the periods some of the oldest and least educated people shifted outside the labour force. To fill the demand for manpower, younger and more educated people were hired. Jobs were particularly scarce for the comprehensive level employed in the areas of Rovaniemi, Jyväskylä and Kajaani, where unemployment was still high. In proportion to the greatest employed group, those with upper secondary level

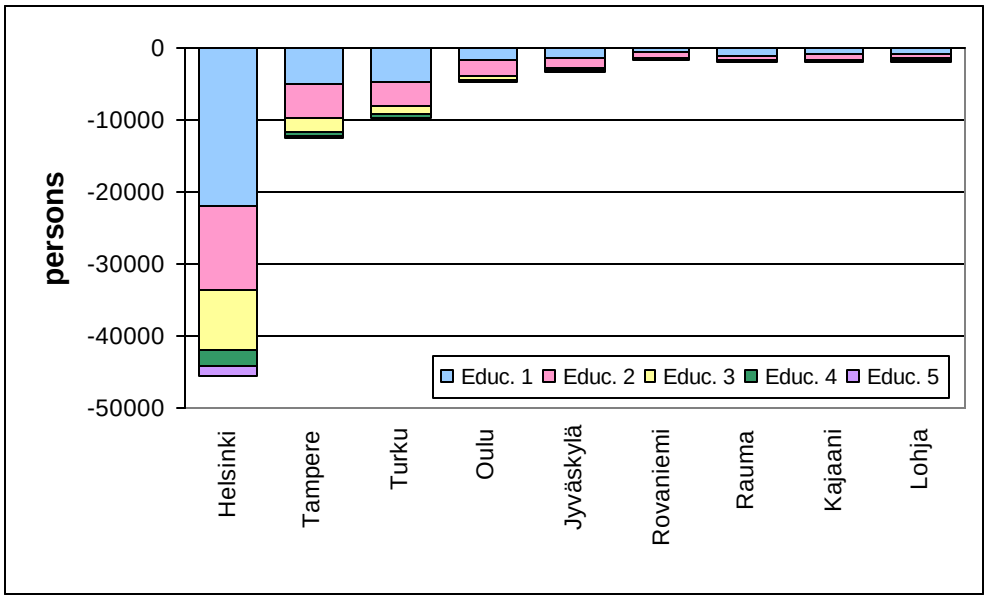

Figure 11. Net change of the employed according to the level of education in the local labour market areas in Finland in 1990–91. Education classes: Educ. 1= comprehensive level, Educ. 2= lower secondary level, Educ. 3= upper secondary level, Educ. 4= lower higher level, Educ. 5= upper higher level. (Data: Statistics Finland).

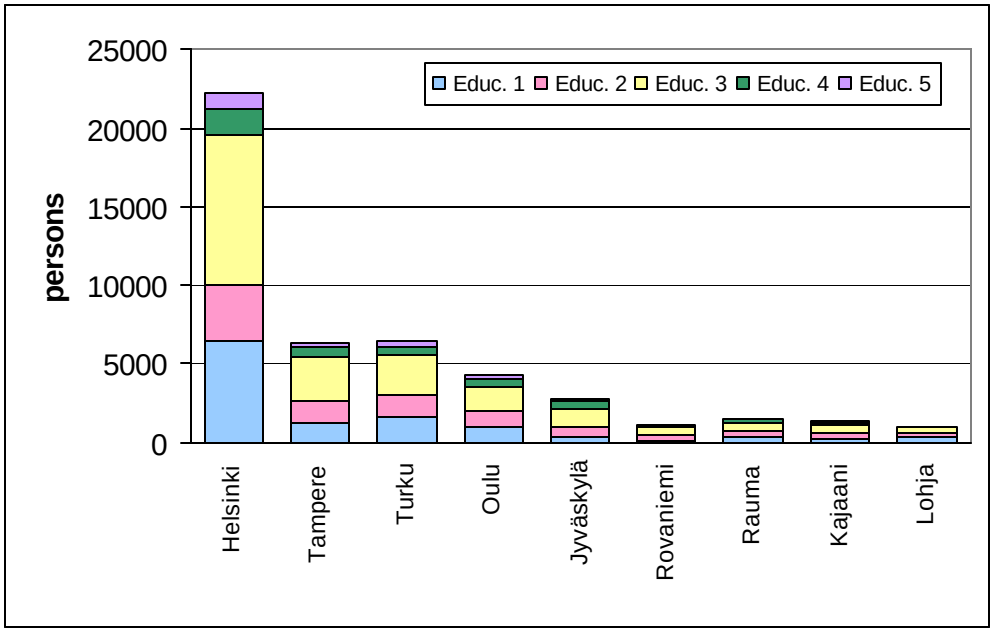

Figure 12. Net change of the employed according to the level of education in the local labour market areas in Finland in 1996–97 (see educational classifications in explanations of Figure 11). (Data: Statistics Finland).

education, was strongest demand in Jyväskylä, Helsinki and Tampere. Those with the highest level of education were employed proportionally the most in Oulu.

The education structure of the local labour market areas has been compared in 1990 and 1996. It has been calculated from the sum of the stayers and in-migrants. From 1990 to 1996 the relative proportion of those with a comprehensive education has decreased in the areas from approximately 40 % to 36 %. The proportion of lower secondary level education has also diminished slightly. Degrees of upper

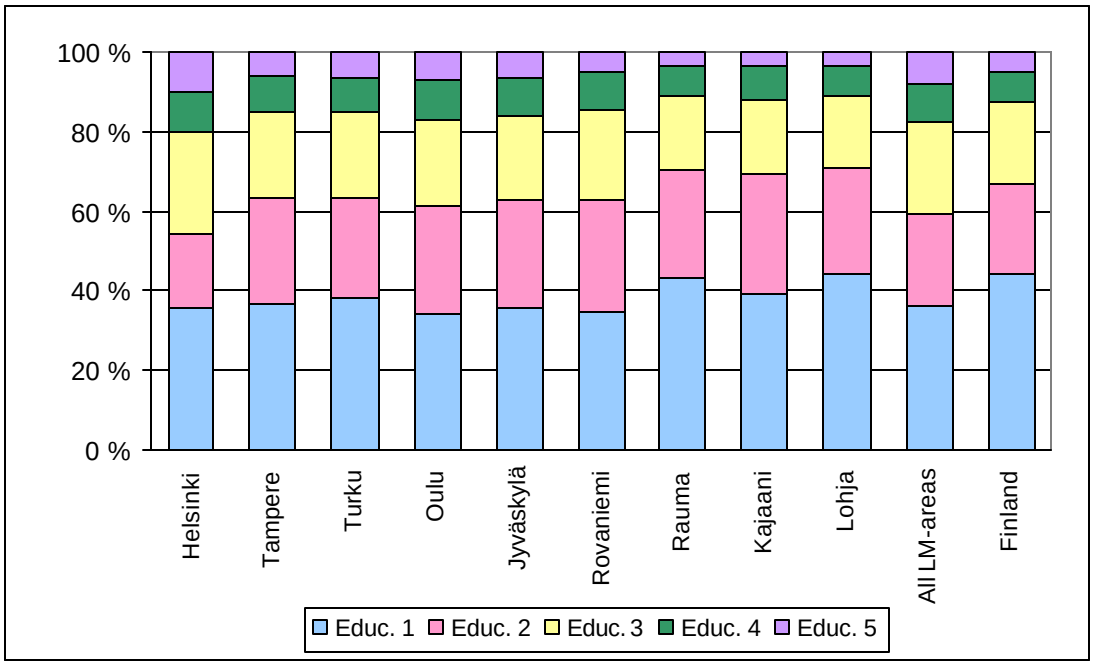

Figure 13. Education structure in the local labour market areas and in Finland in 1996 (see educational classifications in explanations of Figure 11). (Data: Statistics Finland).

secondary and higher level have become more common. In 1996 the education structure of the local labour market areas was higher than the average structure of the whole country (Figure 13). In the whole country, the proportion of comprehensive and lower secondary level degrees is bigger than in the local labour market areas, which thus have higher educated people than the average. The Helsinki local labour market area has the highest education level, because those with higher level education make up over 20 % of the employed in 1997. The lowest education level is found in Lohja and Rauma, where it is the same as the average level in the whole country.

4.2 The characteristics of stayers and migrants

There is a slight majority of women within the stayers, except in Kajaani during both of the observation years and in Lohja in 1996. Women are slightly more migratory-active as migrants than men. During both periods all areas but Lohja have a majority of female out-migrants. Also in-migrants have a female majority in all areas but Kajaani and Lohja. The immigrants that migrated to the local labour market areas had a male majority in 1990, but in 1996 in Rauma and Kajaani there was a substantial female majority. Out-migrants have a female majority in the youngest age group, those 16–24 years of age; this is also the largest absolute migrant group. With men there are most migrants in the 25–34 age group. In 1990 the relatively largest group of domestic migrants that migrated to the Helsinki local labour market area was that of 16–24-year old women; in the other areas the 25–34 year groups of both men and women were the largest. In 1996 the 16–24-year-old women migrated most to all areas; with men the 25–34-year-olds were the largest group. The willingness to move is greatest among students and young people of 20–29 years who are entering the working age. It decreases steeply when age increases (Tilastokeskus 1999).

The out- and in-migrants are usually more educated than the population that has stayed in the area, because most of the in-migrants are younger than the stayers (Figure 14). Of the nine local labour market areas Helsinki had the most educated stayers whereas the least educated were in Lohja and Rauma. People who come to the Helsinki area have a higher level of education than the stayers do but the out-migrants have

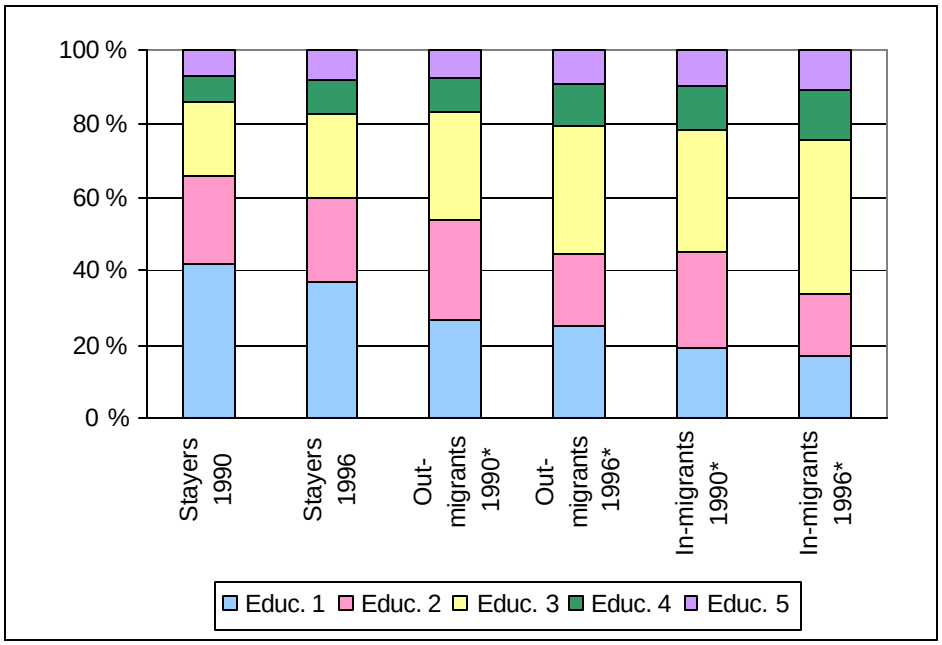

Figure 14. Education structure according to stayers, leavers, and migrants in 1990 and 1996 in the local labour market areas in Finland (see educational classifications in explanations of Figure 11). *country-internal migration. (Data: Statistics Finland).

lower education level. Older age groups out-migrate much from Helsinki. In the other areas both in-migrants and out-migrants have a higher education background than the stayers. Of the out-migrants the ones that left Turku had the relatively highest level of education: as many as 12 % of the out-migrants in 1996 had an upper higher level degree or a postgraduate degree. The emigrants represented the level of the stayers fairly well in 1990, but already in 1996 this group had a relatively higher level of education than the area of departure. Most of the immigrants had a comprehensive education in 1990, as in 1996, but in the last year there were also highly educated immigrants among them.

4.3 Primary field of activity

The primary field of activity has been compared between the stayers, the out-migrants and the in-migrants in the local labour market areas in 1990 and 1996 (Figure 15). From 1990 to 1996 the proportion of the employed has diminished in all groups and the proportion of the unemployed has grown accordingly. Also the relative proportion of students has grown during six years. The proportion of the group ”other” (the pensioners, those in military service and others outside the labour force) has merely stayed as it was. The employment proportions of out-migrants and domestic in-migrants were higher than those of the stayers in 1990, but in 1996 less than half of the out-migrants and in-migrants were employed. Students have formed a large group in the out-migrants and in-migrants; there was approximately a quarter of them in both groups in the latter year of observation. Also the proportions of the unemployed are larger in the migration groups compared to the stayers. About half of the immigrants were employed in 1990 but in 1996 only one out of four was employed. At that time also one fourth of the in-migrants was unemployed and the largest group was formed by ”others”, i.e. those outside the labour force.

There are differences between the local labour market areas when they are examined according to primary field of activity and mobility. Relatively there were most stayers in Helsinki in the both years of observation and least in Kajaani, where the proportions of the unemployed were high, together with Rovaniemi. Of the out-migrants, the proportion of students was especially high in Kajaani, Rauma, Jyväskylä and Rovaniemi in both periods. In 1996 approximately one third of those who migrated out of these areas were students. Of the domestic migrants who migrated to Helsinki and Lohja over a half

was employed and one out of four of those who migrated to Kajaani were unemployed in 1996. There were most students among those who came to Rovaniemi, Turku, Jyväskylä and Oulu. The employment rate of immigrants in the areas that receive them most has dropped significantly in between the years of observation. Tampere, Jyväskylä and Rovaniemi relatively received most unemployed immigrants in 1996.

The relation of the development of the primary field of activity and net migration is examined in three-dimensional form. Net migration has been proportioned to the population of the region at two points in time, in 1990–91 and 1996–97. Of the major cities, Helsinki received most employed people, who were employed during the next year, in 1991 (Figure 16). Some employed people left the area and they were outside the labour force the next year. Most of them were pensioners, because migration flows out of the Helsinki area tend to consist of the aged. In the next observation period in 1996 Helsinki received still more employed people and also students. A certain number of people who had shifted from unemployment and studies to employment migrated to the area. In 1990 Tampere received students and employed people who continued their career in working life the year after their migration. Tampere lost students, who entered to working life. In 1996 the largest migrant group in Tampere was those employed who had continued working life, and the number of students increased from the last period. Also unemployed people who have continued their unemployment in-migrated to the area. Turku received chiefly students and employed people in 1990 and it lost students entering working life. In 1996 the largest migrant group were the students but Turku also received employed people to jobs, unemployed people to unemployment and people outside the labour force.

Of the regional centres, Oulu received most net migration gain from the flow of the employed and it lost chiefly graduated students who shifted into working life (Figure 17). In the next period a group of students and some unemployed people have emerged together with the employed. Oulu still experiences a loss of graduated students. Jyväskylä received mainly employed people entering working life but also students in 1990. It lost students entering into working life. In 1996 the largest migrant group was that of students; in addition also employed people came, and also some unemployed people and people outside the labour force. Graduated students form the largest group within the out-migrants. Rovaniemi received chiefly employed people in 1990 but also students and unemployed people. It lost graduat-

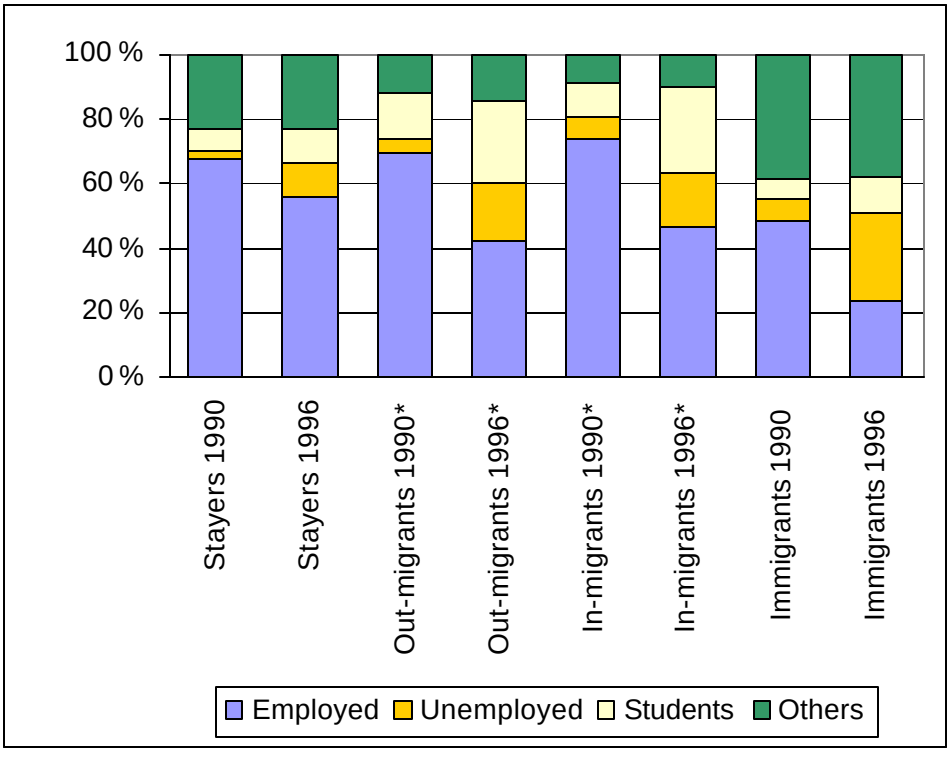

Figure 15. Primary activity of stayers, out-migrants, in-migrants and immigrants in the local labour market areas in Finland in 1990 and 1996. * country internal migration. (Data: Statistics Finland).

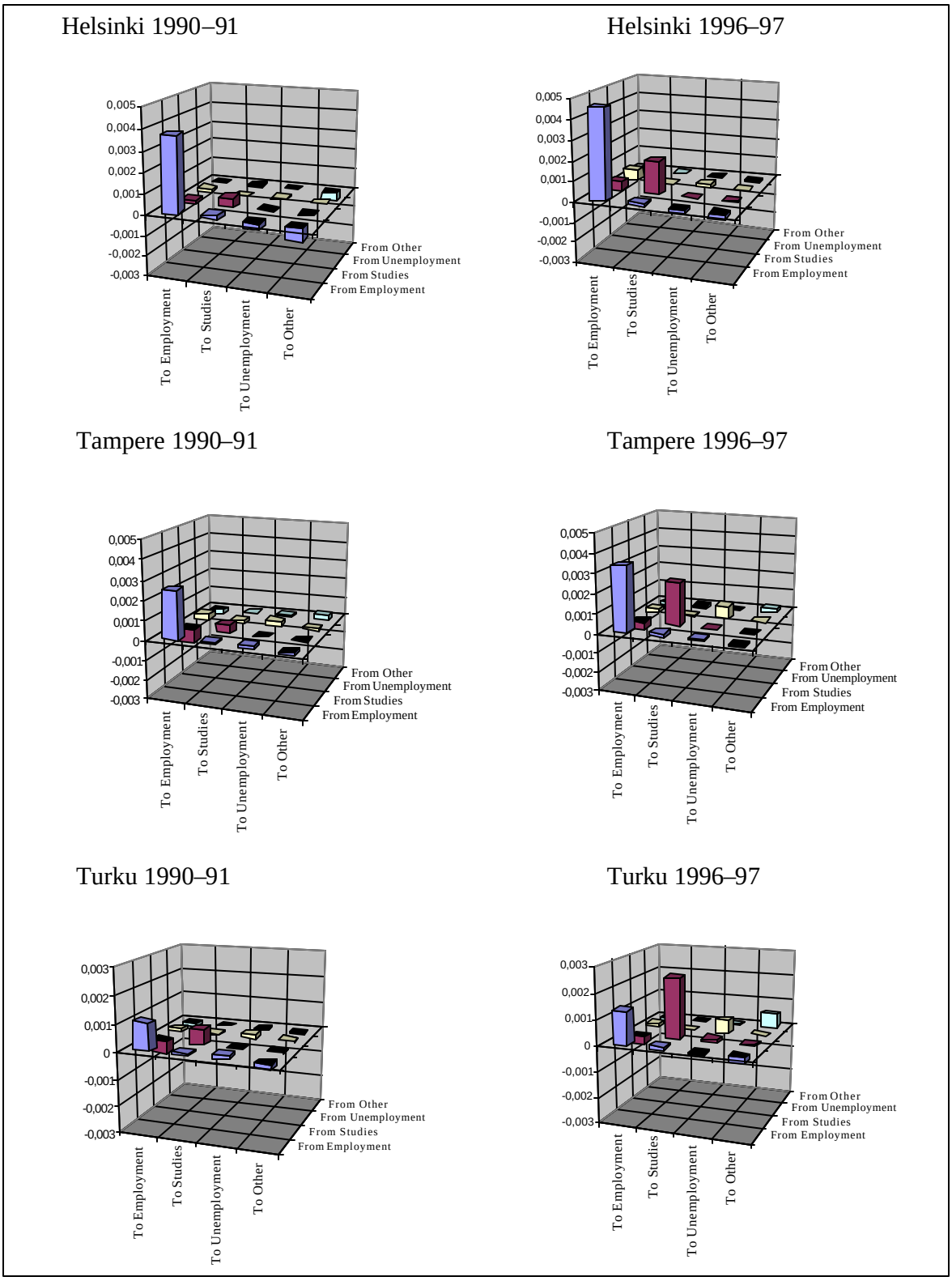

Figure 16. Net migration in proportion to total population/ changes of primary activity in the major cities in Finland in 1990–91 and 1996–97 (Data: Statistics Finland).

ed students and people shifting out from labour force. In 1996 Rovaniemi received mostly students and also employed people and lost people shifting from studies into working life and also migrants from the other groups.

Of the smaller centres, Rauma received some people outside the working life and some employed in the beginning of the 1990s, but the largest group was out-migrants shifting from studies into working

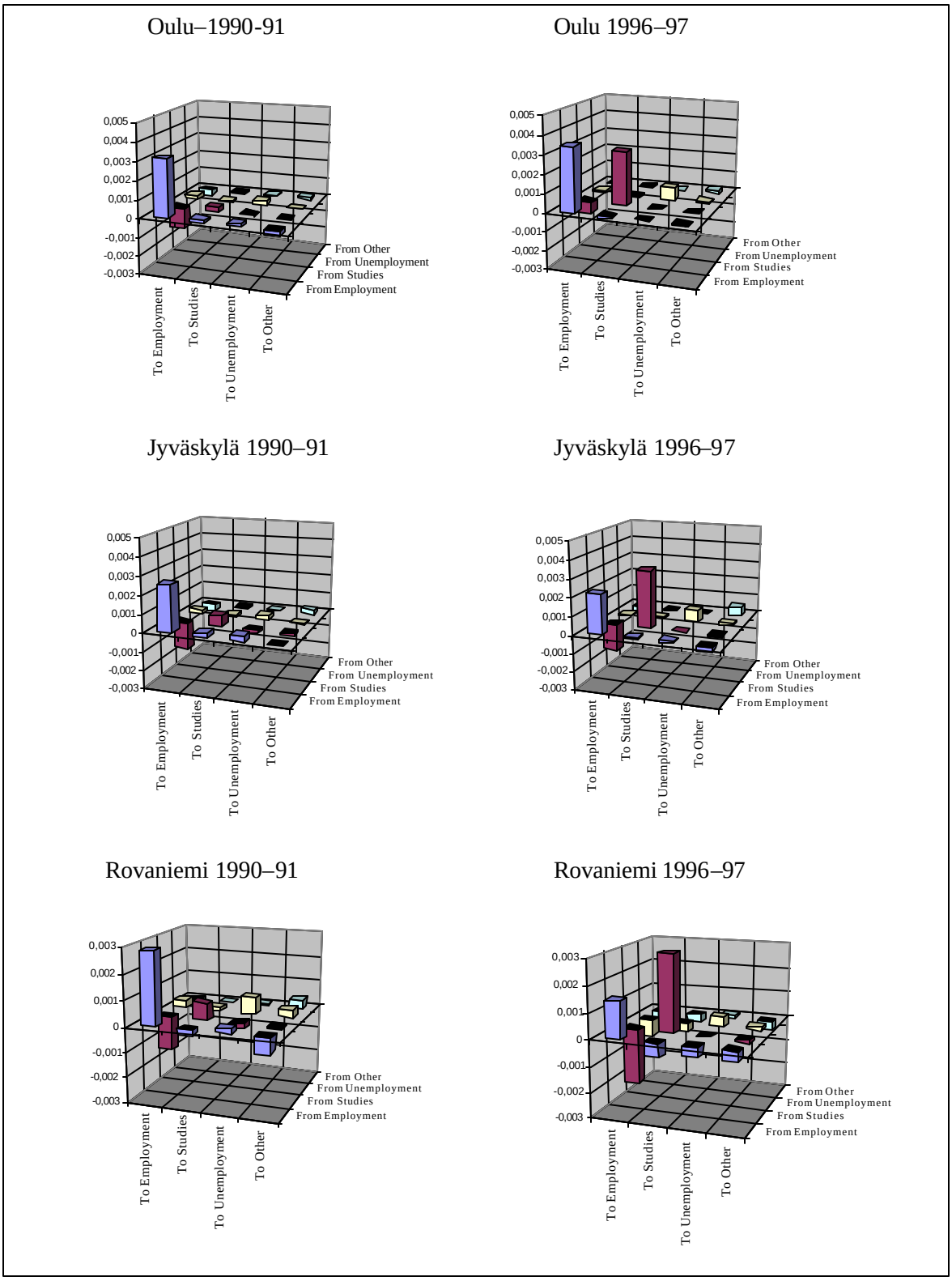

Figure 17. Net migration in proportion to total population/ changes of primary activity in the regional centres in Finland in 1990–91 and 1996–97 (Data: Statistics Finland).

life (Figure 18). In 1996 Rauma experienced loss from virtually all groups. Unemployed people, who continued to be unemployed or shifted outside labour force, migrated to the local labour market area. In 1990 Kajaani received employed people into working life and unemployment and unemployed people and those outside labour force. The largest group was, as in Rauma, the people shifting from studies

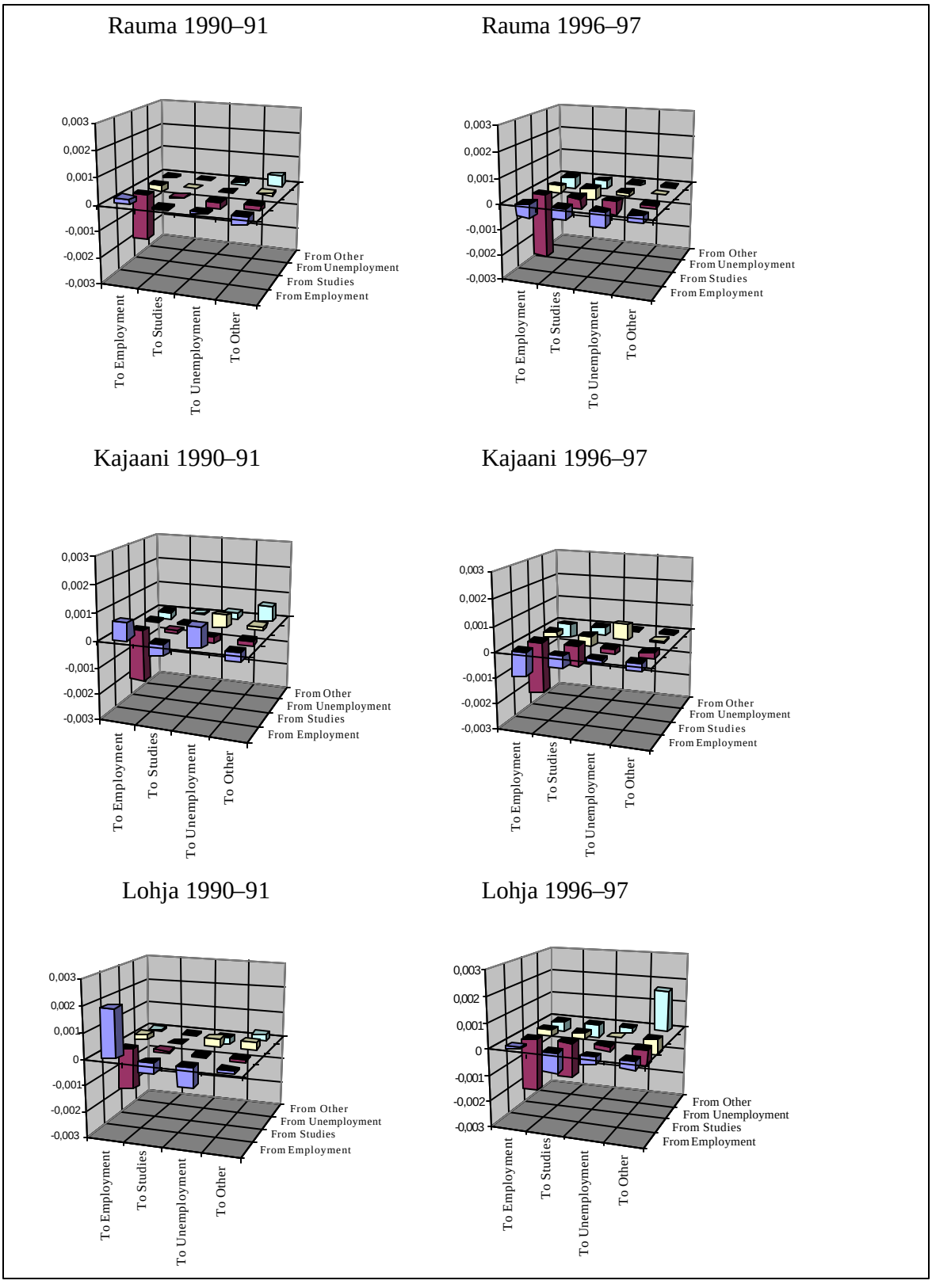

Figure 18. Net migration in proportion to total population/ changes of primary activity in the smaller centres in Finland in 1990–91 and 1996–97 (Data: Statistics Finland).

into working life who out-migrated from the area. In 1996 the area only received unemployed people to unemployment and outside labour force. Kajaani lost in all the other groups of primary field of activity, mostly those shifting from studies to work or entering to studies and employed people shifting to work elsewhere. In 1990 Lohja received people coming to work and lost people shifting from studies to work

and those who entered into unemployment after employment. In the next period the largest in-migrant group was those outside labour force. Lohja lost in almost all other groups, mostly students who went to study outside the local labour market area.

From 1990 to 1991 Tampere, Oulu, Jyväskylä, Rovaniemi and Lohja were alike in that the regions received net migration gain chiefly from the employed who came to work and net migration loss from students shifting into working life. From 1996 to 1997 Helsinki, Tampere and Oulu received most migration gain from the employed who came to work, but also plenty from the young who came to study, which shows the influence of the migration law of 1994. Students changed their place of residence when they came to study in the locality and not only when they shift from studies into working life. On the other hand, Turku, Jyväskylä and Rovaniemi received most net migration gain from students and in addition from those who came to work. A common feature among the smaller centres is that they have lost plenty of people from different groups of primary field of activity and the net migration loss has increased towards the end of the 1990s.

4.4 In- and out-flows of labour force

The in- and out-flows of labour force have been examined as a sum of the stayers, in-migrants and out-migrants in each of the local labour market areas. The in- and out-flows have been calculated in proportion to all employed. In 1990–01 the stream out of work is at a high level influenced by the depression (Figure 19). The highest proportions (16–17 %) were in Kajaani and Rovaniemi and the lowest (12 %) in the Helsinki area. The proportion of those entering the labour force was lower than the out-flow because plenty of jobs had been lost throughout the whole country. The proportion of entries was largest in Kajaani, Rovaniemi and Jyväskylä and smallest in Helsinki and Lohja. In 1996–97 the exits were at a lower level than in the beginning of the decade. The areas of Rovaniemi and Kajaani again lost most (11–12 %), having still a high level of unemployment, and Lohja and Helsinki lost least. New workers were taken more then than old ones were lost because new jobs were being created. The relatively biggest in-flows were found in Kajaani and Rovaniemi (approximately 18 %) and recruitment was at its lowest in Helsinki.

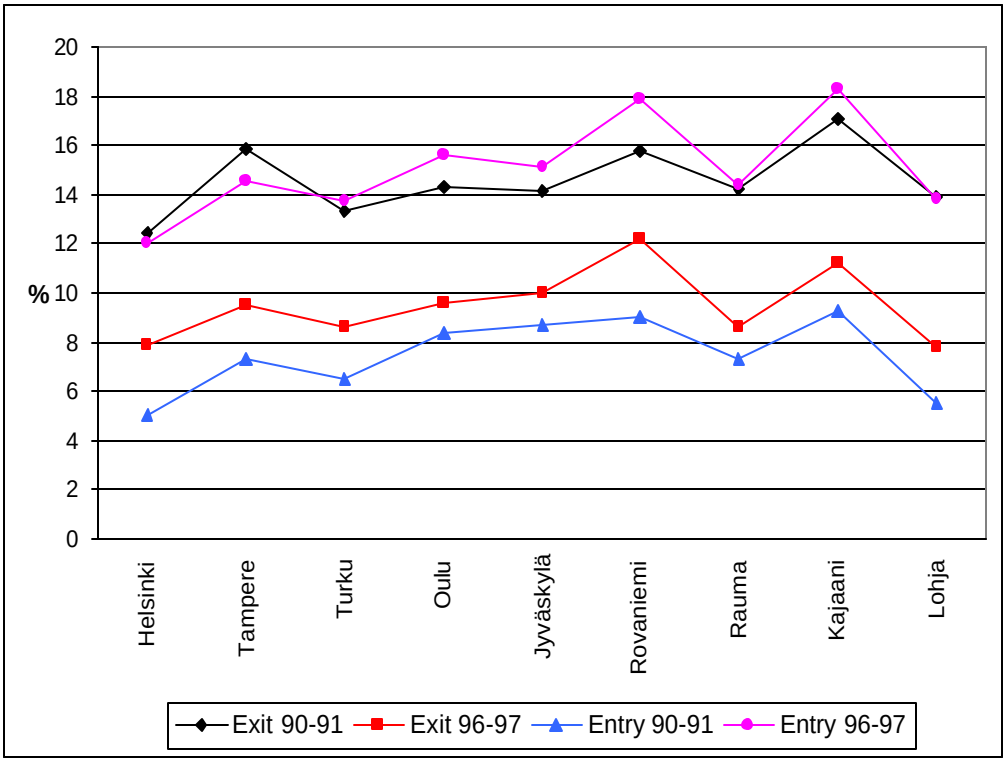

Figure 19. Total exits and entries in percent of stock in Finland in 1990–91 and 1996–97 (Data: Statistics Finland).

4.5 Who gets the new jobs?

In the following, it has been examined the size of the proportion of new jobs that local workers get in the two observation periods (Figure 20). In 1990–91 in most of the local labour market areas local workers have received the jobs more often than in 1996–97, which shows a greater mobility of the labour force towards the end of the 1990s. New jobs have emerged e.g. in the electricity and electronics industries, which have needed professional knowledge on a narrow field. On the other hand, non-local manpower has been employed in construction. Locals have been recruited more often in major cities than regional centres. Smaller centres, which also have a smaller labour force potential in all fields, have needed outsiders the most. In Lohja those who have come from elsewhere have exceptionally been recruited more in 1996–97 than in the beginning of the 1990s.

As the proportion of locals and non-locals is examined according to obtaining of new jobs and by level of education, it can be seen as a general feature that the higher education profile a job position has, the more often a person coming from outside the local labour market area will possibly be chosen to fill it. The comprehensive level jobs have been filled with locals up to 86–95 % in the two observation periods, in Helsinki most often. Of the secondary level jobs 81–90 % have gone to the local employed whereas the higher level jobs present the greatest differences in recruiting locals, depending on the local labour market area (70–88 %). In Jyväskylä and Rovaniemi a non-local has most often been employed in a higher level job. In contrast, in the Helsinki area the workers are most often found among the stayers.

Examined according to field of business local workers have been recruited most often in the major cities. In agriculture and forestry stayers have been employed the most in the Kajaani area and in industry those living in the major cities. The paper industry, for example, is a field into which approximately one out of four of the employed with a higher level education has come as a migrant to the area. The positions in manufacture of machinery and equipment in the areas of Southern Finland and Kajaani have relatively been filled most often with locals. In the manufacture of electric technology products, which has expanded widely as a field in the 1990s, the jobs with a higher level education profile have been filled with non-locals more often in 1997 than 1991. In construction the situation is the opposite – the vacancies demanding higher education have gone to locals significantly more often in 1997 than in 1991. In trade the recruitment situation varies widely according to the area and time. In accommoda-

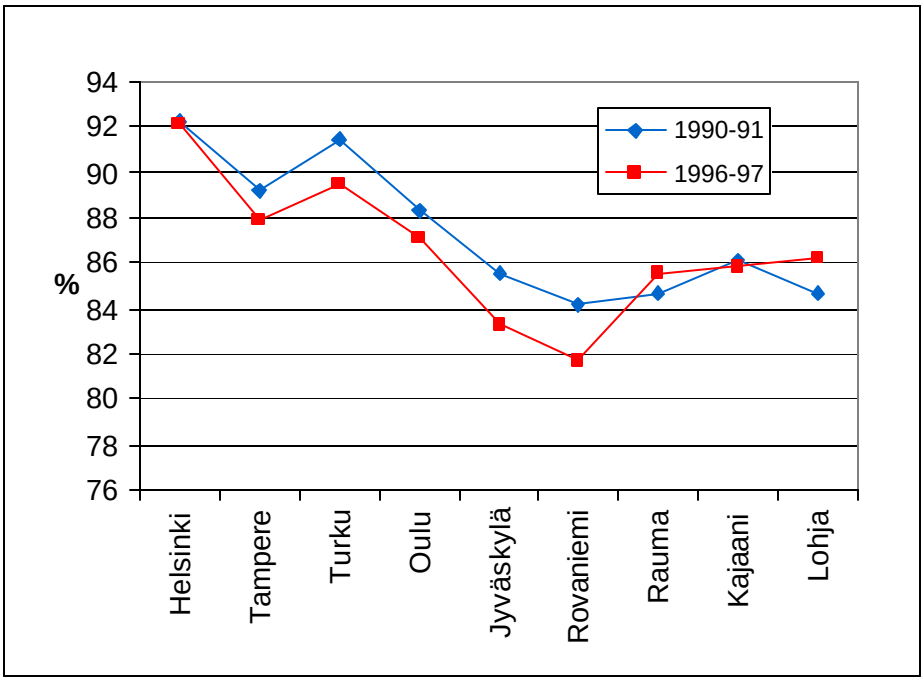

Figure 20. Local recruitement in percent of total recruitement in Finland in 1990–91 and 1996–97 (Data: Statistics Finland).

tion and nourishment local employees with higher education have been found most often in the smaller centres, Kajaani and Rauma. Financing, real estate and other business services have found their highly educated local manpower best in the Helsinki local labour market area. In data processing services there are big differences between the areas in the proportions of those employed in the field. In 1997 the higher education positions in the field have more and more often been filled with outsiders, excluding the major cities. Non-local employees have most often been needed to fill the higher education jobs of health care and social services in Jyväskylä, Rovaniemi and Kajaani. In education field, many migrants have been recruited to the higher education positions in the smaller centres. On the other hand, locals have more often been acquired to the new jobs in research in 1997 than in 1990.

4.6 Index of performance

In the analysis, the data includes the stayers in both observation periods taken from the stream data arranged according to local labour market areas. Education is presented in three classes, divided into comprehensive, secondary and higher degrees. In addition, primary activity according to employment from year t to t+1 is included. First, the relative change to employment in the groups of primary activity has been calculated for the all nine labour market areas as total and for the local labour market areas according to education level. A proportion of the local labour market area has been calculated of the average of the nine labour market areas. The acquired figure is placed in a netlike diagram. The final product is one figure from both periods of observation, 1990–91 and 1996–97. The ”best” and ”worst” areas of the time are presented in the same figure.

Figure 21 representing period 1990–91 tells how the stayers have been employed according to level of education from the different classes of primary activity: Rauma was the worst and Kajaani the best area in employment. The two areas differ in the case of the stayers who continued their work so that Kajaani has more negative values than Rauma. There are substantial differences between those people with higher education who shifted from unemployment to employment, which has occurred significantly more often in Kajaani than Rauma. In 1996–97 the best area is Lohja and the worst Rovaniemi (Figure 22). The employment proportions of Rovaniemi are worst nearly in all groups. Especially those

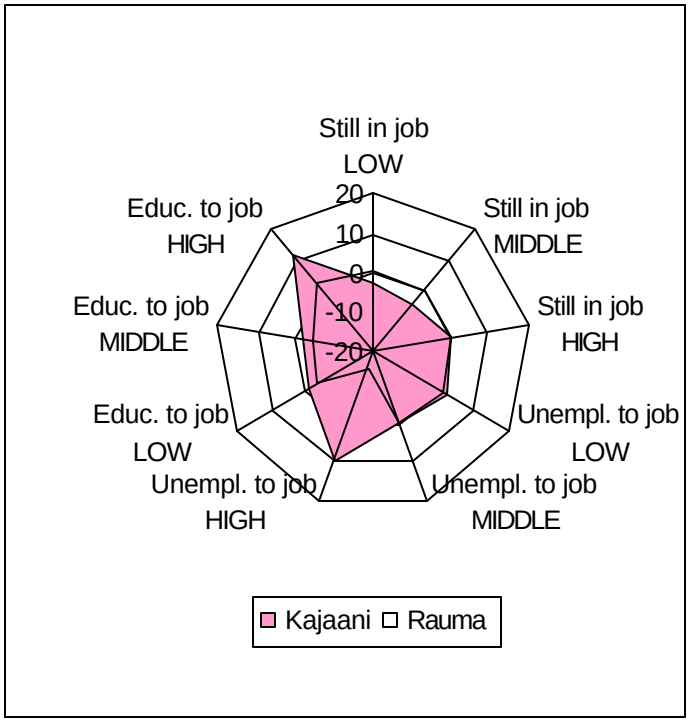

Figure 21. Best and worst shift to labour market in Finland in 1990–91 (Data: Statistics Finland).

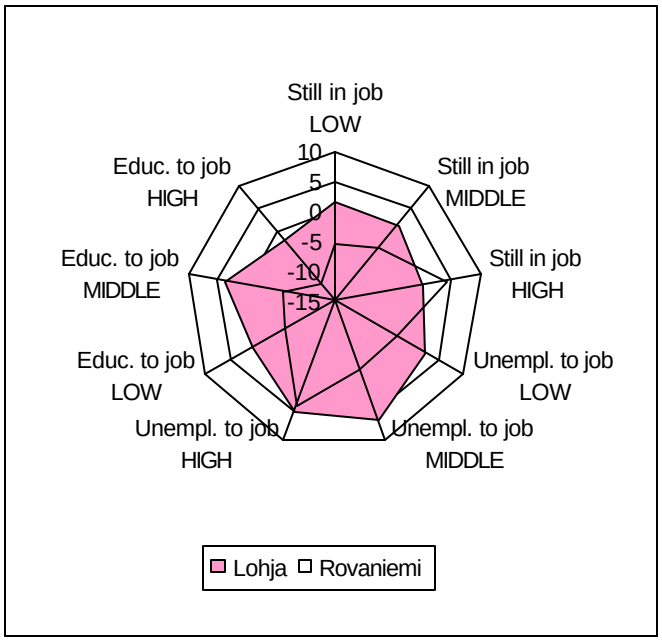

Figure 22. Best and worst shift to labour market in Finland in 1996–97 (Data: Statistics Finland).

Table 6. Index of performance of the Finnish labour market according to labour market areas arranged from the worst to the best in 1990–91 and 1996–97 (Data: Statistics Finland).

"Bad year" 1990–91	LLMPI	"Good year" 1996–97	LLMPI
Rauma	-2.43	Rovaniemi	-3.26
Jyväskylä	-0.95	Jyväskylä	-2.67
Tampere	-0.88	Kajaani	-1.55
Turku	-0.40	Tampere	-1.40
Rovaniemi	-0.14	Turku	-0.01
Helsinki	0.37	Rauma	0.12
Oulu	0.94	Oulu	0.33
Lohja	1.15	Helsinki	0.75
Kajaani	1.20	Lohja	2.18

with a comprehensive or secondary education have had difficulties in getting employment in Rovaniemi, as compared to Lohja. With the highly educated, a more substantial difference exists when shifting from studies to work. In Rovaniemi the highly educated have had better situation compared to Lohja to continue working in the local labour market area.

The percentages in figures 21 and 22 are added up and the result is divided by nine, which produces the average employment percentage in an area. These "indexes of performance" have been united into a straight deviation from both years in order of size and according to the local labour market area: the largest is the best and the smallest the worst (Table 6). The regions of the preceding picture have been chosen according to this table. In the table in 1990–91 the Lohja area is almost at level with Kajaani, which is the best in the next period. Helsinki is the second best in 1996–97.

4.7 Net migration

The data consists of in- and out-migrants of each local labour market area and the net migration according to primary activity from year t to t+1. The in- and out-migrants are added up and the result

is divided by two, which produces a certain figure. Those who arrived to employment, studies, unemployment and outside the labour force are added up from the net migration. The result is negative or positive. Each of the four figures is divided by the figure acquired from the previous calculation. With the figures acquired from these calculations a column diagram is constructed for each local labour market area in the two periods of observation. The column from the earlier period shows the net migration gain of the people who received a job or a place of study in Helsinki and the net migration loss of people who landed into unemployment and outside the labour force (Figure 23). The other major cities and regional centres have received net migration gain from all the groups of primary activity with Turku as an exception; there people shifting outside the labour force have left the area. The smaller centres differ from each other: Rauma has experienced only net migration loss consisting of people who came to work and the unemployed; the loss in Kajaani consists of those shifting to work or studies and the gain of those unemployed or outside the labour force. Lohja in turn has lost people who shifted to studies or unemployment and gained those employed and outside the labour force. From 1996 to 1997 almost all of the major cities and regional centres have experienced net migration gain from all the groups (Figure 24). Helsinki and Rovaniemi are exceptions; they have lost people who shifted outside

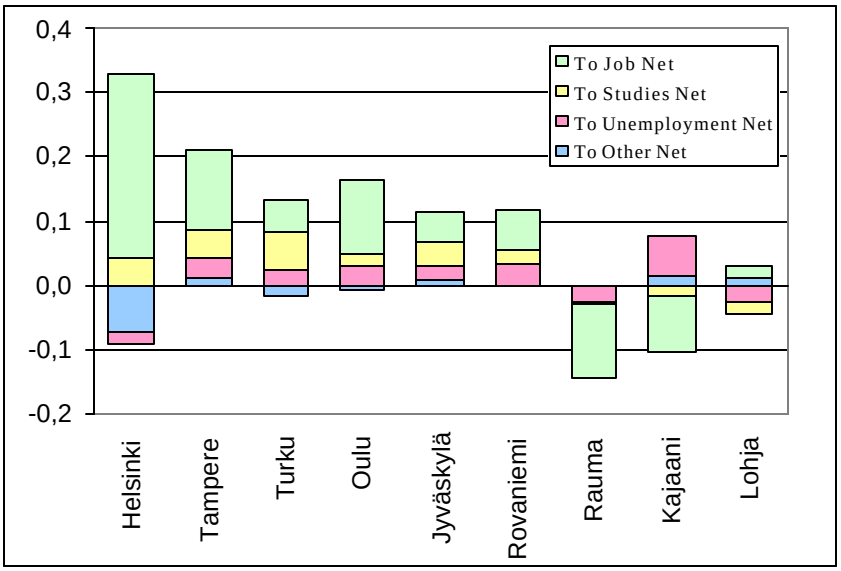

Figure 23. Net migration according to labour market status in Finland in 1990–91 (Data: Statistics Finland).

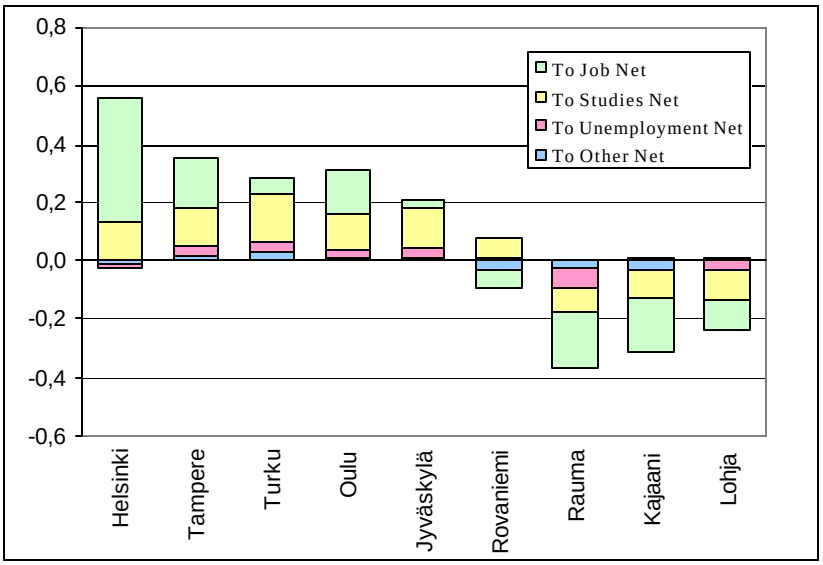

Figure 24. Net migration according to labour market status in Finland in 1996–97 (Data: Statistics Finland).

the labour force, in addition to which Rovaniemi has lost those who shifted to employment. The smaller centres have had net migration loss from all groups; of these the only exception is Kajaani, which has gained people who shifted to unemployment.

Three diagram pairs are examined, with the employed, the students and the unemployed in the two periods (Figures 25–27). The net migration by primary activity from figures 23 and 24 is on the vertical axis; the index of performance by labour market status is on the horizontal axis (see Figures 21–22). The first figure represents the employed (Figure 25) and each point represents one local labour market area. The point of Helsinki is the uppermost on the right having the highest positive values among the labour market areas. Kajaani's value in the performance index for the employed is the lowest on the left in the first period while Rauma's point is the lowest in net migration. Helsinki has thus received employed people and in addition, according to the index, the stayers have been employed reasonably well. The labour market areas locate in the different way in the years 1990–91 and 1996–97. Helsinki is again holding the best position in net migration and both Rauma and Kajaani have the worst position respecting net migration. Lohja has the highest value for the index of performance among employed and Kajaani the lowest.

The students' trend line is opposite to that of the employed; it descends and the phenomenon is more steeply in 1990–91 and less steeply in the later period (Figure 26). The most negative regions concerning net migration are Kajaani, Lohja and Rauma and the most positive development in net migration has been in Turku labour market area during the both periods. The index of performance for the students has been the best in Kajaani in 1990–91 and it was the best in Helsinki in 1996–97. The most negative values for the index are found from Rovaniemi labour market area during the both periods.

The trend of the unemployed is ascending in 1990–91 and descending in 1996–97 (Figure 27). There is out-migration of the unemployed in Lohja, Rauma and Helsinki in 1990–91. At that time Kajaani, Tampere, Rovaniemi and Oulu represent the "best" regions in this respect. They experience net migration gain from the unemployed and the stayers have been employed fairly well. In 1996–97 the same

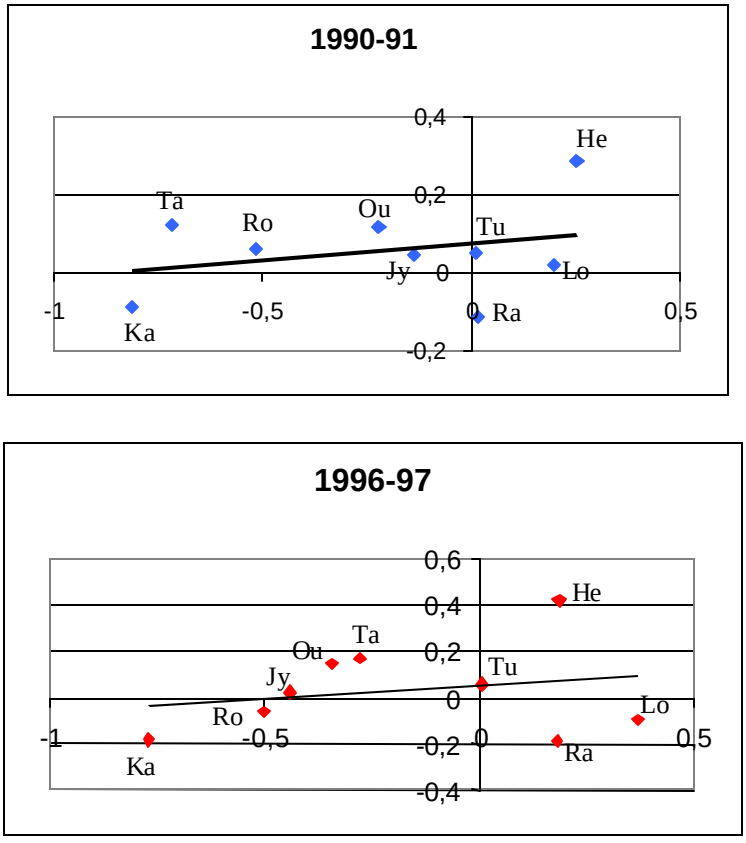

Figure 25. The employed in the two periods by index of performance and net migration in Finland. He= Helsinki labour market area (LMA), Ta= Tampere LMA, Tu= Turku LMA, Ou= Oulu LMA, Jy= Jyväskylä LMA, Ro= Rovaniemi LMA, Ra= Rauma LMA, Ka= Kajaani LMA, Lo= Lohja LMA. (Data: Statistics Finland).

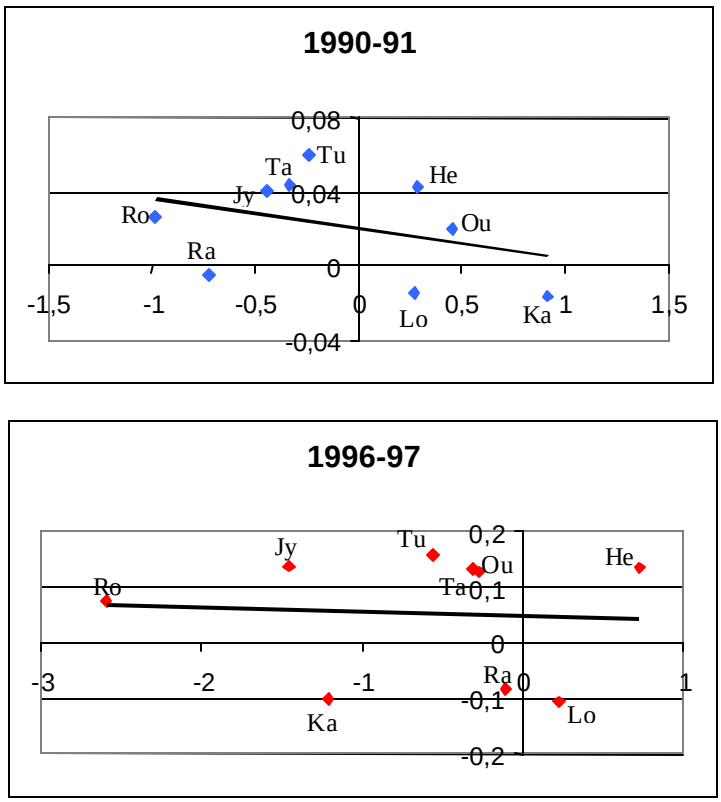

Figure 26. Students in the two periods by index of performance and net migration in Finland (for explanations see Figure 25). (Data: Statistics Finland).

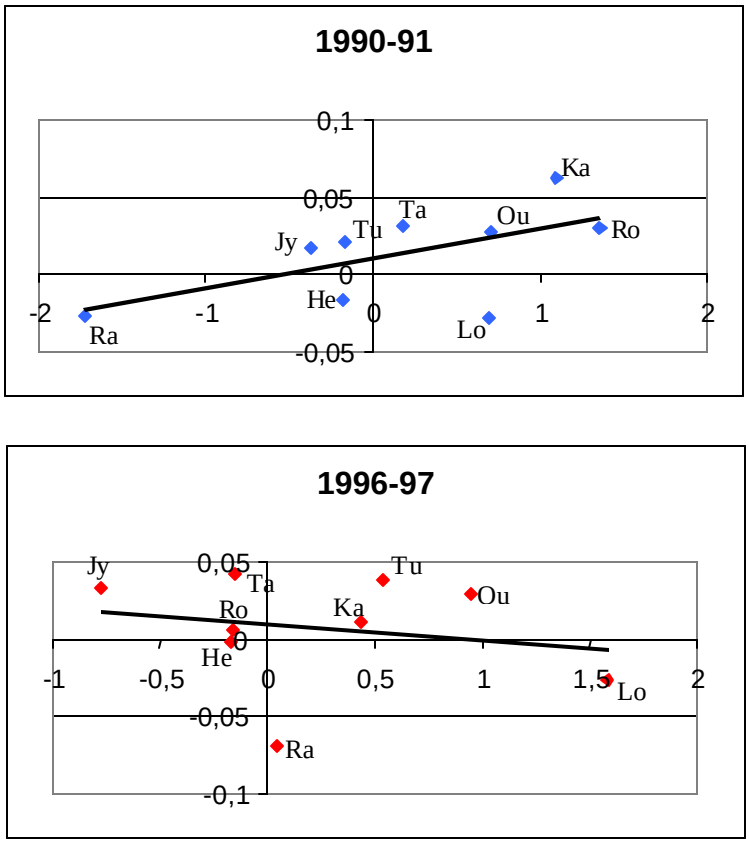

Figure 27. The unemployed in the two periods by index of performance and net migration in Finland (for explanations see Figure 25). (Data: Statistics Finland).

regions are below the zero line in net migration and Jyväskylä on the most negative side of the index of performance. Jyväskylä has experienced net migration gain from the unemployed, but the unemployed stayers have not been employed very well.

5. Conclusion

Mass unemployment was characteristic for the whole 1990s in Finland. After economic growth accelerated in the middle of the decade the level of unemployment decreased but the structural unemployment remained. In different parts of Finland and inside different areas development has taken place at a different pace. Unemployment is not only regional but also structural. Unemployment has occurred in fields that cannot correspond to the requirements of the new jobs that are created. The explosive unemployment of the beginning of the decade was encountered with national countermeasures. After the unemployment had become more multidimensional the national measures were not enough; in different circumstances and with different groups, different and locally tailored solutions have been needed constantly. The gradual expansion of the authorities responsible for employment management has indeed been characteristic to the employment management in Finland in the 1990s. Regional mobility through labour force policy training has proved to be an efficient promoter of employment in Finland. Support of telecommuting and expansion of the local labour market areas are a part of improving mobility.

A program-based phase of regional development has continued the long traditions of Finnish regional policy. The differences between the regions are nowadays levelled through the means of both national structural policies and with the help of the Finnish adaption of the regional and structural policies of the European Union. In the structural fund period of 1995–99 the support directed through the programs is seen to have renewed and diversified the Finnish regional, economic and labour policy. A competency centre program designed to support regional specialisation and co-operation between the competency centres has been carried out in Finland from the beginning of 1994. The focus of the competency centres is in local activity and they are situated particularly in the localities offering higher level education.

Education and research are a significant part of the Finnish strategy. The basic policy of the Government emphasises know-how and knowledge that will benefit all areas of the country equally. A place of study for higher education is offered to 60–65 % of the whole age group. There is a wide network of higher education institutes and polytechnics that covers the whole country. The number of higher level students has grown 32 % in 1990–98. In 1998 approximately 70 % of the university students in Finland studied in the universities in the major city regions.

The periods of observation concerning Finland are years 1990–91 and 1996–97 in the stream data. During the former period Finland was falling into depression and rising from it during the latter period, at a different pace in different areas.

The local labour market areas are divided into three classes: major cities, regional centres and smaller centres. The major cities are situated in southern Finland in a triangular area. The largest one of them is Helsinki, the capital of the country. The other major cities are Tampere and Turku. Every major city has several institutes of higher education and polytechnics. The largest one of the regional centres is Oulu, the others being Jyväskylä and Rovaniemi, all of which house a university. These universities have had a substantial effect to the development of the central municipality. In the smaller centres, Rauma, Kajaani and Lohja, units of universities are situated. A possibility for polytechnic education is offered in every one of the local labour market areas. The population increased in 1990–97 in all the local labour market areas except Kajaani and Rauma. At the same time the number of jobs decreased in all of the areas following the depression. Halfway through the decade the number of jobs has increased as the economic situation has started to improve. The net migration of the local labour market areas was positive in almost all the areas in the beginning of the 1990s, but negative in Rauma, Kajaani and Rovaniemi at the end of the decade. The average income level of the local labour market areas is higher than the average of the whole country, but all the regions do not reach the national average when examined individually. In the comparison the income level e.g. in Rovaniemi and Kajaani has clearly decreased in the 1990s.

Within the two periods the net change of the employed has been compared according to field of business in the local labour market areas. In 1990–91 there has been decrease in all the fields except for public services. The relatively greatest exits were in industry, construction and trade. In 1996–97 almost all of the fields have experienced increases. Relatively, public services and the industry received most employed people. The net change of the employed according to education level shows that the decreases of the earlier period applied most to the people with a comprehensive or lower secondary level of education. When employment increased during the latter period the proportion of people with an upper secondary level of education grew the most. In the nine local labour market areas the level of education is higher than the average level of the whole country; of the regions, Helsinki has the highest level of education and Lohja and Rauma the lowest.

The migrants and the stayers differ from each other in the data. There is a slight majority of women in the migrants and they are younger than the stayers; of the women the most active is the age group of 16–24 years of age and of the men the group of 25–34 years of age. The out- and in-migrants are also more educated than the average population of the region. The Helsinki area differs from the others in the respect that there, too, the in-migrants have a higher education than the stayers, but among the out-migrants the level of education is lower.

When the years 1990 and 1996 are compared according to primary activity, all the local labour market areas have lost employed people and gained students and unemployed people. Particularly within the out- and in-migrants the number of employed people has decreased, but the number of students has accordingly increased substantially. When the proportion of the change of primary activity is compared with the net migration proportioned to the population of the area, it is seen that from 1990–91 the regions of Tampere, Oulu, Jyväskylä, Rovaniemi and Lohja have been much alike. These regions received net migration gain chiefly from employed people who came to work and net migration loss from students entering working life. From 1996 to 1997 Helsinki, Tampere and Oulu gained most from employed people who came to work but also plenty from the young who came to study. At that time Turku, Jyväskylä and Rovaniemi gained most from students and in addition from employed people who came to work. In the smaller centres the common feature was that they have lost plenty of people from different groups of primary activity and towards the end of the 1990s net migration loss in their respective areas has increased further.

Who gets the new jobs? In 1990–91 local workers have been hired in new jobs more often than in the latter period, which shows a greater mobility of the labour force in the latter period. In major city areas locals have been recruited more often than in regional centres and outsiders have been needed most in the smaller centres.

The functionality of the local labour markets has been examined by observing the employment of the stayers according to classes of primary activity. The average index of performance of the labour market has been listed by arranging the nine areas from worst to best in the both periods of observation. On these grounds the ”best” and ”worst” areas have been chosen. Rauma is the worst and Kajaani the best in 1990–91, when the greatest difference is with the highly educated who have entered into working life from unemployment: jobs have been easier to find in Kajaani than in Rauma. Rovaniemi is the worst and Lohja the best in 1996–97, when it has been significantly more difficult in Rovaniemi to find a job with a background of a comprehensive or secondary education.

The competence and know-how are important elements for the regional development. These are connected to the accessibility of the high quality labour force in the region and the general interest towards the region, for ex. for the location of the economic activities. Regional development is linked to the migration and population development. Higher education and other institutions have proved to be important for the population development. The attractive institution is like a pump that pulls young people to its location. To this type of location it develops the labour markets of the competence people and also the fast growing enterprises find the location from these types of regions and their surroundings (Aronen & Fagerlund 1999).

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Appendix. The labour market areas of the project in Finland, municipalities and commuting percentages to the centres of the labour market areas (Source: Statistics Finland).

Labour market area (number of municipalities	Municipality	Commuting %	Labour market area (number of munipalities)	Municipality	Commuting %
Helsinki (19)	Helsinki	82		Mynämäki	20
	Vantaa	44		Paimio	18
	Kauniainen	40		Sauvo	17
	Espoo	39		Pöytyä	15
	Kerava	35		Yläne	14
	Sipoo	31		Velkua	13
	Järvenpää	29		Marttila	12
	Tuusula	28		Karinainen	11
	Nurmijärvi	28		Taivassalo	10
	Kirkkonummi	25			
	Pornainen	23	**Oulu (14)**	Oulu	89
	Vihti	19		Kiiminki	56
	Siuntio	16		Oulunsalo	52
	Hyvinkää	16		Kempele	46
	Inkoo	14		Haukipudas	41
	Mäntsälä	13		Ylikiiminki	33
	Karkkila	11		Liminka	29
	Porvoo	11		Muhos	26
	Nummi-Pusula	10		Tyrnävä	25
				Ii	23
Tampere (16)	Tampere	86		Hailuoto	21
	Pirkkala	54		Temmes	18
	Ylöjärvi	47		Lumijoki	16
	Lempäälä	44		Yli-Ii	16
	Kangasala	42			
	Vesilahti	25	**Jyväskylä (8)**	Jyväskylä	84
	Nokia	25		Jyväskylä maalaiskunta	
				Municipality	50
	Sahalahti	18		Muurame	46
	Viiala	17		Laukaa	23
	Viljakkala	14		Korpilahti	20
	Pälkäne	13		Toivakka	17
	Hämeenkyrö	13		Petäjävesi	16
	Orivesi	13		Uurainen	14
	Mouhijärvi	12			
	Kuhmalahti	10	**Rovaniemi (2)**	Rovaniemi	84
	Kuru	10		Rovaniemi maalaiskunta	
				Municipality	52
Turku (28)	Turku	84	**Rauma (8)**	Rauma	86
	Rusko	55		Eura	78
	Kaarina	51		Kodisjoki	46
	Raisio	48		Eurajoki	38
	Lieto	48		Pyhäranta	37
	Vahto	45		Lappi	32
	Masku	43		Säkylä	11
	Piikkiö	37		Köyliö	10
	Lemu	36			
	Naantali	36	**Kajaani (4)**	Kajaani	90
	Nousiainen	33		Paltamo	13
	Merimasku	31		Vuolijoki	13
	Aura	28		Sotkamo	10
	Mietoinen	27			
	Askainen	27	**Lohja (3)**	Lohja	72
	Tarvasjoki	23		Sammatti	28
	Korppoo	21		Karjalohja	20
	Parainen	21			
	Rymättylä	20			