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WHO MOVE TO RURAL AREAS? MICRO EVIDENCE FROM FINLAND

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ABSTRACT. This study uses a large individual-level dataset to investigate rural in-migration. Two separate samples are used: one consists of migrants and non-migrants, while the other contains only migrants. Empirical analyses are carried out using multinomial logit and logit models. First, rural in-migrants and non-migrants are compared. The results show that in-migration to rural areas is selective, but partly in an atypical way. The probability of rural in-migration increases with age. The effect is non-linear, though. Furthermore, a typical rural in-migrant is a pensioner and has a smaller than average income. It is also notable that, with respect to educational level or family relations, rural in-migrants do not differ from non-migrants. Space and related housing factors seem to be of importance in rural in-migration decisions. The study also examines differences between rural in-migrants and other migrants. In general, those moving to rural areas are older, have a lower educational level and a smaller income. Pensioners, couples and families with children are also more likely move to rural regions. However, differences emerge in relation to the distance of migration: short distance rural in-migrants are more likely to be couples with young children, while long distance rural in-migrants are more often pensioners and return-migrants. The results indicate that as a result of migration rural areas' already skewed age structure distorts even more, and their development potential shrinks both quantitatively and qualitatively.

Keywords: migration, rural areas

1. Introduction

The beginning of the 1990s witnessed the most severe economic crisis in the Finnish peacetime history. Between 1990 and 1993 the unemployment rate rose from 3 to 18 percent and over 450 000 jobs were lost - as a reminder of the scale, we are talking about a total population of five million people. Even though a remarkably strong recovery began a few years later and GDP growth has been very fast, unemployment rate is still today above the EU average, and regional variation of unemployment is very large. The recession and the regionally uneven recovery are reflected in regional development; in the latter part of the 1990s regional divergence has been much faster than earlier.

The post-recession period has been characterised by an increasing inter-regional migration activity. Urban concentration is nowadays a dominant feature of the Finnish migration system; migration flows are heavily directed towards the few largest urban centres located mainly in the southern parts of the country. A similar phenomenon has been observed in all Nordic countries, but in Finland the regional polarisation has been very strong. While the capital Helsinki is one of the fastest growing cities in the EU, over 90% of Finnish territory suffers from out-migration (Hanell et al, 2002). After the recession even some of the regional centres and middle-sized towns which earlier managed to attract net in-migrants have been losing population.

A heavy pace and concentration of migration will necessarily affect regional population structure. At present, internal migration is the most important determinant in regional population growth. It is of great importance in general, and in rural areas in particular. The population decline in the rural areas is very fast, and seems to be increasing at an alarming rate with the continuous out-migration and ageing of population (see e.g. Nivalainen and Haapanen, 2002). According to Hanell et al. (2002), the current trend of out-migration constitutes a severe threat to the settlement structure in the periphery.

In this light it is no wonder that in recent years both Finnish politicians and economists have showed growing interest in the regional aspects of the economy, and especially

migration research has blossomed. However, the analysis of the determinants of migration has mainly concentrated on out-migration. In the Finnish context for example Ritsilä and Tervo (1999) focus on the characteristics of out-migrants and regions of origin, and show that also in Finland migration is selective especially of the young and educated part of the population.

It is of course important to recognize the factors underlying out-migration decisions, but from the regional perspective the destination choices of migrants are equally important. Against the common belief that migrants head only to urban areas and to few growth centres, each region is experiencing both in- and out-migration, and there is a constant inflow of migrants also to peripheral and more distant regions. The inspection of in-migrants is very important especially in rural areas, as it is the difference between the number and characteristics of in- and out-migrants that defines the regional composition of population and development potential, and changes in these. Nivalainen and Haapanen (2002) show that in the case uninterrupted high level of internal migration, the demographic structure of rural areas in Finland will deteriorate during the next decades. An interesting question is what happens to the *quality* of inhabitants as a result of migration? According to my knowledge, this question has not received much attention in the international microlevel research.

The present paper concentrates on rural in-migration¹. A large micro-level data is utilised, and migration is here defined to occur between municipalities, which is the lowest regional unit in Finland. Finnish studies concentrating on in-migration usually use sub-regional classification (in total there are 85 sub-regions in Finland), and draw a distinction between the “growth-centre” regions (5-9 regions, depending on the study) and the rest of the country, defined as “periphery” or “rural” (Pekkala, 2000, Haapanen and Ritsilä, 2001, Ritsilä, 2001, Haapanen, 2002). In other words, everything outside the few fastest growing regions is considered as rural. In this case even many of the regional (NUTS3) centres with university in their area are counted as periphery. Moreover, in reality there are rural areas also within the growth-centre regions. These problems are avoided in the present setting. Most inter-municipal moves in Finland are of short distance. Since the motives behind different moves tend to vary, in the analyses short- and long-distance migrants are separated. Moreover, unlike most previous studies, the present study extends the age horizon to persons of retirement age, to be

able to investigate potential migration of retirees, which has recently aroused a considerable interest due to the forthcoming retirement of the post-war baby-boom generation (born in 1945-50)ⁱⁱ.

The remainder of the paper is organised as follows: the second section introduces the regional classification and recent regional development in Finland. The theoretical background and earlier studies are briefly presented in the third section. Section four introduces the data and variables. Section five presents the empirical findings on rural in-migration. Section six provides conclusions.

2. Regional classification and recent regional development

2.1 Regional classification

Regional classification used here is based on statistical grouping of municipalities (see Statistics Finland, 1997). A municipality forms the lowest level of regional classification in Finland. Municipalities are divided into urban, semi-urban and rural areas by the proportion of population living in urban settlements and by the population of the largest urban settlement. Even though roughly speaking nearly whole Finland is rural in the European scale, here rural is defined as follows: rural municipalities are those municipalities in which 1) less than 60 per cent of the population lives in urban settlements, and the population of the largest urban settlement is less than 15 000 or 2) at least 60 per cent but less than 90 per cent of the population lives in urban settlements, and the population of the largest urban settlement is less than 4 000.

In 1997, there were 452 municipalities in Finland. Of these, 67 are urban, 70 semi-urbanⁱⁱⁱ and 315 rural. Today almost a quarter of all Finns live in the countryside, while urban areas' share is about 60%. By international standards, Finland is a sparsely populated country. On average, there are about 17 inhabitants per square kilometre (land area). Regional variation is vast: in rural areas the population density is 5, against that of 170 in urban areas.

2.2 Regional characteristics and recent development

The main features of Finnish regional development have been urbanisation and regional concentration since the Second World War (see e.g. Palomaki, 1991). Despite rapid urbanisation Finland's urbanisation rate is still one of the lowest in the EU^{iv}. A period of strong concentration lasted from 1950s to the mid 1970s, after which the pace of migration slowed down. Harmonious regional development stopped with the deep recession of the 1990s. A new migration boom started with the recovery, and in the latter part of the 1990s regional divergence has been much faster than earlier. The highest ever migration figures were recorded in 2001.

In recent years on average 5% of the population per year has migrated between municipalities. Compared with earlier migration waves, the current one possesses some new features: now not only the peripheral regions but also middle-sized towns and some regional centres are suffering from out-migration. For example during 1995-2000, three out of every four Finnish municipalities suffered from average migration loss (Hanell et al., 2002). Geographically, people are heading from the north and east to the south, where the largest urban centres are located. Finnish migrants tend to flow from low to high density areas, which differs from the experiences of many other countries (see Greenwood 1985).

There are several factors contributing to new features of internal migration. Fast economic growth speeded up migration in the latter part of 1990s. During the upswing, the creation of new jobs was, and still is, heavily concentrated in a few fast growing urban regions. At the same time, the demand for labour was especially low in the eastern and northern parts of the country^v. Currently, the average unemployment rate in Finland is around 10%, thus being well above the corresponding EU15 average. Regional variation is, however, substantial. For example, among the Nordic countries, Finland has the widest regional spread of unemployment rate, and it holds both the highest and lowest positions (Hanell et al., 2002). Moreover, a new law (Home Municipality Act) in 1994 allowed students to register themselves as permanent residents in the municipality in which they study. The law further strengthened the concentration tendency of the population, since most of the growing regions are also

educational centres. In addition, in recent years the importance of knowledge and know-how as engines of growth has increased. This structural change, together with the hasty growth of information technology and related services, which are concentrated in just a few localities, has also been reflected in regional development. It also seems that regional migration in Finland overreacts in relation to development of employment. This means that in recent years concentration of population has been stronger than would have been required by regional labour market needs. (Rosenquist, 2003)

The population in rural areas has constantly decreased since the 1970s with the ongoing structural change and continuing urbanisation of the country. However, in recent years the countryside has been losing population at an accelerating rate (Figure 1). Since mid-1990s there has been a clean break between the aggregate losses of the rural areas and the net gains of urban regions, and the polarisation of population has been very strong (see e.g. Hanell et al., 2002).

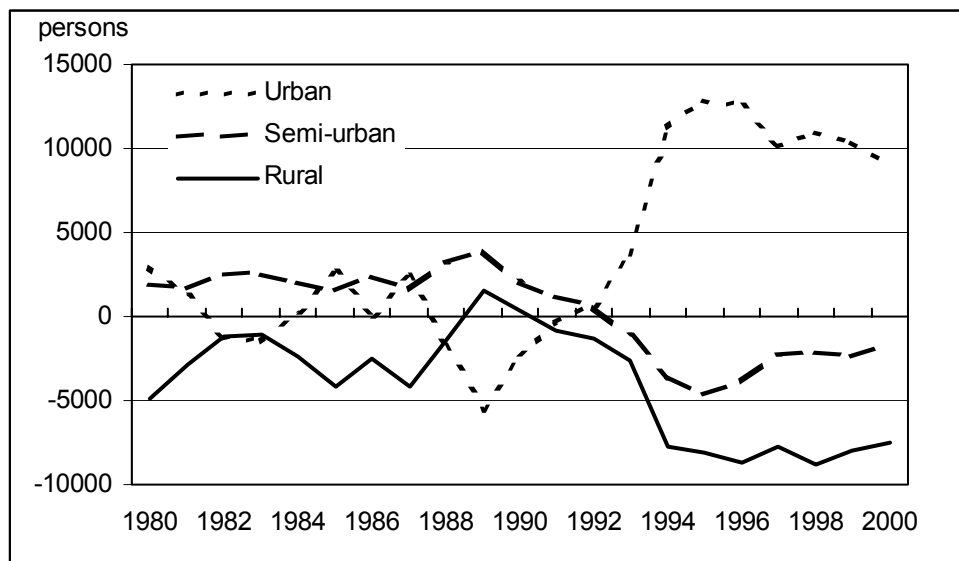


Figure 1. Net-migration in different regions in 1980-2000

At present, internal migration is the most important determinant in rural population development (Table 1). For example, in 2001, the countryside lost as much as 0.7 percent of its population through out-migration. Negative natural population change further accelerated population decline. In rural areas the number of births has been smaller than the number of deaths already for many years. Due to earlier migration and

historical differences in birth rates, existing regional age structures vary considerably. For example, the proportion of the elderly in rural areas is over 19%, in comparison with 13.5% in urban areas.

Table 1. The components of population change in different regions in 2001

Region	% of population			
	Internal migration	International migration	Natural increase	Total change
Urban	0.3	0.1	0.3	0.8
Semi-urban	-0.2	0.0	0.2	0.0
Rural	-0.7	0.1	-0.2	-0.8
Whole Finland	0.0	0.1	0.1	0.3

However, in parallel with the general migration activity, the rural in-migration flows also have risen after the recession, although not to a similar degree than the out-migration flows (Figure 2). In other words, there exists a continuous flow of migrants to rural areas, in contrast to the dominant urban oriented migration. In-migration by no means is insignificant from the rural perspective: for example in 2001, the number of in-migrants represented around 4% of rural population. Most of the rural in-migrants originate from urban areas (urban-rural migration), but around a quarter comes from other rural area (rural-rural migration).

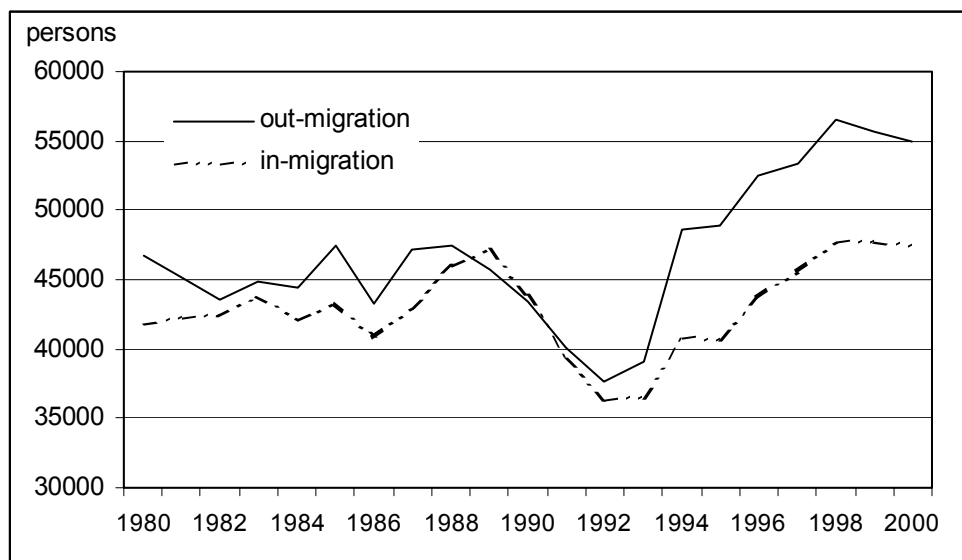


Figure 2. Rural in-migration and out-migration in 1980-2000

Rural in-migration is important from the regional perspective, as it partly balances the negative effect of out-migration stream, at least quantitatively. Human capital plays a key role in the economic growth and future prospects of a region (e.g. Krugman, 1991; Barro and Sala-i-Martin, 1995). At present, the educational level of urban Finns is 47% higher than that of rural Finns (Havén, 1999). With regard to migration, the evidence shows that especially the highly educated tend to head to urban locations (see Ritsilä, 2001). Moreover, Pekkala and Tervo (2002) demonstrate that in addition to observable characteristics (i.e. education), migrants tend to be better equipped in terms of unobservable characteristics (e.g. ability and other human capital factors) as well.

If rural in-migrants are not as educated and qualified as out-migrants, migration continuously absorbs human capital from lagging to prosperous areas. This may have severe negative effects in the longer run; the loss of physical capital can be temporary, but the loss of human capital tends to be permanent (Forslid, 1999). Furthermore, if regional development were considered as being determined by a cumulative process (see Myrdal, 1957; Fujita et al., 1999), this self-feeding process would further feed the de-population and human capital loss of rural and remote areas, and could lead to an accelerating downward spiral. Once started, the process can be very hard to stop.

3. Theoretical framework and earlier migration studies

3.1 Theoretical considerations

Economists have traditionally argued that people migrate in order to maximise personal or family welfare or utility. Sjaastad (1962) introduced the human capital approach, in which migration is viewed as an investment in human capital. In this view, the potential migrants weight the benefits of moving against the costs of moving. If the benefits outweigh the costs, then the individual should move. The approach places migration in a resource allocation framework by treating it as a means in promoting efficient resource allocation in the economy.

One difficulty with the approach is that it views individual almost entirely in terms of income they could earn, and ignores many non-pecuniary aspects of a move. Especially when considering rural in-migration, the non-monetary factors may be of great

importance in migration decisions. For example Stevens (1980) points out that many non-metropolitan in-migrants expect to find some things that money could not buy in metropolitan areas. Also Morrison and Wheeler (1976) stress the rising significance of life-style other non-monetary considerations in migration decisions.

Moreover, in reality decisions about migration are usually made at household, rather than individual, level. Mincer (1978) extended the human capital approach to family context. Further, Shields and Shields (1989, 1993) introduced a *household production model of migration*, which extended the theory of Mincer (1978). The household production function comes applicable to migration when characteristics of family members and the location of the household are included into it^{vi}. The approach allows for example the incorporation of regional amenities and psychic cost and benefits into the migration decision. Moreover, the household production theory offers a natural way of discussing moves motivated by the life cycle changes (see Shields and Shields, 1989, for more detailed discussion).

A family or household can consist of any number of persons, including a single individual. Households derive utility from various activities ('commodities'), which have been produced by household members using as inputs goods and services purchased from others along with their own time and effort. The household maximises the utility of consuming household produced commodities subject to the family's income and the household technology, market prices, and demographic and other characteristics of the household. The technology of the household and market variables, such as prices, housing costs, and the husband's and wife's incomes depend upon the location. At optimal location the household can produce the best combination of household commodities.

It can be thought that a family, which is living at its optimal location, receives rent^{vii} at the current location. The rent can be defined by imagining that the family's current income is reduced, *ceteris paribus*, until the family is just induced to leave its current location. The difference between the current income and the income at which the family would move is the locational rent. The rent is a function of market variables, household characteristics and locational characteristics. This rent and changes in it explain why some people move and others stay, i.e. migration will occur when the household is not

at its optimum location. The higher the rent is in the current location, the less likely the family is to move.

3.2 Determinants of migration

A vast amount of factors are affecting migration. Among these are the individual's personal characteristics such as age, sex, education and marital status as well as various life-cycle considerations (e.g. marriage, beginning of the career, birth of children). Characteristics of regions can also provide an incentive for moving. (see e.g. Greenwood, 1997, for a survey)

Migrants are usually young individuals. The shorter time interval to enjoy the benefits together with higher costs of moving tend to reduce older people's incentives for migration. Moreover, the choice of location may vary systematically with the life cycle. Life-cycle events typically occur at certain ages, and age can be considered to be an important indicator in locational preferences over the life cycle (see Sandefur and Scott, 1981).

Decisions about migration are usually made at the household, rather than individual, level (Mincer, 1978). Considering the life cycle events, having children is one of the major ones. The costs of migration increase with family size. When a family with children migrates, costs, both material and emotional, are involved in moving children from one neighbourhood to another. New arrangements have to be made for schooling, childcare and recreation, and children must establish new friendship networks (Bielby and Bielby 1992). On the other hand additional births increase the space requirements of a family, and may result in move. There tends to be a greater stability when the children are at school and the parents are consolidating their careers (see Sandell 1977; Mincer 1978). Mobility often increases again when the children leave home and less living space is required (Cadwallader 1992). In addition, people no longer buy houses for life, but attempt to choose a house suitable for them at each stage in life (Naukkarinen 1983). By moving, families can adjust their housing to the needs that are generated by the different family life cycle stages (Rossi 1980).

Further, retirement has been identified as a life cycle event causing migration. The location of retirees does not depend on the location of job, and their income is largely invariant to location (e.g. Knapp, 1988). Due to retirement migration the generally expected negative relationship between age and migration can even change into a bimodal association (see Mangalam, 1977; Rogers, 1988).

The process of schooling increases the responsiveness of individuals to economic incentives, and the better educated a migrant is, the less his movement is restrained by the distance factor (Pacione 1984), as those with higher education have usually better access to information concerning future incomes in distant regions (Bowles 1970). A number of empirical studies show that personal unemployment augments migration (see, for example, DaVanzo 1978, Van Dijk et al. 1989). Moreover, home-ownership, work experience, as well as contacts with friends and relatives are partly reflecting locational ties. Those with stronger ties are likely to experience a greater loss upon moving, especially if they move longer distances, and therefore tend to move less frequently. Also the mobility history has been shown to be an important determinant of migration (DaVanzo 1978). Furthermore, there is some evidence that the length of the journey to work is a significant factor in the relocation of households (Clark and Burt 1980).

A high area unemployment rate is thought to reflect diminished labour market opportunities, and migration theories suggest that higher origin unemployment rates should augment out-migration. Availability of job opportunities may also be an important determinant of migration, but presumably only for those who move for labour market reasons (Harkman 1989). The size and diversity of the current location, cost-of-living differentials and public sector attributes are evidenced to contribute to residential choices (Widerstedt 1998, Westerlund and Wyzan 1995, Dahlberg and Fredriksson 2001). Climatological and geographical amenities, such as landscape, annual temperature, need for heating or cooling, humidity and wind speed may also be important in decision to migrate.

Moreover, a number of empirical studies suggest that the determinants of migration differ with respect to the distance moved (see, for example, Holmlund, 1984; Molho, 1986; Reitsma and Vergoosen, 1988; Widerstedt, 1998; Nivalainen, 2000). While long

moves are generally prompted by a change in employment, short moves are often related to life-cycle events (Korkiasaari, 1991).

3.3 Finnish evidence

In Finland micro-economic research has mainly concentrated on determinants of regional out-migration. These studies show that migration is selective of the young and educated segment of the population (see e.g. Ritsilä, 2001; Haapanen, 2002). The effect of gender is not clear (Ritsilä and Tervo, 1999; Haapanen, 2002). The unemployed and students tend to move frequently (e.g. Laakso, 1998; Häkkinen, 2000). Moreover, higher migration propensities have been discovered for the recently graduated (Haapanen, 2002). Earlier migration experience and commuting also enhance migration (e.g. Nivalainen, 2000). Instead, home-ownership decreases migration propensities (e.g. Avikainen et al., 2001). Family relations, for example family size, school-aged children and spouse's employment also inhibit migration (see Ritsilä and Tervo, 1999; Nivalainen, 2000, Haapanen, 2002). Finland is a bi-lingual country (Finnish and Swedish as official languages), and Häkkinen (2000) noted that Swedish-speaking individuals tend to move less frequently in relation to Finnish-speaking ones.

With regard to “push” and “pull” factors of regions, it has been observed that higher unemployment rates or house-prices decrease regional in-migration probabilities (Häkkinen, 2000). Likewise, several studies show a positive relationship between the local unemployment rate and out-migration (Ritsilä and Tervo, 1999; Avikainen et al., 2001). Migrants tend to move from agriculture dominated regions to service-oriented ones. Degree of urbanisation seems to be positively correlated with in-migration propensities (Ritsilä, 2001). Moreover, Haapanen and Ritsilä (2001) demonstrated that individuals living in growth-centre regions are less likely to move to periphery and more likely to move to other growth-centre region. Distance to the closest growth-centre region also seems to work in a similar manner.

The few Finnish studies that investigate the characteristics of in-migrants typically concentrate on growth-centre in-migration (e.g. Pekkala, 2000, Haapanen, 2002). An exception is Kauhanen and Tervo (2002) who investigated the characteristics of in-migrants in depressed regions. It should be noted however that they also ignored the

rural dimension: the 85 sub-regions were categorized into three groups on the grounds of their economic development (regions with positive, slightly negative and very negative development). It was observed that (in relation to other regions) a considerable proportion of the migration into depressed regions consists of return migration, and that a typical return migrant is heading from prosperous to declining region. The more educated an individual was, the more likely a move into more prosperous regions became. In turn, those heading to depressed regions were older and more often unemployed than those moving to other regions.

3.4 Studies concerning rural in-migration

In many capitalist economies counterurbanisation debate has been taking place for several decades (Champion, 1998). Rural areas are characterised by in-migration for example in Great Britain (see Hardill and Green, 1998). In the British research it has been noted that rural in-migrants are not homogenous in terms of distance of moves, types of previous environment, motives behind the moves, personal characteristics etc. (Champion, 1998). For example Dean et al. (1984) found out that one-third of in-migrants to rural peripheral district were aged over 59. Even though the majority of adult in-migrants were economically active, considerable proportion of them also were retirees. Moreover, Lewis et al. (1991) discovered that mature aged middle-class households, the elderly and even occasional urban drop-outs were all represented among migrants to rural areas.

Cross (1990), identified three specific rural in-migrant groups: retirement migrants, job migrants and commuters. Older persons often move to rural areas as a part of a retirement strategy, but households with young children also account for a large proportion of rural in-migrants (Hardill and Green, 1998). The present neighbourhood may also influence the decision to move, especially with shorter moves. Safety and environment are important to parents of young children (e.g. Phillips, 1993). It has been also found out that at a certain stage of life families tend to prefer more peaceful neighbourhoods within a reasonable commuting distance and with access to a good transport infrastructure (Green 1997). From such areas the need for future migration is minimised and the potential for long distance commuting maximised. Indeed, rural in-migrants have been found to be intensive car users (Hardill, 1998). For households with

children, access to good schools appears to be very important in location decisions. Concerning migration, families are willing to make many compromises for the sake of the children. (Green, 1997; Hardill, 1998) The peripheral regions appear to gain proportionately more elderly migrants and fewer young family migrants than rural core areas (Harper, 1991).

For some the move is a response to dissatisfaction with urban city life. Many rural in-migrants search for the rural idyll and good quality living environment (e.g. Hardill and Green, 1998). In general, factors affecting the choice of rural residence seem to vary according to stage of life-cycle (e.g. Cloke and Little, 1997). For example, cheaper property prices, job relocation, a new job, environment, early retirement or access to new partner/family/relatives/friends/services have been underlying rural in-migration (see Halfacree, 1994). Often no single motivation can be named, but the choice of rural residence appears to be a result of complex interplay of many factors.

4. Data and variables

The empirical analysis presented in this paper is based on two different data set taken from the longitudinal population census file of Statistics Finland, which contains information collected in population and housing censuses, completed with information from various official registers. Consequently, this large data set contains rich information on individuals' characteristics as well as on individuals' family relations. A drawback, however, is that the specific timing of migration and the actual reasons for moving are unknown.

First, a basic sample was drawn from the census file. The basic sample is a 1% representative sample, complemented with individuals belonging to the same household dwelling unit as the sample individuals. In total the basic sample comprises around 700 000 individuals. The present study uses two different samples drawn from the basic sample.

The first sample was formed by selecting *all individuals aged 16-69* (in 1995) from the 1% sample. Children and those living in institutions were dropped. With these data it is possible to detect how the rural in-migrants differ from non-migrants. The final sample

contains 27 371 individual altogether, of which 1 935 (7.1%) had migrated during 1996 or 1997. Around fifth of migrants had headed to rural areas. This corresponds fairly well to the respective figures of whole population in 1996 and 1997. The correspondence of the data with the population is good in other respects too^{viii}. Since the number of migrants, and especially rural in-migrants, was small in the first sample, the second sample was formed by choosing from the basic sample *all individuals, who had migrated during 1996 or 1997*. However, only those aged 16-69 (in 1995) were selected in the final sample. Moreover, children and institutional inhabitants were again excluded. This sample contains 28 824 migrants, of which 21% has moved to rural areas during 1996 or 1997. Of migrants, 17 918 has relocated inside the current region (short-distance migration), and 10 906 has migrated across regional borders (long-distance migration). These data allow a more detailed investigation of the potential differences between the migrants to rural and other areas.

In this study those moving between municipalities in 1996 or 1997 are defined as migrants. The primary interest here is on the determinants of rural in-migration on one hand, and the destination choice on the other. Therefore, two dependent variables are used. In the first sample, the dependent variable, *Migration 1996-97*, has three classes: 0=non-migrant, 1=rural in-migrant, 2=other in-migrant. The second dependent variable, *Destination*, determines the destination of the migrant, and has two classes: 0=lives outside rural area, 1=lives in rural area (in 1997).

Explanatory variables are selected on theoretical grounds and/or on the basis of their significance in earlier migration studies. Independent variables as well as their means according to migration status are presented in Table 2. The names of the variables are largely self-explanatory but for some variables definition is given. All are measured in 1995 (before migration) unless otherwise stated.

Table 2. Independent variables and their means according to migration status

VARIABLE	Mean (1. sample)		Mean (2. sample)	
	Non-migrants	Migrants	Migrants	
			Rural	Other
<i>PERSONAL CHARACTERISTICS</i>				
Age	45.2	34.8	34.7	34.0
Age2 (age/10 squared)	22.0	13.5	13.3	12.9
Female	0.53	0.55	0.52	0.54
Education (lower than higher sec.)				
Secondary (1 if higher secondary)	0.47	0.54	0.56	0.55
Higher (1if university or equivalent)	0.15	0.19	0.13	0.21
Main type of activity (employed)				
Unemployed	0.13	0.18	0.23	0.18
Student	0.03	0.12	0.10	0.13
Retiree	0.20	0.08	0.08	0.06
Others outside the labour force	0.04	0.06	0.09	0.06
Income (1000e)	17.4	14.8	13.1	15.1
Home-owner	0.73	0.46	0.40	0.46
Recently graduated (in 1994 or 1995)	0.03	0.11	0.09	0.12
Car	0.48	0.46	0.51	0.45
Swedish-speaking	0.05	0.04	0.03	0.03
Commuter (1 if home and job in different municipalities)	0.16	0.24	0.18	0.26
Migration history (1 if moved 1990-95)	0.16	0.54	0.55	0.59
<i>FAMILY CHARACTERISTICS</i>				
Married (1 if married or cohabiting)	0.74	0.62	0.71	0.61
Number of children (0-9)	0.73	0.56	0.84	0.66
Children (no children under 18)				
0-6-y. only	0.19	0.23	0.34	0.22
7-18-y.	0.21	0.10	0.11	0.10
Household size (unchanged 1995-97)				
Increased	0.10	0.32	0.32	0.33
Decreased	0.14	0.23	0.28	0.25
Living space (Inhabitants/room)	0.95	1.06	1.27	1.20
Spouse employed	0.48	0.37	0.38	0.38
Spouse highly educated	0.12	0.12	0.10	0.13
<i>REGIONAL CHARACTERISTICS (ORIGIN)</i>				
Local unemployment rate (%)	19.8	19.6	20.5	19.5
House prices (regional/national price)	0.92	0.92	0.89	0.94
Area type (Rural)				
Urban	0.60	0.65	0.54	0.68
Semi-Urban	0.16	0.14	0.14	0.14
Region NUTS2 (Uusimaa)				
Southern Finland	0.36	0.36	0.33	0.32
Eastern Finland	0.14	0.14	0.24	0.12
Middle Finland	0.14	0.13	0.14	0.12
Northern Finland	0.10	0.10	0.13	0.12
N	25 436	1 935	6 112	22 712

Note: all variables, unless otherwise stated, are measured in 1995

The independent variables are divided into three groups: personal characteristics, family characteristics and regional characteristics. Personal variables refer to characteristics such as age, education, labour market status, income, home-ownership, commuting etc.,

which have been found as important determinants of migration in earlier studies (see Section 3). As indicated above, family relations are of importance in migration decisions. Family-related variables define family relations, existence and ages of children and spouses characteristics. Also living space and changes in household size are controlled for, since these might be important especially in rural in-migration decision. The pre-migratory location of an individual is controlled for with a set of regional variables, such as unemployment rate, area type, geographical location and in some cases house prices.

5. Empirical results

The probability of migration/choice of destination is a function of personal, family and regional variables, and the multinomial logit and logit models^{ix} are here utilized in exploring the effect of these variables on migration/destination choice. Moreover, when using both macro- and micro-level variables in the study of micro-units, the random disturbances within groups may be correlated, and doubt has been cast on the reliability of such results (see e.g. Moulton 1990). To avoid this pitfall, the standard errors of all models are adjusted for the general correlation of disturbances^x.

5.1 Determinants of rural in-migration

This section introduces determinants of rural in-migration based on the first sample consisting of migrants and non-migrants. *Migration* is here used as dependent variable (see Section 4 for definition). As mentioned earlier, the determinants of migration may differ with respect to the distance moved. Ideally, we would have liked to control for the migratory distance but due to small number of migrants this was not possible at this stage. In other words, all those changing municipalities during 1996 or 1997 are here counted as migrants. The results of the multinomial logit model are presented in Table 3. One should note that it is not so much the magnitude, but rather the signs and significance we are interested in.

The results show that the relationship between age and rural in-migration is positive. However, the age profile is nonlinear, and the probability of rural in-migration peaks around the age of 30. Note also that in other areas the age variable gets the usual

negative sign. Being a female increases the probability of rural in-migration but has no effect on other areas. Moreover, none of the education-variables is significant in rural in-migration. This can be interpreted so that education does not encourage moving to countryside. In turn, the probability of migration to other areas increases with education; the odds-ratio for the highly educated is 1.42.

Table 3. Determinants of rural in-migration; coefficients and odds-ratios of the multinomial logit model

Variables	Multinomial logit model					
	Rural in-migration vs. no migration			Migration to other areas vs. no migration		
	Coeffic.	(t-value)	Odds-ratio	Coeffic.	(t-value)	Odds-ratio
Constant	-5.589	(-8.13)	-	-1.302	(-3.15)	-
PERSONAL CHARACTERISTICS						
Age	0.067**	(2.06)	1.07	-0.081**	(-4.31)	0.92
Age2	-0.102**	(-2.59)	0.90	0.047**	(2.03)	1.05
Female	0.278**	(2.30)	1.32	0.019	(0.30)	1.02
Education						
Secondary	-0.079	(-0.61)	0.92	0.086	(1.19)	1.09
Higher	-0.134	(-0.66)	0.87	0.357**	(3.56)	1.42
Main type of activity						
Unemployed	0.115	(0.70)	1.12	0.443**	(5.09)	1.55
Student	0.415*	(1.87)	1.51	0.641**	(5.68)	1.90
Retiree	0.430*	(1.79)	1.54	0.172	(1.14)	1.19
Others outside labour force	-0.052	(-0.20)	0.95	0.554**	(4.22)	1.74
Recently graduated	0.305	(1.44)	1.36	0.148	(1.36)	1.16
Income	-0.019**	(-2.41)	0.98	0.002	(1.06)	1.00
Home-owner	-0.434**	(-3.32)	0.65	-0.323**	(-4.83)	0.72
Car	0.379**	(3.14)	1.46	0.069	(1.04)	1.07
Swedish-speaking	0.367	(1.51)	1.44	-0.229	(-1.41)	0.80
Commuter	0.279*	(1.82)	1.32	0.721**	(9.30)	2.06
Migration history	1.190**	(9.80)	3.29	1.061**	(16.23)	2.89
FAMILY CHARACTERISTICS						
Married	-0.021	(-0.14)	0.98	-0.284**	(-3.45)	0.75
Children						
0-6-y. only	-0.148	(-1.01)	0.86	-0.452**	(-5.41)	0.64
7-18-y.	-0.611**	(-3.06)	0.54	-0.431**	(-4.26)	0.65
Household size						
Increased	1.028**	(7.85)	2.79	0.980**	(13.63)	2.66
Decreased	0.689**	(4.63)	1.99	1.153**	(15.13)	3.17
Living space	0.140*	(1.85)	1.15	0.073	(1.29)	1.07
Spouse employed	-0.415**	(-2.93)	0.66	-0.153**	(-1.96)	0.86
Spouse highly educated	-0.232	(-1.09)	0.79	0.155	(1.60)	1.17
REGIONAL CHARACTERISTICS (ORIGIN)						
Unemployment rate	0.019	(1.46)	1.02	0.005	(0.61)	1.00
Area type						
Urban	-0.341**	(-2.52)	0.71	0.057	(0.72)	1.06
Semi-urban	-0.210	(-1.24)	0.81	0.085	(0.85)	1.09
N	27 371					
Log likelihood	-6580.03					
Model chi2(54)	2653.1 (p=0.000)					

T-values obtained with robust standard errors. ***/** significant at 10/5% level

With respect to main type of activity, it can be seen that students in general are mobile; migration propensities of students are higher independent of destination. Other groups show variation according to destination. While rural in-migration probabilities of the unemployed or others outside the labour force do not significantly differ from those of employed, belonging to these two groups increases migration propensities to other areas. This is understandable, as rural areas are characterised by a limited range of job opportunities, and rural labour markets are qualitatively and quantitatively different from urban labour markets. Interestingly, the results also indicate that retirement does not affect migration to other areas, but significantly increases the likelihood of migration to rural areas.

The higher the income, the lower the probability of rural in-migration; the odds-ratio of the 75th vs. 25th percentile is 0.78. Instead, car ownership shows a significant positive sign in rural areas. Hence it seems that a car is an important enhancing factor in rural in-migration decisions. This makes sense, as due to paucity of public transport, a car is usually a “must” for rural life. In other areas income or car are insignificant determinants of moving.

A bit surprisingly, recent graduation does not show significant effect. This may partly be due to definition of the variable.^{xi} The student-variable may also partly capture the influence of graduation. Language is insignificant determinant of migration. In accordance with expectations, home-ownership hinders and commuting augments migration, and these effects are independent of destination.

The results show the importance of family relations in migration decisions. Couples less likely move to other areas. On the other hand, marriage/cohabitation does not seem to influence rural in-migration decisions. This can be interpreted so that family relations do not hinder migration to rural areas. However, an employed spouse is a significant deterrent of migration in general. Higher education of the spouse is insignificant determinant of migration, even though it gets a negative sign in rural moves and positive in other moves.

With regard to children, the presence of school-aged children significantly reduces migration propensities. The influence of children under school age varies according to destination: they do not act as barriers of rural in-migration, but significantly hinder migration to other areas. Moreover, living space appears to be an important determinant of rural in-migration: the more inhabitants per room, the more likely migration to countryside. In other moves living space is insignificant. These results suggest that housing and related factors are important motives underlying rural in-migration. If moving is considered worthwhile it will be made before the children reach the school age. Moreover, alterations in household size seem to increase general mobility; odds-ratios of the size change vary from 1.99 to 3.17. The result is not unexpected as various life-cycle changes, for example birth of additional children, death of the spouse, divorce, marriage etc. are captured with these variables.

Most of the regional characteristics are insignificant. None of the regional variables show a significant effect in migration to other areas, and only living in the urban area significantly inhibits rural in-migration.

5.2 Determinants of the destination choice among migrants

This section inspects the destination choices of migrants, i.e. the potential differences between rural and other in-migrants are investigated. The analysis is based on the second sample consisting only migrants, and *Destination* is used as dependent variable (see Section 4 for definition). Since the motivations underlying migration may vary according to distance, short- and long-distance moves are examined separately. Short moves occur between municipalities but within a NUTS3-region, whereas long moves are made between regions. The results of the logit models are presented in Table 4.

Table 4. Destination choices of migrants; coefficients and odds-ratios of logit models

Variables	Short-distance migration to Rural vs. Other area			Long-distance migration to Rural vs. Other area		
	Coeffic.	(t-value)	Odds-ratio	Coeffic.	(t-value)	Odds-ratio
Constant	-2.065	(-3.61)	-	-4.520	(-6.30)	-
<i>PERSONAL CHARACTERISTICS</i>						
Age	0.022*	(1.65)	1.02	0.098**	(5.85)	1.10
Age2	-0.010	(-0.59)	0.99	-0.079**	(-3.69)	0.92
Female	0.023	(0.53)	1.02	0.079	(1.46)	1.08
Education						
Secondary	-0.149**	(-3.15)	0.86	-0.170**	(-2.72)	0.84
Higher	-0.289**	(-3.71)	0.75	-0.520**	(-5.64)	0.59
Main type of activity						
Unemployed	-0.145**	(-2.42)	0.86	0.132*	(1.75)	1.14
Student	-0.416**	(-5.36)	0.66	-0.185**	(-2.02)	0.83
Retiree	-0.091	(-0.77)	0.91	0.274**	(1.99)	1.32
Others outside labour force	-0.138*	(-1.66)	0.87	0.063	(0.60)	1.06
Recently graduated	-0.013**	(-4.47)	0.99	-0.008**	(-2.66)	0.99
Income	-0.153**	(-3.51)	0.86	-0.149**	(-2.68)	0.86
Home-owner	-0.023	(-0.31)	0.98	-0.178*	(-1.83)	0.84
Car	0.234**	(5.38)	1.26	0.210**	(3.76)	1.23
Swedish-speaking	0.587**	(5.09)	1.80	-0.020	(-0.10)	0.98
Commuter	-0.362**	(-6.54)	0.70	-0.105	(-1.37)	0.90
Lives in region of birth	0.164**	(3.86)	1.18	-0.125**	(-2.21)	0.88
<i>FAMILY CHARACTERISTICS</i>						
Married	0.206**	(3.76)	1.23	0.301**	(4.47)	1.35
Number of children	0.054*	(1.84)	1.06	0.107**	(2.81)	1.11
Children						
0-6-y. only	0.138*	(1.90)	1.15	0.019	(0.19)	1.02
7-18-y.	-0.079	(-0.93)	0.92	-0.147	(-1.39)	0.86
Household size						
Increased	0.175**	(3.67)	1.19	0.373**	(5.99)	1.45
Decreased	-0.182**	(-3.71)	0.83	0.059	(0.95)	1.06
Spouse employed	-0.052	(-1.03)	0.95	-0.004	(-0.06)	0.99
Spouse highly educated	-0.158**	(-2.25)	0.85	-0.294**	(-3.47)	0.75
<i>REGIONAL CHARACTERISTICS (ORIGIN)</i>						
Unemployment rate	-0.033**	(-4.80)	0.97	0.012*	(1.67)	1.01
House prices	-0.562	(-1.32)	0.57	1.363**	(2.45)	3.91
Area type						
Urban	-0.168**	(-3.39)	0.85	-0.600**	(-9.32)	0.55
Semi-urban	-0.270**	(-4.10)	0.76	-0.194**	(-2.29)	0.82
Region						
Southern Finland	1.747**	(14.62)	5.74	-0.453**	(-2.91)	0.64
Eastern Finland	2.898**	(23.08)	18.15	-0.457**	(-2.78)	0.63
Middle Finland	1.879**	(15.54)	6.54	-0.311**	(-1.98)	0.73
Northern Finland	1.919**	(15.25)	6.81	-0.588**	(-3.49)	0.56
N	17 918			10 906		
Log likelihood	-8 072.85			-5011.47		
Model chi2(32)	2103.4 (p=0.000)			824.9 (p=0.000)		
T-values obtained with robust standard errors. ***/** significant at 10/5% level						

5.2.1 Short-distance migration to rural vs. other areas

In short moves the probability of rural in-migration increases fairly linearly with age. Gender is insignificant determinant of the destination choice. Education-variables show a negative effect, i.e. the probability of heading to other areas increases with education. For example the odds on selecting a rural vs. other destination are 25% lower for the highly educated than for those with lower than secondary education. Recent graduation does not seem to affect the destination choice.

The likelihood of rural destination increases with retirement. Moreover, in relation to the unemployed, students and others outside the labour force, the employed more likely move to rural areas. Income has a negative effect, i.e. those moving to countryside have lower income in relation to other migrants. Moreover, rural in-migrants less often are home owners before the move. This further supports the earlier mentioned housing related motivations of many rural in-migrants. Commuters tend to head to other areas. This is reasonable, as presumably they often move nearer to their work place, and commuting to urban location is more common. The effect of a car again emerges; those with a car more likely move to rural areas (odds-ratio 1.26). Swedish-speaking migrants also have higher propensity of rural in-migration. In addition, if a person lives in a region of the birth, the probability of rural destination increases.

The connection between family relations and rural in-migration is clear. Couples and those with children more likely head to rural areas. On the other hand, highly educated spouse lowers the odds of rural in-migration. The ages of children matter; migration to nearby rural area is made before the children reach school age. A more detailed inspection shows that migration particularly takes place when the children still are young, under 3 years of age; 3-6-year old children are insignificant (the result not shown). It can be assumed that the need for a larger house or the prospective schooling of children are important factors accelerating short-distance mobility to countryside when the children still are at preschool age. Indeed, the results show that increase in household size augments moving to rural areas, while decreasing size more likely results in migration to other areas. The positive effect of increasing size might indicate e.g. family formation, but most probably it reflects the effect of additional births. The

negative sign of decreasing size in turn most likely mirrors different events of life, e.g. divorce, widowhood or children leaving home.

The results show regional differences with respect to destination. The higher the local unemployment rate, the more probable a move to other areas. Since the unemployment rate at least partly reflects local job opportunities, the finding is reasonable. Moreover, those leaving urban or semi-urban area less likely appear to head to rural areas. Regional house prices are insignificant. Geographic location is of importance: in the Uusimaa-region (where the capital is located) the propensity of rural in-migration is lower than in other parts of the country. This, most likely, results from the fact that there are not so many rural municipalities in the Uusimaa-region, in other regions rural areas are more common.

5.2.2 Long-distance migration to rural vs. other areas

Age has a non-linear positive effect on long-distance rural in-migration. The propensity of migration increases until the age of 60, after which it starts to decrease slowly. Gender has no effect on long moves. Again, the likelihood of selecting a rural destination decreases with education: the odds for the highly educated to head to rural location is 40% lower in relation to those with lower than secondary education.

Retirees moving across regional borders more likely select a rural destination. In this case the move is a part of their retirement strategy, and presumably a considerable proportion is return-migration. Likewise, and different from short moves, the unemployed long-distance migrants tend to head to rural areas. It can be assumed that these unemployed do not move due to a new job, but a large part of them is waiting for retirement (unemployment pension). Hence, this can also be interpreted to reflect return-migration.

If student or recently graduated individual move over longer distances, they more likely head to other areas. This is understandable, as the supply of education is concentrated to the largest centres, and urban areas offer more job opportunities for the labour force entrant. Again, rural in-migration propensities decrease with income. Home-ownership also has a negative effect on rural in-migration. Instead, car significantly increases rural

in-migration odds (odds-ratio 1.23). Unlike in short moves, commuting or language are insignificant in long moves. If the migrant before moving lives in the region of birth, they more probably select other than rural destination. This in all probability reflects the destinations of young people leaving home. On the other hand, inversely this means that those living outside their birth region tend to head to rural areas; most likely this is associated with return-migration.

Family relations again are important determinants of destination choice. Couples more likely head to rural locations (odds-ratio 1.35). A highly educated spouse again significantly hinders rural in-migration. The size of the family also matters; probability of rural destination increases with the number of children. The ages of children have no effect. Moreover, different from short moves, decrease in the household size is insignificant. Instead, growing household size increases rural in-migration odds (odds-ratio 1.45).

The local unemployment rate and rural in-migration are positively associated. An explanation for this is not clear, but at least partly this could reflect the destination choices of those moving from the unemployment regions to the outskirts of larger centers. On the other hand the result could also be related to the origins of the rural in-migrant retirees and unemployed. Further, when holding other things constant, those departing from urban and semi-urban areas are less likely to relocate in rural areas. The probability of rural in-migration increases with regional house prices. This is likely to partly capture the effect of geographic location, and in particular the influence of Uusimaa-region, since in other parts of the country the likelihood of selecting a rural destination is lower in relation to Uusimaa. In other words, those moving away from Uusimaa-region are prone to head to rural area.

6. Conclusions

The fact that not all migrants do move in the same direction was considered in the present study. Traditionally, migration has been considered as an important equilibrating mechanism in the economy. In Finland, however, this seems not be the case; even though migration has been very intense in recent years, regional differentials

have not diminished, rather on the contrary (e.g. Taipale, 2002; Tervo, 2002). The present study partly helps to explain the phenomenon.

The results show that in-migration to rural areas is selective, but partly in an atypical way. Rural in-migrants tend to be older and have less human capital than those moving to other areas. In other words rural areas are constantly losing the most competent (young, educated) segment of their population to urban regions. Instead, they receive retirees. As a result of migration, rural areas' already skewed age structure distorts even more, and their development potential shrinks both quantitatively and qualitatively. In this light fears about ever more widening regional disparities seem justified. Unless not intervened, the process of cumulative causation is likely to further accelerate the downward spiral of rural areas. In the future, solving the equation of an increasing elderly population with increasing health care needs, a shrinking labour force, a decreasing number of taxpayers and narrowing economic resources and diminishing growth potential in rural areas will be hard or even impossible.

On the other hand, a heavy concentration of the population will without no doubt cause problems in expanding areas as well. Even though the human capital component of in-migrants creates a necessary base for the future success of urban areas, intense in-migration may also result in adaptation problems and more permanent agglomeration diseconomies. For example, a constantly increasing population places pressure on public services, requires new infrastructure and tightens the housing market. In addition, congestion, pollution and social problems will eventually increase. Moreover, we are not necessarily aware of all the negative effects of the concentration process, some of which might only appear in the longer run.

The question that Finland needs to answer is whether an urbanised society is still able to recognise the existence of the rural, to react against the emptying and ageing of the countryside. Despite the current trend of migration, opinion polls show that two out of three Finns place a premium on rural residential environment against the urban (Mäntylä, 1998). Moreover, according to surveys many people are planning to move out of cities. The findings of the present study suggested that especially residential preferences are drawing people into rural areas. Good living environment, cheaper

housing and quality of life in general clearly are the strongest attraction factors of the rural areas, and these should be further strengthened.

One possibility to support the vitality of rural areas would be to increase the incentives for commuting. Accessibility of rural areas is very important, and maintaining good connections by road or rail is essential. The large size of the country on one hand and sparsely population on the other set their own restrictions, though. Further, increase in remote work and telework might give people a chance to live in rural areas. According to surveys it has a lot of potential, majority of which is still unutilised (see Heinonen, 1998). This is a bit surprising in a high-tech country with advanced information technology and telecommunications.

Due to location of educational institutes, it is clear that the young will always leave rural areas in order to educate themselves. Not all, however, want to stay in the largest cities, many would like to go back to their home region. So far only few have managed to do that. However, when the baby-boomers during this decade exit the working life, many vacancies become open also in remote and rural areas. In this situation the potential migrant can choose his/her location more freely than today. This creates great opportunities to the rural areas, and most probably results in increasing rural in-migration.

To conclude, the present study has uncovered new evidence on rural in-migration, but also raised new questions. Knowing the origin of rural in-migrants would be important. Moreover, the fact that rural areas are not homogenous should also be recognised, and therefore it would be worthwhile to investigate the core and peripheral rural areas separately. In addition, a longer time span should be examined with a panel data in order to verify the results of the present study. Future work will concentrate on these topics.

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ⁱ It is important to understand that by rural in-migration we do not mean counterurbanisation. Even though closely related, these are not synonymous. In Finland the process of counterurbanisation has not yet started (Kupiszewski et al., 2000).

ⁱⁱ Ageing in Finland will be the fastest in Europe, and very fast by international standards, too.

ⁱⁱⁱ Semi-urban municipalities are located in the neighbourhood of urban centres.

^{iv} Only Austria, Portugal, Greece and Ireland are less urbanised countries.

^v Between 1993 and 2001, employment in Finland has, on average, increased about 2 per cent per year. Regionally, this varies from about 4 per cent to -0.3 per cent. That is, some regions have still not reached their pre-recession level of employment (PTT Economic Forecast 1/2002).

^{vi} For a detailed description of the model, see Shields and Shields (1993)

^{vii} The term 'locational rent' was first introduced by Sjaastad (1962).

^{viii} The comparisons are not presented but are available from the author upon request.

^{ix} For discussion of the multinomial logit model see Greene (1997).

^x See STATA 7 manual for additional information.

^{xi} If graduated e.g. in 1994, the time interval between graduation and potential migration is 2-3 years, which might be too much.

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