Counter–Urban Migration in the Swedish Urban System

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# Table of Contents

1 Introduction ................................................................................................................. 3
2 A spatial model for analysing counter-urban movers.............................................. 6
3 Empirical analysis........................................................................................................... 11
   3.1 Definition of counter-urban movers ...................................................... 11
   3.2 Data, sampling and descriptive statistics................................................. 12
   3.3 Variables ......................................................................................................... 15
   3.4 Statistical model............................................................................................. 26
   3.5 Results ............................................................................................................ 29
4 Summary and Conclusion............................................................................................. 35
References.......................................................................................................................... 38
Appendix A: Multinomial logit estimations ....................................................................... 43
Appendix B: Transformation of odds to probabilities...................................................... 46


1 Introduction

Ever since 1975, when the American researcher Calvin Beale observed non-metropolitan population growth, numerous studies have investigated and discussed the existence of a ‘clean break’. One major topic has been to identify periods of population concentration or dispersal, primarily in countries within the western hemisphere (see for example the compilation of studies by Kontuly 1998). Apparently, less attention has been paid to studying the individuals and households who decide whether or not to make a counter-urban move. Irrespective of the dominating population redistribution trend there are always people who choose to settle in more sparsely populated areas. Who are these people and in what ways do they differ from those moving to other destinations? Here, this question is analysed by employing binomial and multinomial logit models estimated on a longitudinal micro database, which contains information about demography, education, household situation, employment, income, life-course events and geographic location for the entire Swedish population.

During the last thirty years there has been an intensified debate on whether the trend towards continued concentration has been broken and replaced by population dispersion (e.g. Berry 1976, Gordon 1979, Fielding 1982, Champion 1989). The disagreements were partly connected to confusions about how to define the concept of counter-urbanisation, but also concerned its significance in absolute numbers of people affected. Studies on European countries during the period between the 1960s and the 1990s show no clear-cut patterns and there are trends towards urbanisation as well as counter-urbanisation (Kontuly 1998).

In Sweden, the 1970s were characterized by concentrated dispersion mainly as a result of out-migration to suburbs and nearby villages. The overall impact of the so-called green wave was perhaps more related to changes in attitudes towards the countryside and rural life than imprints made in migration statistics. The number of people moving to the countryside far from major urban settlements was rather small, but there were likely many more who shared their vision of a better life in a rural milieu. Later on in the 1980s there was no obvious trend in either direction; the beginning of the decade was characterized by net-migration to urban areas, which changed into counter-urbanisation during the last years of the 1980s (Borgegård et al 1995). Similarly the picture of the 1990s does not reveal any uniform pattern, for there seems to have been
both concentration and dispersion, especially when studying different regions and employing various geographical resolutions in the analyses (Borgegård & Häkansson 1997, Westlund & Pichler 2000, Amcoff 2000, Westlund 2002).

In its widest form the distribution of the population ranges along a continuum from completely uniform to maximum clustered patterns, within which forces of concentration and dispersion take place. As suggested by Champion (1989), the manifold meanings of dispersion can be disentangled into some concepts that differentiate between processes and patterns; “deconcentration is seen as one of the underlying processes which leads to counterurbanization, which is a particular form of population dispersal” (p.240). The explanations of counter-urbanisation can be found on both micro and macro levels. Kontuly (1998) provides an overview of explanatory approaches put forward by several studies on European countries. The various explanations cover categories related to economic, spatial, environmental, socio-economic, attitudinal, planning-oriented, and technological factors. Most scholars seem to agree that the complexity of the phenomenon requires a multiple explanatory approach and that there is no single factor or family of factors that possesses such power (e.g. Mosley 1984, Frey 1989, Geyer 1996).

The manifold and diverse explanations to counter-urbanisation may also be related to the different ways of defining the concept. Fielding (1982) suggests that the relationship between net migration and settlement size can reveal which of the either centrifugal or centripetal forces is dominating the other. Following Robert & Randolph (1983), Fielding (1982) and Champion (1989), it is important to make a clear distinction between population dispersal in terms of sub-urbanisation and longer-distance shifts. Population shifts within the functional commuting hinterland of urban areas should more accurately be regarded as sub-urbanisation, because of the gradual diffusion of urban settlements and the regular socio-economic interactions between core and hinterland. Counter-urbanisation, on the other hand, is taken to mean a population shift within the urban system from bigger to smaller settlements, preferably within small countries with integrated urban systems or countries with an obvious urban hierarchy. This intermediate-scale definition puts counter-urbanisation between local population shifts within local urban areas and population redistribution between national macro regions (Champion 1998). In addition to the functional interpretation of the concept, counter-urbanisation can be understood in areal terms as the split between urban and rural localities. The localities interact continuously.
in wider socio-spatial structures, but still enclose unique socio-cultural mean-
ings and patterns (Vartiainen 1989).

In many studies migration is regarded as the principal factor at work. It may be measured as net migration affecting regional population numbers, which is an approach that overlooks some essential characteristics of flows. Lewis et al (1991), for example, stress the importance of looking beyond pure net migration statistics and focus on the different characteristics of in-migrants and out-migrants that gradually restructure the local population. Moreover, if counter-urbanisation is viewed as migration down the urban hierarchy, population increases at any level (except the lowest one) must be disaggregated so as to discriminate between people moving in from regions higher up and people moving in from regions further down the hierarchy. Halliday & Coombes (1995) enlarge on these aspects by discussing three different ways of representing counter-urbanisation, which they label ‘anti-metropolitan’, ‘anti-urban’ and ‘pro-rural’.1 The latter category is understood as counter-urbanisation in terms of searching for a more tranquil lifestyle related to traditional perceptions of rural, whereas the two former are associated with the interplay between urban areas and hinterlands. The ‘anti-metropolitan’ category emphasises the out-migration of people from local labour markets within the influence area of major cities into Freestanding Britain. On the other hand, employing an ‘anti-
urban’ interpretation implies that moves from a local labour market higher up in the urban hierarchy to a local labour market further down are regarded as counter-urbanisation. These different ways of representing counter-urbanisation hint at the difficulties of translating the concept into something measurable on the ground.

However, the study of counter-urban movers needs an operational re-
search design. By drawing on some of the features discussed above a spatial model of the urban system is presented in the following section.

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1 Their basic argument extends the issue of origin and destination to include motives of migra-
tion as well.
2 A spatial model for analysing counter-urban movers

A study of counter-urban movers needs to consider how to represent the continuum from densely to sparsely populated areas. Most investigations rely on statistics that have been collected for other purposes and therefore it is related to administrative regions, e.g. counties (n=24) or municipalities (n=284).\footnote{The number of administrative regions is continually changing. The numbers mentioned in the text refer to the situation in 1990.} However, employing such an approach is problematic when it comes to the investigation of population distribution and redistribution, because the administrative regions are both internally and in comparison to each other very heterogeneous in these respects and there is no unambiguous way of ranking them on an urban/rural scale. A similar problem applies to Statistic Sweden’s local labour markets, which are a result of clustering municipalities according to a specific commuting-minimizing algorithm (Statistics Sweden 1991). Although the labour market regions have an element of functionality, they basically share the characteristics of the administrative region.

Another approach is to abandon the administrative regions and focus on the urban system. According to the official definition by Statistics Sweden, there are approximately 1,900 urban areas defined as a ‘district comprising clusters of houses with a total population exceeding 200 and not more than 200 metres between the houses’. From an international point of view the population limit is very low, it is, for example, almost one tenth of the level defined in many European countries. As in many other countries the urban areas follow a log-linear rank-size distribution, ranging from circa one million to 200 inhabitants.

By essentially following the subdivision of the urban areas proposed in the National Atlas of Sweden the number of classes has been set to five; Big Cities (population over 200 000), Large Towns (50 000-200 000), Towns (10 000-50 000), Small Towns (1 000-10 000) and Villages (200-1 000) (Öberg & Springfeldt 1991). In line with central place theory this classification of urban areas distinguishes their differences in terms of numbers of functions provided, employment, and population. Within the highest class there are three cities (Stockholm, Göteborg and Malmö), and in the second highest class there
are mostly regional centres such as Jönköping, Norrköping, Örebro, Gävle and Umeå. Although the urban areas have more than 80% of the population, their share of the national territory is negligibly small. This relationship can be illustrated by putting a hectare grid (10 000m$^2$) over the territory, which shows that only 1.6 per cent of the grid squares are populated with at least one residing individual (the total number of squares amounts to 45 million). The varying average inhabitant distances calculated on municipalities, ranging from 17 metres to nearly 2 kilometres, further demonstrate the uneven population distribution (Öberg & Springfeldt 1991).

In spite of the uneven population distribution, almost 20% of the inhabitants live outside urban areas throughout virtually all parts of the country, which means that the elaboration of the spatial model needs a principle for dealing with the non-urban areas. This problem is resolved by introducing hinterlands that represent the influence area of the cities and towns. The city or the town offers job opportunities, different types of services and retail trade, whereas the hinterland mostly provides attractive recreation resources and pleasant housing environments. These strong interactions between the built-up area and its hinterland provide good reasons for using both of them as building stones in the spatial model. Thus, at this point there are five classes of urban areas and another five classes of hinterlands related to each urban area. Regarding the size of the hinterland there is obviously no straightforward way of choosing radius or even using circular forms. The latter consideration was, however, believed to raise almost insuperable problems if the idea of circular hinterlands was to be dropped, not least with regard to the data needed and the difficult balance between different types of functionalities. Therefore, the hinterlands should preferably be represented by circles and the radius should reflect one particular and significant form of functionality, namely work commuting. Even with these restrictions there are problems related to the choice of radius because of, for example, regional differences in infrastructure and individuals’ varying perception of acceptable commuting distances. Schwanen & Dijst (2002) show that commuting time varies considerably with socio-demographic characteristics, and that people on average spend circa 10% of the daily working hours on commuting. This corresponds to almost half an hour

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3 The population density measure, average distance, is defined as the average distance between individuals in a specific area, i.e. the distance to the six nearest neighbours in an even spatial distribution.
(single way) for an 8-hour workday. Similar studies on different countries report a range between 25 to 35 minutes (Kenworthy & Laube 1999). The distance covered during half an hour clearly depends on means of transport, congestion, road standards etc., but as a crude proxy the radius was set to 40 kilometres in all hinterland classes.

Figure 1: A spatial model of the Swedish urban system.
For the purpose of studying counter-urban movers, the spatial model should provide a representation of the urban system and its population. At this point there are overlapping classes of urban areas and hinterlands, but in order to work as a device for measuring and analysing counter-urbanisation on the ground the classes need to be mutually exclusive. This prerequisite is fulfilled by the introduction of a hierarchical principle, which puts classes higher up in the urban system into a dominating position in relation to classes further down the hierarchy. Figure 1 presents the visualization of the spatial model and its classes. The hierarchical principle can be illustrated by looking closer at Stockholm – the capital and one of the urban areas in *Big cities*. Immediately adjacent to Stockholm is *Hinterland of Big Cities*, which is the second class in the hierarchy and extends 40 kilometres in all directions from Stockholm. Analogously, *Hinterland of Big Cities* includes the adjacent areas of Göteborg and Malmö, as well. However, smaller urban areas of different sizes located within this area are not assigned to the other urban classes below *Big Cities*, but they are regarded to be within the influence area of Stockholm and consequently a part of the *Hinterland of Big Cities*. In the next stage, after having implemented these two classes, *Large Towns* are searched for throughout the remaining parts of the territory, and a similar procedure is carried out for producing *Hinterland of Large Towns*. On this level and further down the hierarchy there are hinterlands that overlap, and if they do, they are amalgamated into coherent areas. The pairs of urban areas and hinterlands are kept all the way down except for the two classes *Villages* and *Periphery*, where the latter covers the parts of the country not belonging to any of the other classes. Generally, *Villages* (located in the *Periphery* class) do not offer employment and services that work as an attracting force on households in the surrounding countryside, which justifies a different principle.

Table 1 summarizes the number of classes and a few statistics on the urban areas. The spatial model is based on 171 urban areas distributed across five classes. It also reveals the number of urban areas in various hinterland classes, i.e. the number of urban areas further down the hierarchy of the urban system in each class, respectively.

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4 The hinterlands were created by the use of buffer techniques available in GIS (ArcView 3.2).
Table 1: Description of spatial classes.

<table>
<thead>
<tr>
<th>Spatial class</th>
<th>Population numbers 1993</th>
<th>Population criteria</th>
<th>Number of urban areas in the classification</th>
<th>Total number of urban areas in each class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Cities</td>
<td>1 817 823</td>
<td>over 200 000</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Hinterland of Big Cities</td>
<td>1 349 108</td>
<td>-</td>
<td>-</td>
<td>317</td>
</tr>
<tr>
<td>Large Towns</td>
<td>947 271</td>
<td>50 000-200 000</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Hinterland of Large Towns</td>
<td>1 425 504</td>
<td>-</td>
<td>-</td>
<td>515</td>
</tr>
<tr>
<td>Towns</td>
<td>1 070 213</td>
<td>10 000-50 000</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>Hinterland of Towns</td>
<td>1 629 523</td>
<td>-</td>
<td>-</td>
<td>794</td>
</tr>
<tr>
<td>Small Towns</td>
<td>229 236</td>
<td>1 000-10 000</td>
<td>79</td>
<td>79</td>
</tr>
<tr>
<td>Hinterland of Small Towns</td>
<td>244 516</td>
<td>-</td>
<td>-</td>
<td>133</td>
</tr>
<tr>
<td>Villages</td>
<td>10 809</td>
<td>200-1 000</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Periphery</td>
<td>20 257</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sum</td>
<td>8 744 260</td>
<td>171</td>
<td>1 930</td>
<td></td>
</tr>
</tbody>
</table>

The result of this classification is a spatial model which has some of the characteristics needed for analysing counter-urban movers on the ground. It is possible to keep track of counter-urban movers among all migrants by relating the origin and destination to the spatial model. A distinction between counter-urbanisation and sub-urbanisation can be made in line with the suggestions by, for instance, Fielding (1982) and Champion (1989). Moreover, the spatial model enables an analysis in the style of ‘anti-urban’ counter-urbanisation as proposed by Halliday & Coombes (1995).
3 Empirical analysis

This section is subdivided into five parts. In the first part a definition of counter-urban movers is presented, which is followed by a presentation of some descriptive statistics, the dataset, and the sampling procedure. The third part concerns the chosen variables in the analysis and specific attention is paid to discuss their effects on counter-urban migration by relating to studies reported in the literature. The section is concluded by presentations of the statistical models and the results of the study.

3.1 Definition of counter-urban movers

By taking the spatial model as a starting point, a counter-urban mover is defined as an individual moving down the urban hierarchy in accordance to the principle shown in Table 2. Individuals who lived in Big Cities at time \((t)\) and were registered as living in Large Towns or any other class further down at \((t+1)\) are defined as counter-urban movers. The distinction between sub-urbanisation and counter-urbanisation is made by the exclusion of movers to Hinterland of Big Cities, and the same procedure is applied to the other urban area classes.

This operationalisation may seem problematic, as it excludes individuals moving from one urban area into its adjacent hinterland as well as individuals moving to hinterlands of other urban areas placed on the same level in the urban system. It can be argued whether it is satisfactory to regard the latter group as sub-urban movers and remove them from the group of counter-urban movers although they move to another part of the country. Another way of dealing with the problem would have been to exclude those moving into the adjacent hinterland and keep the remaining movers. However, this solution becomes complicated and difficult to implement, especially when the hinterlands overlap and involve more than two urban areas. There would be excessive numbers of ambiguous borderline cases in the process of distinguishing sub-urban versus counter-urban movers. Moreover, from a theoretical point of view it can be argued that, in comparison to the adjacent hinterland, migration to a non-adjacent hinterland is associated with similar functionalities. The dominating urban area in the destination is likely to have comparable labour markets, housing markets, service facilities etc., which speaks against considering this kind of moves as counter-urban.
Table 2: Definition of counter-urban movers (C = a counter-urban mover).

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Cities</td>
<td>C</td>
</tr>
<tr>
<td>Hinterland of Big Cities</td>
<td>C</td>
</tr>
<tr>
<td>Large Towns</td>
<td>C</td>
</tr>
<tr>
<td>Hinterland of Large Towns</td>
<td>C</td>
</tr>
<tr>
<td>Towns</td>
<td>C</td>
</tr>
<tr>
<td>Hinterland of Towns</td>
<td>C</td>
</tr>
<tr>
<td>Small Towns</td>
<td>C</td>
</tr>
<tr>
<td>Hinterland of Small Towns</td>
<td>C</td>
</tr>
<tr>
<td>Villages</td>
<td>C</td>
</tr>
<tr>
<td>Periphery</td>
<td>C</td>
</tr>
</tbody>
</table>

Nevertheless, after having excluded all movers from the urban areas to their hinterlands, forty-one possible combinations of counter-urban migration remain. These combinations will be further discussed in connection to the presentation of the statistical model.

3.2 Data, sampling and descriptive statistics

The empirical analysis is based on a longitudinal micro database that has been created by matching a number of administrative registers at Statistics Sweden (SCB). The database covers the period 1985 to 1995 and includes annual information about all Swedish inhabitants. In particular, the detailed longitudinal geographical variables concerning the individuals’ places of residence have made this approach possible. Since the spatial resolution of these variables is residence coordinates within 100 metres any regionalization would have been attainable.
The original sample includes all individuals (≥18 years old) who between 1993 and 1994 changed place of residence. In the database the place of residence is recorded on the 31st of December each year, which implies that individuals whose residence coordinates changed were sampled. In a next stage these individuals were split into working samples in accordance with their place of origin, i.e. individuals registered as living in Big Cities in 1993 form one working sample, those living in Hinterland of Big Cities in 1993 form another and so forth. One of the working samples contains all migrants and here a distinction is made between counter-urban movers (irrespective of place of origin) and all other movers. In conclusion, the working samples characterise counter-urban movers in general, as well as counter-urban movers from different levels of the urban hierarchy. These samples were used for the estimation of statistical models.

As previously mentioned, the database at hand covers the period from the mid-80s to the mid-90s, which makes it possible to present a longitudinal description of the population development in the ten spatial classes. In Table 3 the patterns of population change are broken down into natural change, net migration, and age composition. It is shown that population change is more or less correlated with the urban hierarchy; population growth increases when gradually shifting to spatial classes further up in the urban system. Small Towns and the three classes further down the hierarchy had a negative development during this period, whereas the remaining ones further up increased their population numbers. Among these spatial classes it can be noticed that the hinterland classes grew more than their urban counterparts, respectively. This pattern is also recognised by Westlund (2002). For example, Hinterland of Big Cities grew by 1.3% per year, while the corresponding figure for Big Cities amounted to 0.7%. These patterns could be interpreted as signifying that Sweden had a continued sub-urbanisation trend on different levels of the urban system during these years, and that the time period was dominated by urbanisation rather than counter-urbanisation. This relationship seems to be confirmed by the figures showing net migration; there is a fairly strong positive correlation between spatial classes and net migration.
Table 3: Mean values of annual population change in the spatial classes during the period 1986 to 1994, per cent of total population in the spatial classes.

<table>
<thead>
<tr>
<th>Spatial class</th>
<th>Population change</th>
<th>Natural change</th>
<th>Net migration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Age 0-25</td>
<td>Age 26-45</td>
</tr>
<tr>
<td>Big Cities</td>
<td>0.7</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Hinterland of Big Cities</td>
<td>1.3</td>
<td>0.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Large Towns</td>
<td>0.6</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Hinterland of Large Towns</td>
<td>0.7</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Towns</td>
<td>0.3</td>
<td>0.0</td>
<td>-0.1</td>
</tr>
<tr>
<td>Hinterland of Towns</td>
<td>0.4</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Small Towns</td>
<td>-0.1</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
<tr>
<td>Hinterland of Small Towns</td>
<td>-0.3</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Villages</td>
<td>-0.3</td>
<td>-0.3</td>
<td>-0.1</td>
</tr>
<tr>
<td>Periphery</td>
<td>-1.0</td>
<td>0.3</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The break-down of population change into natural change and net migration reveals that the proportion of the two factors varies across spatial classes. The gloomy population development in Periphery is predominantly a consequence of the unbalanced relationship between birth rates and death rates rather than net out-migration. However, this strong negative natural change is most likely a result of extensive out-migration in the past (Håkansson 2000). A similar situation is found in Hinterland of Small Towns, which together with Periphery covers a considerable proportion of the Swedish territory. Another pattern to notice is that the spatial classes with population increase have grown mainly due to net in-migration, whereas the development of the spatial classes with decreasing population is for the most part propelled by negative natural change. For the latter category this development is reflected in the falling numbers of younger people. The number of children and adults in fertile ages is going down or remains constant in all of these spatial classes. This troublesome development is further emphasized by the widespread decline of middle-aged people as well. Nevertheless, the population-increasing spatial class Hinterland of Big Cities is one exception to the pattern of growth by net in-migration; here natural change
is the dominating factor although net in-migration contributes to the population increase as well. By breaking down the contribution of migration into age classes it can be seen that it is young people and their children who dominate the net inflow of movers. Moreover, the statistics of the age classes reflect the migration flows of students (commonly in their early twenties) to universities and colleges primarily located in Big Cities, Large Towns and Towns. In the hinterland classes, people aged between 26 and 45 dominate the migration flows, which may be related to the amenities these areas can offer to households with children.5

3.3 Variables

As a consequence of the posed question – Who are the counter-urban movers? – the study is set to investigate the differences between this group and movers to other destinations. The explanations for counter-urbanisation are numerous and cover a wide range of different perspectives. Some of the explanations work at levels not easily captured by individual and regional characteristics, whereas others are more applicable in this respect. The theoretical discussions by Geyer (1996) and Moseley (1984) on the fundamental factors behind the processes of population concentration and deconcentration provide a valuable framework for the choice of pertinent covariates.

Geyer (1996) argues that people’s lives can be characterized by two essential phases, which represent a different focus on what is important in life. In the phase of productionism individuals are concentrating on education, job opportunities, and income much more than they do on things related to living conditions. As they establish themselves on the labour market and reach satisfactory income levels the individuals begin to reflect on their housing situation, which is labelled the environmentalism phase. The relative importance of the living conditions in terms of housing standard and the geographical setting of the residence increases at the expense of factors oriented purely towards “making a living”. Geyer expands on the links between productionism and environmentalism, and concludes that these indicators have the potential of explaining many of the causes propelling migration patterns.

5 The comparison between age classes of net migration and population change may seem contradictory. It would be expected that population changes driven by net migration produce similar age distributions. However, the differences in the Table 3 are due to emigration and immigration, which are flows only included in the numbers of population change.
The interpretation of this explanation for counter-urbanisation trickles down to a number of statements about individual behaviour: “there is strong evidence of a general tendency among younger, less educated, less wealthy people in most societies to concentrate spatially, while the opposite groups are prone to de-concentrate” (Geyer 1996, p.53). Moreover, “indications are, that entrepreneurs are increasingly concentrating on environmentally friendly rural areas for new investments ... which in time could affect the direction of these flows visibly” (ibid, p.53). These statements highlight which factors are to be regarded as important, but they also suggest the expected sign of the covariates.

Unlike Geyer’s analysis, the explanations provided by Moseley (1984) do not emphasise so much the implications of going through different phases in life, but focus more on the importance of employment and its spatial distribution. From his point of view the explanations of counter-urbanisation are people-led or job-led. People in retirement, unemployment and those not participating in the labour force do not have the daily spatial constraint of a localised workplace. This group of people can in principal choose the place of residence without considering the geography of employment opportunities. In addition, changes in the labour market, such as increased opportunities for online distance working, make it possible to reduce the number of weekly working trips. Within these groups one would expect to find relatively more counter-urban movers. Spatial shifts in employment opportunities may also trigger counter-urban migration. Expansion in enterprises drawing on localised physical or human resources, such as the tourism industry, generate increased employment and incentives for in-migration into areas further down the urban system. From this line of thought it can be concluded that, for example, unemployed people and those outside the labour force share a common characteristic of not being constrained by workplace accessibility, which should imply higher propensities for counter-urban migration ceteris paribus.

Table 4 presents definitions and sample means of the variables used for the estimation of counter-urban migration. The variables are organized in categories in order to facilitate the reading of the results. The Individual category consists of some basic socio-demographic variables, which characterize the individual (age, sex, country of origin, education, and retirement pension). Concluding from the previous discussion, age is expected to have a positive effect on counter-urban migration. This relationship, however, may not be linear across all ages, which is taken into account by subdividing the continuous
Table 4: Definitions and sample means for counter-urban movers and all other movers.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Counter-urban movers</th>
<th>All other movers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE1827</td>
<td>Dummy variable = 1 if the individual is aged between 18 and 27.</td>
<td>0.460</td>
<td>0.445</td>
</tr>
<tr>
<td>AGE2845</td>
<td>Dummy variable = 1 if the individual is aged between 28 and 45.</td>
<td>0.321</td>
<td>0.343</td>
</tr>
<tr>
<td>AGE60+</td>
<td>Dummy variable = 1 if the individual is aged 60 or more.</td>
<td>0.104</td>
<td>0.102</td>
</tr>
<tr>
<td>MALE</td>
<td>Dummy variable = 1 if individual is male.</td>
<td>0.498</td>
<td>0.503</td>
</tr>
<tr>
<td>SCAND</td>
<td>Dummy variable = 1 if individual is born in a Scandinavian country other than Sweden.</td>
<td>0.043</td>
<td>0.041</td>
</tr>
<tr>
<td>WORLD</td>
<td>Dummy variable = 1 if the individual is born outside Scandinavia.</td>
<td>0.089</td>
<td>0.111</td>
</tr>
<tr>
<td>UNIV</td>
<td>Dummy variable = 1 if the individual’s highest education is university.</td>
<td>0.275</td>
<td>0.210</td>
</tr>
<tr>
<td>RETPENS</td>
<td>Dummy variable = 1 if the individual received more than 10 000 SEK in retirement pension.</td>
<td>0.115</td>
<td>0.119</td>
</tr>
<tr>
<td>Household</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SINGLE</td>
<td>Dummy variable = 1 if the individual is single.</td>
<td>0.706</td>
<td>0.697</td>
</tr>
<tr>
<td>CHILD</td>
<td>Dummy variable = 1 if the individual has at least one child.</td>
<td>0.194</td>
<td>0.230</td>
</tr>
<tr>
<td>HINC</td>
<td>Household’s income from work, hundreds of SEK.</td>
<td>1509</td>
<td>1648</td>
</tr>
<tr>
<td>SPUNIV</td>
<td>Dummy variable = 1 if the spouse’s highest education is university.</td>
<td>0.321</td>
<td>0.259</td>
</tr>
<tr>
<td>SPUNEMP</td>
<td>Dummy variable = 1 if the spouse received unemployment benefits.</td>
<td>0.043</td>
<td>0.046</td>
</tr>
<tr>
<td>Labour market</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNEMP</td>
<td>Dummy variable = 1 if the individual received unemployment benefits.</td>
<td>0.229</td>
<td>0.232</td>
</tr>
<tr>
<td>OUTLF</td>
<td>Dummy variable = 1 if the individual is outside the labour force (no income from work or unemployment benefits).</td>
<td>0.219</td>
<td>0.204</td>
</tr>
<tr>
<td>ENTRPR</td>
<td>Dummy variable = 1 if the individual earned more than 50 000 SEK from own enterprise and earned less than 20 000 SEK from employment.</td>
<td>0.007</td>
<td>0.009</td>
</tr>
<tr>
<td>CONSTR</td>
<td>Dummy variable = 1 if the individual works in the construction industry.</td>
<td>0.020</td>
<td>0.029</td>
</tr>
<tr>
<td>HOTEL</td>
<td>Dummy variable = 1 if the individual works in hotels and restaurants.</td>
<td>0.020</td>
<td>0.020</td>
</tr>
<tr>
<td>HEALTH</td>
<td>Dummy variable = 1 if the individual works in medical and other health services.</td>
<td>0.100</td>
<td>0.112</td>
</tr>
<tr>
<td>Life course event</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GSPOUSE</td>
<td>Dummy variable = 1 if the individual who is single in 1993 gets a spouse the year after or change spouse during the same period.</td>
<td>0.086</td>
<td>0.090</td>
</tr>
<tr>
<td>GCHILD</td>
<td>Dummy variable = 1 if the individual gets a child in 1993.</td>
<td>0.039</td>
<td>0.041</td>
</tr>
<tr>
<td>BUNEMP</td>
<td>Dummy variable = 1 if the individual is employed in 1993, but becomes unemployed the year after (unemployment definition).</td>
<td>0.122</td>
<td>0.100</td>
</tr>
<tr>
<td>MIGEXP</td>
<td>Dummy variable = 1 if the individual migrated at least once during 1991 and 1992.</td>
<td>0.428</td>
<td>0.404</td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RUNEMP(i)</td>
<td>Unemployment rate in municipality of origin, in per cent.</td>
<td>6.655</td>
<td>6.849</td>
</tr>
<tr>
<td>HPRICE(i)</td>
<td>Average purchase price of houses in region of origin, thousands of SEK (1990 prices).</td>
<td>767</td>
<td>690</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td>51 198</td>
</tr>
</tbody>
</table>
age variable into a number of discrete age classes ($AGE1827$, $AGE2845$, $AGE60$). The justification of the chosen intervals is related to some of the essential phases most people go through in life. The period between 18 and 27 represents a time of adolescence devoted to education, setting up a carrier and having fun. As children are coming into our lives we get new responsibilities and perhaps different perspectives on how to shape our everyday life. The time of parenthood is set to start at 28 since this is the average age of women giving birth for the first time in Sweden. At the age of 45 it is assumed that the children have grown up and gradually disengage from the parental home, which opens up a new phase in life. The needs for housing change and so does family per capita income. Perhaps more important, migration decisions are in the hands of fewer individuals as the number of household members decreases. Finally, the last age dummy characterises the phase in life when people get retirement pension, which in Sweden comes about on average in their early sixties. Each of these age classes probably has its particular migration pattern.

Another factor of importance to counter-urban migration is ethnic affiliation ($SCAND$, $WORLD$). A recent migration study using Swedish micro data by Fischer et al (2000) shows that foreign-born people are more mobility-prone than people born in the country, especially those foreign-born who recently have immigrated. However, a similar study specifically focusing on labour market related mobility reports higher mobility propensity among those born in Sweden (Eliasson et al 2001). The different results may be related to the well-documented structural difficulties for immigrants to enter the labour market, which is reflected in diverse mobility patterns. Nevertheless, the spatial distribution of immigrants is different from the overall population distribution. Labour immigrants who came during the 1960s and 70s reside more often in the industrial areas, whereas the 1980s and 90s refugee immigrants predominantly concentrate in the big cities (Borgegård et al 1998). The concentration of immigrants in these metropolitan areas put many of the municipalities under heavy financial pressure, which caused the government to launch a new policy in 1984 (Whole of Sweden Strategy) that aimed to disperse newly arrived immigrants throughout the country. However, in a study by Ekberg and Andersson (1995) it is concluded that immigrants are very prone to stay in the metropolitan areas, for approximately 90% of those living in the big cities were still residing there five years later. The same measure for the sparsely populated counties in north-
ern Sweden amounted to only 42%. Based on this discussion, being born outside Sweden is expected to be negatively correlated with counter-urban migration.

Education level (UNIV) has been shown to be positively correlated to mobility (Eliasson et al 2001, Westerlund 2000, Fischer et al 2000). Better educated persons tend to be more mobile, presumably because their job opportunities are more national in scope and that they can gather and process information more efficiently (Da Vanzo 1983). In a study of the Swedish countryside, and specifically the counties around lake Mälaren (the Stockholm region), Amcoff (2000) finds that in-migrants to countryside parishes have lower education level than the average population in these counties. On the other hand, Westlund & Pichler (2000) report a positive relationship between education level and population development in Swedish countryside municipalities. Hence these studies give a rather ambiguous message regarding the influences of education level on counter-urban migration, and it is unclear what coefficient sign is to be expected.

One of the most common factors referred to as important in understanding counter-urbanisation is retirement migration (RETPENS) (e.g. Fuguitt & Tordella 1980, Frey 1989). Leaving work opens up many opportunities for new mobility strategies. Retirement pension may bring about a possibility to settle in sites with high personal place utility such as the second home, where relatives live, where the individual grew up or simply where there is a nice climate. In addition, the changing age composition towards larger proportions of elderly people is regarded as a trend reinforcing urban to rural migration. In a study on retirement migration in Sweden, Lundmark (1995) portrays a somewhat different picture. Pensioners account for a proportionally smaller share of migration across municipality borders, and less than 5 per cent of them undertake a move exceeding 50 kilometres. When relating these findings to the spatial model it seems doubtful to expect retirement pension to have positive effects on counter-urban migration. The mobility patterns of the elderly in Sweden appear to be different from the ones found in Britain and the US, which might partly be explained by the absence of attractive sun-belt regions in Scandinavia.

In the household category there are five variables that describe family relations, income and characteristics of the spouse: marital status, having children, household income, spouse’s education level and spouse’s employment situation. Many studies have shown the need for incorporating household situa-
tion in the analysis of mobility decisions (e.g. Mincer 1978). The concept of the tied mover indicates disadvantages for family members who have to give up place-specific capital for the benefit of another family member. In comparison to a person living on his own, the number of potential migration destinations for a dual working family with children are much more restricted. This is particularly the case for dual career families where both spouses try to succeed at their work. Generally, only the metropolitan areas or some of the regional centres provide sufficiently diversified regional labour markets for these families. From this line of thought one would expect being single (SINGLE) to have a positive effect, especially in spatial classes high up in the urban hierarchy.

The incidence of children in the household also determines migration decisions (CHILD). Career opportunities in other parts of the country may have to be turned down for the sake of children’s needs; schools, friends, safety, and well-being (e.g. Green 1997). Out of consideration for the children families choose to remain in their present places of residence, which may cause reduced mobility. On the other hand, there are studies that report parents’ desire to give their children a good home environment far from urban troubles and distress (Borgegård et al 1993, Kåks & Westholm 1994). Many respondents in Kåks & Westholm’s study, for example, regard living in the countryside as much better for the children in terms of less exposure to stress and more opportunities for a ‘richer’ life. From this point of view one would expect the incidence of children to increase the probability of counter-urban migration to the hinterland classes because of their countryside environments.

A commonly proposed factor for explaining urban to rural migration is the income-transfer hypothesis (Hugo 1989, Hugo & Bell 1998). In Australia, for example, it has been recognized that large portions of in-migrants to non-metropolitan areas are receiving transfer payments. One of the reasons for this pattern is believed to be due to geographical differences in housing prices. People with small and fixed incomes can more easily afford a place to live in the countryside as compared to locations in urban areas. Studies on internal migration in the US report similar findings, showing that there is a key element of urban to rural mobility among low-income households (e.g. Johansen & Fuguitt 1984, Lichter et al 1994). These results are very much in accordance with land use theory that explains spatial variations in land values; the costs of housing generally fall with increased distance from urban areas. Despite this unambigu-

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* See also the discussion of the ‘escalator region’ concept proposed by Fielding (1992).
ous fact, most Swedish studies based on surveys and interviews have not been able to demonstrate that counter-urban movers are poorer or less financially viable than the average population (Amcoff 2000). They indicate rather that counter-urban movers try to fulfil a particular goal in life, which is mainly a housing-related goal, for example, to renovate the house or to lay out a garden (Boregård et al 1993, Stenbacka 2001). Forsberg & Carlbrand (1993) argue that the household economy is important, not as a goal in itself but as a means for realizing important things in life. The realization of these goals needs to be adjusted to an affordable level, but should not be jeopardized by a weak household economy. If this is a common opinion among the group of urban to rural migrants one would expect that household income (HINC) does not influence the propensity to make a counter-urban move.

The remaining variables in the household category refer to some characteristics of the spouse. The spouse’s education level (SPUNIV) and employment status (SPUNEMP) are most likely as important as they are for the individual. As previously discussed, the effects of education level seem to be uncertain, and the same appears to be the case with education level of the spouse. However, a well-educated spouse may have a qualified job that is usually located in urban areas, which is a constraint to counter-urban migration. This is clearly not an unambiguous pattern since several professions (physicians, teachers etc.) are in demand all over the country and can readily get a job after a counter-urban move. Moreover, many white-collar jobs can be combined with flexible working arrangements supported by information technology, which reduces the need for continuous physical presence at the workplace. The employment status of the spouse is also relevant in this respect. As mentioned before, a migration decision affects all family members, and it will influence the spouse’s opportunities to get a job as well. On the one hand, being unemployed implies no connections to a workplace, which most likely makes the family more mobility prone. On the other hand, the direction of this propensity increase is not clear, i.e. whether there will be more counter-urban destinations. From a labour market point of view, and the assumption of maintaining a two-income household, the destination choice set will perhaps be adjusted to regional variations in job opportunities. However, especially in times of recession with high unemployment rates and bad prospects of getting a new job it does not really matter where you are unemployed. This situation may open up other plans within the family, plans that encompass a different housing environment and new ways of
making a living. Together, all this makes it difficult to conclude what the effects are on counter-urban migration.

In the labour market category there are six variables that describe the individual’s labour market situation: unemployment, labour market participation, self-employment and three key branches of tentative importance to sparsely populated parts of the country. By adopting an economic explanatory framework, individual unemployment experience (UNEMP) is included to reflect differences in search intensity and reservation wages. Being unemployed does not necessarily imply higher migration propensities. The unemployed person might be unemployed as a result of higher individual mobility costs related to place attachment to the home region or because of a higher degree of uncertainty regarding conditions in other locations. It is reasonable to assume a higher search intensity and lower reservation wages among the unemployed as compared to the employed. However, the search intensity should be higher and the reservation wage lower for any region, including the present location. From a theoretical point of view it can be argued that the number of regions actually sampled tends to increase with a greater search effort, which in turn increases the probability of migration. Moreover, because of institutional factors such as strong trade unions nominal wages in Sweden are rigid downwards. Individual “underbidding” is thus relatively unimportant as a mechanism of labour market adjustment. These arguments hint at a positive effect of individual unemployment on migration. As regards counter-urban migration it follows that the unemployed search for jobs in more regions throughout the urban system. The job vacancies are clearly more numerous in larger urban areas, which implies an expected negative sign for the individual unemployment coefficient. It has to be kept in mind that this is an economic interpretation of the variable. By adopting a more life style-orientated explanatory framework, arguments like those discussed previously in this section could be applied to the individual unemployment variable.

Nevertheless, by continuing on the economic explanation track individuals outside the labour force (OUTLF) are, in general, less likely to exhibit mobility because of their relatively low search intensity. But this explanation does not provide indications of counter-urban migration propensities in any direc-

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7 See Eliasson et al (2001) for a discussion of how the spatial distribution of employment opportunities influences the regional allocation of job search and geographical mobility via wage offer arrival rates, direct search costs and mobility costs.
tion. When looking closer at different groups of individuals outside the labour force there are, for example, university students, people in military services, and mothers and fathers on parental leave who probably make migration decisions without immediate labour market considerations. These groups are more likely to consider other reasons, e.g. moving to education, moving to partner, moving to places endowed with good environments etc. Thus, the effects of being outside the labour force on counter-urban migration seem to be difficult to identify in advance of the analysis. However, they are not constrained by workplace accessibility, which may provide some guidance when considering the sign of the coefficient.

As pointed out by Geyer (1996), entrepreneurs tend to concentrate in rural areas from where they run their businesses. Borgegård et al (1993) and Kåks & Westholm (1994) observe similar patterns in their analyses of Swedish rural immigration. By applying life form analysis to urban to rural migration, Forsberg & Carlbrand (1993) find a relatively numerous group of in-migrants characterised by an independent life form and consisting of people who run farms, small firms or family businesses. The firms are sometimes built up before the counter-urban move, but quite often they have emerged during a period close to the move. People have quit their employment and started a business shortly after the move. Some of them have no success in finding new employment and therefore set up a business, whereas others are driven by a desire to become an entrepreneur. These findings indicate that the individuals are not entrepreneurs before the move, but that they have become self-employed after the move. If this is a general pattern among counter-urban movers one would expect a negative effect on the entrepreneur variable (ENTRPR), which is contrary to the arguments that emphasize the amenities of the rural environment as a place for investment and housing.

Within the labour market category there are variables that represent a number of industries. Over a long period of time the construction of new houses and flats has been decreasing and, especially in times of recession, construction has been confined to the metropolitan areas and some of the regional centres. In order to stay in this occupation construction workers have been obliged to move to these urban areas. Thus, this variable (CONSTR) is expected to show a negative sign in the analysis. The analysis of the hotel and restaurant industry (HOTEL) is motivated because of its close relationship to tourism activities throughout the country. For example, winter sport tourism in the mountainous
areas (sparsely populated) has grown and been able to gradually attract more and more visitors. As a consequence, the demand for labour in these companies has increased, which is possibly reflected in the migration propensities among employees in this branch of industry. The competence of people in the medical and health services industry is in demand in all parts of the country, which theoretically should point towards a non-significant parameter estimate for this variable coefficient (HEALTH). However, in some areas, especially further down the urban hierarchy, there is a lack of occupational groups like doctors and nurses. These vacancies hint at the absence of counter-urban migration among these groups, which in turn brings about an expectancy of a negative effect in the analysis. Nevertheless, in spite of the difficulties in pinpointing the effects of these three industry variables, their inclusion in the analysis explores and exemplifies mobility behaviour connected to occupational-related information.

In the life course event category there are a number of variables that describe some important changes in the individual’s life. It is widely known that fundamental changes in life, such as leaving the parental home, getting a partner or getting the first child, may be reflected in migration patterns (Warnes 1992). In the available data set it has been possible to construct four variables that indicate such transitions: getting a spouse, getting a child, becoming unemployed, and having recent migration experience. The first one, forming a sexual union (GSPOUSE), is usually ensued by one of the partners moving to the other. On British data, Coleman & Haskey (1986) report that the migration field associated with marriage seems to follow a bimodal distribution in that there is an over-representation of both short distances (2-3 kilometres) between pre and post marriage addresses as well as long distances (more than 14 kilometres). It can be noticed that long distances are defined as longer than 14 kilometres, which suggests that most individuals find their partners locally. In their work of building a spatial microsimulation model of the Swedish population Holm et al (2002) come across similar patterns; the formation of new families where the partners come from different local labour markets is exceptionally few. These findings are to a large extent in line with other geographical studies on information fields and daily reach, which show that the individual on an everyday basis has many more contacts with others close to them than with people farther

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8 The comparison of registered addresses show short “marriage distances”, but it should be kept in mind that, for instance, young people often move to education or work where they find their partners.
away. Thus, one would expect that the life course event of getting a spouse has a negative effect on counter-urban migration.

Childbirth is generally considered to trigger migration, especially local migration where households move to accommodation better adjusted to their new needs for space (Rossi 1955). As discussed previously, the incidence of children in the household is believed to cause counter-urban migration. If this is the case one could question whether this behaviour is connected to the point in time when the household is getting a new member. Hypothetically, it could be argued that households with children to a larger extent consider the housing situation and the surrounding milieu, which increases the propensity to take on a counter-urban move, but this move does not necessarily have to take place concurrently with the arrival of a new household member ($GCHILD$).

Facing unemployment is for most people a worrying event that decreases household income and changes the standard of living. The above discussion of the effects of individual unemployment hints at the difficulties of how to anticipate the impacts on counter-urban migration. The variable ($BUNEMP$) is defined to indicate a transition from employment into unemployment in the same year as migration is observed. This means that the variable is an indicator of unemployment close to the migration event. Unfortunately, data cannot tell whether the individual first become unemployed and thereafter move or the other way round, but the variable could possibly be interpreted as an indicator of frictional unemployment in connection to the migration event.

The variable indicating migration experience ($MIGEXP$) is considered to reflect recent life course events. It is recognized that people who have recently moved are more prone to migrate again (Fischer et al 2000, Eliasson et al 2001). The question is whether these findings correspond to counter-urban migration as well, i.e. does migration experience imply that the individual is more likely to make a counter-urban move in comparison to any other type of move. At this point the question is open and no $a$ priori hypotheses are made.

In the region category there are two variables that characterise the region of origin: unemployment rates ($RUNEMP(i)$) and average house prices ($HPRICE(i)$). Generally, it can be argued that regional unemployment rates are positively correlated with migration, because increased regional unemployment sharpens competition for local jobs. However, the propensity to take on a counter-urban move probably varies across the urban hierarchy. If the individual resides in Big Cities, in which regional unemployment rate grows, the same
increase is likely to take place in the other spatial classes, since Big Cities has the most dynamic and diversified labour market. The unemployment situation is equally weak in the home region as well as elsewhere. The sign of the coefficient is unclear and one would expect an insignificant effect on counter-urban migration. On the other hand, if the individual lives in Towns, for example, and there is an increase in regional unemployment it may be more beneficial to move upwards in the hierarchy where regional unemployment rates are presumably lower. The sign of the coefficient is therefore expected to be negative. Finally, the average regional house price ($HPRICE_{i\omega}$) is included to check whether counter-urban migration is affected by housing market conditions. Prices on properties are broadly correlated with population densities, which means that the highest prices are found in the metropolitan areas and that they gradually decrease down the urban hierarchy. In general, price constraints in the housing market may discourage migration upwards the urban system, because of the extra capital needed to enter the housing market. On the other hand, individuals who move into the other direction can use the surplus capital to improve their standard of living or use the capital for other purposes. From this line of thought it can be assumed that changes in housing prices do not explicitly hinder counter-urban migration, but a restricting factor may be the awareness of systematic variations in growth rates of property values across the urban system, i.e. financial problems related to relatively weaker increase in property values in case of moving back.

After having gone through the variable categories this section of the empirical analysis is followed by a presentation of the statistical model.

### 3.4 Statistical model

The use of discrete choice models in migration research is widespread and has been employed on different geographical scales (e.g. interurban and intraurban). A basic assumption of the discrete choice model is that the individuals’ preferences for the available alternatives can be described in terms of a utility function, in which they choose the alternatives with the highest utility. However, the shaping of the alternatives or the choice set has proven to be a difficult task (Thill 1992). One of the problems refers to the number of possible alternatives in the choice set. If the number is large, difficulties might occur related to the individuals' ability to evaluate each and every of the alternatives and to make
informed decisions. In such cases the researcher can, for example, employ a sampling procedure or aggregate the spatial units to reduce the number of alternatives (McFadden 1978, Kanaroglou & Ferguson 1998). Here the choice set is restricted to no more than six spatial units, which decreases the risk of having destinations never considered by the migrant. It is assumed that people who for different reasons are about to make a counter-urban move reflect on what they want to obtain from their change of residence. These needs and requirements may be differently satisfied in the various spatial classes of the urban system, implying that the spatial classes - with their specific characteristics - are gradually sorted out till one of them remains. By reconnecting to the discussion about the definition of spatial classes it can be argued that the chosen regionalisation reduces the risk of being too aggregated for a meaningful analysis, at the same time as it minimizes the number of irrelevant alternatives.

The modelling of counter-urban migration is carried out in two steps. In a first step a binomial logit model is estimated to capture the general differences between counter-urban movers and movers heading for other destinations. The form of the model is:

\[
\text{Prob}[y_1 = 1] = \frac{e^{\beta'X}}{1 + e^{\beta'X}}
\]

where \( X \) is a vector of observable attributes of the individual and \( \beta \) is a vector of parameters to be estimated. Observations related to the dependent variable are coded:

Model 1:
\( Y_1 = 1 \) if making a counter-urban move according to the definition in Table 2, \( Y_1 = 0 \) if moving elsewhere

However, this general model may conceal potential contrasts, for example, movers between urban areas and hinterlands, and between migrants to the nearest lower level and migrants to the base of the urban hierarchy. In order to get a more detailed picture of the migration patterns across the urban system six multinomial logit models have been estimated in a second step. By employing such a formulation it is possible to make, from each of the spatial classes, simultaneous comparisons between counter-urban movers to different spatial classes fur-
ther down the urban hierarchy. Each of the regression models can be expressed as:

$$\text{Prob}[\text{choice } j] = \frac{e^{\beta_j'X_i}}{\sum_{j=0}^{J} e^{\beta_j'X_i}}, \quad j = 0, \ldots, J.$$ 

where $X$ is a vector of observable attributes of the individual, $\beta$ is a vector of parameters to be estimated and $t$ indexes the individual. Observations associated with the dependent variable in the multinomial models are coded:

Model 2 (from Big Cities)

$Y_2=1$ if moving to Large Towns, $Y_2=2$ if moving to Hinterland of Large Towns, $Y_2=3$ if moving to Towns, $Y_2=4$ if moving to Hinterland of Towns, $Y_2=5$ if moving to Small Towns, $Y_2=6$ if moving to Hinterland of Small Towns, and $Y_2=0$ if moving elsewhere

Model 3 (from Hinterland of Big Cities)

$Y_3=1$ if moving to Large Towns, $Y_3=2$ if moving to Hinterland of Large Towns, $Y_3=3$ if moving to Towns, $Y_3=4$ if moving to Hinterland of Towns, $Y_3=5$ if moving to Small Towns, $Y_3=6$ if moving to Hinterland of Small Towns, and $Y_3=0$ if moving elsewhere

Model 4 (from Large Towns)

$Y_4=1$ if moving to Towns, $Y_4=2$ if moving to Hinterland of Towns, $Y_4=3$ if moving to Small Towns, $Y_4=4$ if moving to Hinterland of Small Towns, and $Y_4=0$ if moving elsewhere

Model 5 (from Hinterland of Large Towns)

$Y_5=1$ if moving to Towns, $Y_5=2$ if moving to Hinterland of Towns, $Y_5=3$ if moving to Small Towns, $Y_5=4$ if moving to Hinterland of Small Towns, and $Y_5=0$ if moving elsewhere

Model 6 (from Towns)

$Y_6=1$ if moving to Small Towns, $Y_6=2$ if moving to Hinterland of Small Towns, and $Y_6=0$ if moving elsewhere

Model 7 (from Hinterland of Towns)

$Y_7=1$ if moving to Small Towns, $Y_7=2$ if moving to Hinterland of Small Towns, and $Y_7=0$ if moving elsewhere

Due to low frequencies of counter-urban movers in combinations from Small Towns and further down the urban hierarchy it is not possible to include these moves in the statistical analyses. The independent variables in $X$ are the same in the binomial model and the six multinomial models.
3.5 Results

The presentation of the estimation results is organized to focus primarily on the general effects on counter-urban migration (Model 1), but in cases when the detailed analyses of the migration patterns in the urban hierarchy deviate from the general model these results are also reported (Models 2-7). The results of Models 2-7 are presented in Appendix A and referred to as Tables Aa to Af.

Table 5 shows the estimation results of Model 1, which captures the general differences between counter-urban movers and individuals moving elsewhere. In line with the suggestions made in the literature (e.g. Geyer 1996) age is positively correlated with counter-urban migration, and when examining the b-coefficients this pattern is more or less linear across all age categories. In comparison to middle-aged people between 46 and 59, young people are least prone to make a counter-urban move; those between 28 and 45 are less likely to make the same kind of move as well. By employing the same reference category the probability of elderly people (over 60) to make a counter-urban move is 1.3 per cent points higher. However, this general pattern does not apply to all migration flows in the urban hierarchy. For example, people between 18 and 45 (age categories 18-27 and 28-45) are more likely to make a counter-urban move if they migrate from Big Cities to Large Towns. Similar patterns are valid for other flows with destination to Towns (see Tables Aa, Ab and Ac in Appendix A). This is seemingly related to students who move to universities and colleges located in urban areas (mainly in Big Cities, Large Towns and Towns) throughout the country.

The analyses do not show any differences between men and women regarding counter-urban migration, but ethnicity seems to be related to different choices of destination. As expected, individuals born outside Scandinavia are significantly less likely to move down the urban hierarchy as compared to individuals born in Sweden. This difference cannot be found when contrasting individuals of other Scandinavian origin with native Swedes. However, when looking at the results of the multinomial logit models another pattern appears. Scandinavians living in the metropolitan areas seem less likely to move to intermediate spatial classes (Towns and Hinterland of Towns) (Table Ab), whereas Scandinavians residing in Large Towns and spatial classes further down seem to be more inclined to make counter-urban moves (Tables Ac, Ad, Ae, and Af). There is no single clear-cut reason to this pattern, but it might be associated to
the known high proportions (10-20 per cent) of Scandinavian-born citizens in some areas bordering Norway and Finland (Öberg & Springfeldt 1991). These borderlands (the western parts of Värmland, the northern parts of Göteborgs-

9 In SPSS output Exp(b) symbolizes the odds ratio, which can be expressed as a percent change in odds. Here changes in odds are expressed in terms of probabilities by a transformation of Exp(b) (see Appendix B).
och Bohus län, and the eastern part of Norrbotten) are found in spatial classes which attract Scandinavian-born counter-urban migrants relatively more than Swedish counter-urban migrants in general.

The analysis shows that education level is positively correlated with counter-urban migration; individuals with a university exam are more likely to make such a move as compared to individuals with shorter education. In accordance with previous discussion retired people are less prone to choose a counter-urban destination. The arguments put forward in the literature about retirement pension offering an opportunity for new mobility strategies are not supported by these findings.

When turning to the household category, it is shown, as anticipated, that singles are more likely to move downwards in the urban hierarchy. The incidence of children has a negative effect on counter-urban migration, which is not concurrent with the findings reported in Borgegård et al (1993) and Kåks & Westholm (1994) who stress the desire of parents to provide good housing environments for their children. These different findings are not necessarily contradictory because parents’ wish to provide good home environment for their children can be met in the sub-urban hinterland of urban areas. Nevertheless, the negative effect of children could be interpreted as the difficulty of convincing children and especially teenagers about the benefits of giving up established social relations and leisure pursuits. A future prospect of living in a more sparsely populated region with fewer, if any, friends and having “nothing to do” is most likely unattractive to many children and teenagers, and their attitudes often play a role in the family’s decision making process.

Households with less income from work are more likely to make a counter-urban move, which partly supports the income-transfer proposed by Hugo (1989). It must, however, be kept in mind that the income definition only includes income from work. Various public transfer payments have not been added, which possibly could affect the estimation results. The marginal effect of household income on counter-urban migration is small – an increase in family income by a 100 000 SEK decreases the probability of choosing a counter-urban destination by 1.1 per cent points.

If the spouse has a university exam the household is more likely to make a counter-urban move, which is in line with the estimation results of the individual’s education level. As regards unemployment of the spouse, there is a positive effect on choosing a counter-urban destination.
Within the *labour market* category it turns out that individual unemployment does not discriminate between migration destinations. Individual unemployment experience is shown to increase migration propensities, but it does not result in a negative effect on counter-urban migration as expected. On the contrary, the multinomial logit models indicate positive effects in certain combinations with destinations to, for example, *Large Towns* that generally have diversified and dynamic labour markets (Table Aa in Appendix A).

Individuals outside the labour force are more inclined to move downwards in the urban hierarchy as compared to those moving to other destinations, which is a result in compliance with Mosley’s (1984) discussions of a people-led explanation to counter-urban migration. People not in work (one category of the people-led explanation referring to retired, unemployed and those outside the labour force) is regarded as a “pool of people whose choice of home need not be constrained by proximity to workplace” (p.451), which is a common characteristic hinting at their potential for becoming counter-urban migrants.

However, in the current analysis retired, unemployed and non-participants in the labour force seem to have rather different mobility strategies. There are apparently other factors than workplace proximity involved. One of these factors is second homes, whose numbers in Sweden amount to approximately half a million. Stjernström (1998) shows that the choice of migration destination is strongly correlated to the location of the second home and where relatives live. Individuals are prone to move to their second homes or close to relatives. Geographical analysis of distances between second homes and place of residence shows that most people have their second home close to where they live. In fact 25 per cent of the owners have their second homes at a distance shorter than 14 kilometres and 75 per cent of the owners are included within a radius of less than 100 kilometres. The median distance amounts to 37 kilometres. This circumstance may partly explain why retired people do not make counter-urban moves. Another contributory factor may be that elderly people need health care and services more easily received in urban areas and regional centres. As regards individuals experiencing unemployment, most of them are linked to the local labour market through their search for work at the Public Employment Service, either as openly unemployed or as participants in a labour market programme. In cases where the unemployed person is not recommended to accept a

---

10 See Müller (2002) for a description of the database on second homes used for the distance calculations.
job offer elsewhere he/she is still obliged to take part in activities organized by the Public Employment Service in order to keep unemployment benefits. These conditions may be as restrictive to counter-urban migration as the need to reside within reasonable commuting distance to work.

The estimation results show that entrepreneurs are no more prone to make a counter-urban move than people in general. This finding deviates from the suggestions brought forward by Geyer (1996) who argues that entrepreneurs are attracted by the amenities of the rural environment as a place for investment and housing. By and large, the industry variables representing construction, hotel and restaurants, and health care indicate anticipated correlations to counter-urban migration. Individuals working with construction and health care are less likely to move downwards the hierarchy, whereas individuals working for employers in the hotel and restaurant sector choose counter-urban destinations to the same extent as migrants in general.

As expected, the life course event of getting a spouse is negatively correlated to counter-urban migration; most people find their partners locally. However, childbirth seems to trigger counter-urban moves. The delivery of a new family member is perhaps perceived as the right time for changing the housing situation, which may have been planned for a long time. The relatively generous parental insurance in Sweden covers a major part of the wage for individuals on parental leave. The number of days amounts to 360, but they can be extended if the family accepts lower payments from the insurance. Thus, the childbirth may serve as an opportunity for realizing certain family goals at the same time as one source of income is secured.

The parameter estimate of becoming unemployed is positive and significant, which means that the unemployment event gives rise to counter-urban migration – the probability increases by almost 6 per cent points. It is not known, however, whether unemployment occurs after, simultaneously, or before the move, but employees may have up to a six months period of notice implying that most individuals know that they have been laid off when they make the decision to move. This suggests that the arisen unemployment triggers counter-urban migration, which is driven by other values and motives not primarily related to the labour market. For the individual, the new situation could be an opportunity to realize long-held ideas and visions (e.g. Walmsley et al 1998, Halliday & Coombes 1995, Borgegård et al 1993, Stenbacka 2001).
Individuals who have migration experience are more likely to move down the hierarchy. However, counter-urban migration from hinterlands at the top of the hierarchy to *Hinterland of Small Towns* is negatively correlated with migration experience (Tables Ab and Ad). In contrast to the general effect of the variable, this can be understood as those who have moved recently and live in hinterland classes are not so enthusiastic about moving to another hinterland milieu in even more sparsely populated parts of the country. However, the results of the multinomial models do not indicate that hinterland residents with migration experience in general are less prone to make a counter-urban move to another hinterland.

As regards the *region* category, regional unemployment in the place of origin does not influence migration destination, but the multinomial models indicate that there are deviations across the hierarchy. As expected, there are insignificant effects in flows originating from *Big Cities* and *Hinterland of Big Cities*, except in the case of flows to *Large Towns* and *Hinterland of Large Towns* from *Hinterland of Big Cities* (Table Ab). This result is most likely explained by the attractiveness of the labour market in these regional centres, which include many expanding branches of trade that especially demand highly qualified labour. However, migration flows from *Large Towns* and *Hinterland of Large Towns* consistently show negative signs indicating the importance of regional unemployment as a factor determining migration destinations (Tables Ac and Ad). This is in accordance with the assumption that the labour market situation is relatively brighter in the metropolitan areas, which explains the sign of the coefficient.

Average house prices in the municipality of origin have a positive effect on counter-urban migration – an increase of average prices by a 100 000 SEK raises the propensity for a counter-urban move by 0.6 per cent points. The result is in line with the notion that successively higher housing costs further up in the urban hierarchy hold back migration from sparsely to densely populated regions. This general pattern is in contrast to some of the particular flows that demonstrate negative effects of house prices (Tables Ab, Ac, Ad and Af).
4 Summary and Conclusion

In this study the aim has been to shed light on the differences in characteristics between counter-urban movers and movers heading for other destinations. The preceding presentation of the estimation results can be condensed into a few words portraying those who move downwards the urban hierarchy. The counter-urban mover is probably older, born in a Scandinavian country, less well-off, having a university exam, living single, not participating in the labour force, and having recent experience of migration. If the counter-urban mover has a partner it is more likely that this person has a university exam and is unemployed. Moreover, the counter-urban mover is more likely to have had a child as well as become unemployed soon before the move.

Some other factors referred to in the literature as important in understanding counter-urban migration are retirement pension and self-employment. However, these factors do not seem to influence counter-urban migration entirely as anticipated. Retired people are more likely to move locally or upwards the urban hierarchy. The significance of increased opportunities for new mobility strategies when retiring is perhaps a little exaggerated, because the ‘insider advantages’ of the individual are not merely restricted to matters related to work. Geographically non-transferable assets like social relations to friends and relatives, properties, and place attachment certainly play an important role in the decision-making process. Evidently, a lot of retired counter-urban migrants are found when looking closely into particular regions but this cannot be assumed to be a general pattern in Sweden.

The results of the analyses show that entrepreneurs are no more prone to make counter-urban moves than people in general. The notion of entrepreneurs as being more interested in environmentally friendly rural areas for investments cannot be confirmed here. This might be due to the employed definition of counter-urban migration that excludes moves into the immediate surroundings of urban areas, but also perhaps due to differences in values and behaviour of entrepreneurs in different countries.

As regards labour market-related variables, unemployed in general do not choose counter-urban destinations any more frequently than other migrants, and neither do regional unemployment rates in the place of origin influence the choice of destination. However, the event of becoming unemployed triggers counter-urban migration, which is a result that may reflect some underlying
attitudes towards counter-urban migration not easily captured by the individual attributes available in register data. Some people presumably have a vision of changing their lives and getting off the treadmill, and the event of unemployment could be a suitable moment for realizing such a goal. Studies based on interviews emphasize the importance of individuals’ projects, which are sometimes manifested in housing, living environment, bringing up children, or setting up a business.

These findings hint at reasons for counter-urban migration which are beyond the reach of obtainable register data, but which should be considered when interpreting the results. By employing a psychological perspective, fundamental values of the individual are reflected in attitudes and behaviours, for which the analysis of register data merely can uncover a limited part of the motives involved. Various structural factors also influence the analysis of revealed behaviour as measured by available attributes of individuals. As pointed out by Kontuly (1998), business cycle fluctuations, new spatial divisions of labour, changes in agglomeration economies, technological innovations, changes in demographic composition, etc, shape individuals’ migration behaviour. A cross-sectional analysis of migration patterns is inevitably embedded in such processes, whose effects on the choice of migration destination are complicated and difficult to disentangle. However, one way of addressing this problem would be to carry out the estimations at other points of time. During 1993 and 1994 the Swedish economy, for instance, experienced a severe crisis with high unemployment rates and stretched Government finances, which considerably narrowed the performance of the welfare state. A few years earlier, in the end of the 1980s, the situation had been totally different and characterized by a booming economy. By re-estimating the model based on data from the boom-period some indications could possibly be achieved concerning the way in which business fluctuations influence individuals’ choices of destination. The impacts of other structural factors could likewise be analysed by identifying similar shifts in their development. Moreover, periods of counter-urbanisation and urbanisation could also be compared in order to unravel any differences in characteristics of individuals.

Another task for future studies would be to investigate the impacts of employing different definitions of the counter-urban mover. The ‘anti-urban’ definition used here could be contrasted to a ‘pro-rural’ definition, which stresses moves from densely built-up areas to rural milieus in villages or more loosely
developed areas irrespective of their relative location to urban areas. Such an approach is feasible by, prior to model estimations, applying spatial analysis based on the combination of population micro data and land-use data. In addition, by drawing on the proposed spatial model the analysis of counter-urban movers could be complemented with similar analyses of sub-urban and urban movers.

To sum up, the aim of this study has been to ascribe a number of characteristics to the counter-urban mover. The results presented show that some of the distinctive traits correspond with previous findings in the literature, but also reveal that there are exceptions, especially concerning the role played by pensioners and entrepreneurs.

Acknowledgements

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References


Appendix A: Multinomial logit estimations

Table Aa: Estimates of counter-urban migration from *Big Cities* differing from the general patterns of counter-urban migration presented in Table 5 (Model 2).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Large Towns</th>
<th>Hinterland of Large Towns</th>
<th>Towns</th>
<th>Hinterland of Towns</th>
<th>Small Towns</th>
<th>Hinterland of Small Towns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.082</td>
<td>.000</td>
<td>.480</td>
<td>.002</td>
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<td></td>
</tr>
<tr>
<td>INDIVIDUAL</td>
<td>(.710)</td>
<td>(.000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOUSEHOLD</td>
<td>.377</td>
<td>.023</td>
<td>-.789</td>
<td>.002</td>
<td>-.416</td>
<td>.011</td>
</tr>
<tr>
<td>LABOUR MARKET</td>
<td>.000</td>
<td>.050</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REGION</td>
<td>.001</td>
<td>.010</td>
<td>-.523</td>
<td>.042</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*LOG-L = -28 949, N = 39 631*

* The complete matrix of estimation results is not reported here, but they are available on request.

Table Ab: Estimates of counter-urban migration from *Hinterland of Big Cities* differing from the general patterns of counter-urban migration presented in Table 5 (Model 3).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Large Towns</th>
<th>Hinterland of Large Towns</th>
<th>Towns</th>
<th>Hinterland of Towns</th>
<th>Small Towns</th>
<th>Hinterland of Small Towns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.377</td>
<td>.023</td>
<td>-.789</td>
<td>.002</td>
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<td>.011</td>
</tr>
<tr>
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<td>.000</td>
<td>.050</td>
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<td>LABOUR MARKET</td>
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<td>REGION</td>
<td>.001</td>
<td>.010</td>
<td>-.523</td>
<td>.042</td>
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</table>

*LOG-L = -30 081, N = 28 417*

* The complete matrix of estimation results is not reported here, but they are available on request.
Table Ac: Estimates of counter-urban migration from Large Towns differing from the general patterns of counter-urban migration presented in Table 5 (Model 4).*

<table>
<thead>
<tr>
<th>Variable</th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Towns</td>
<td>Hinterland of Towns</td>
<td>Small Towns</td>
<td>Hinterland of Small Towns</td>
<td></td>
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<tr>
<td>Individual</td>
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<tr>
<td>AGE1827</td>
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<td>AGE2845</td>
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<tr>
<td>SCAND</td>
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</tr>
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<td>Labour market</td>
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<tr>
<td>ENTRPR</td>
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<td>.032</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
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<td>Region</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>RUNEMP(i)</td>
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<td>-.002</td>
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<td>-.008</td>
<td>.000</td>
<td>-.009</td>
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<tr>
<td>HPRICE(i)</td>
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<td>.003</td>
<td>-.003</td>
<td>.039</td>
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LOG-L = -10 649, N = 21 403
* The complete matrix of estimation results is not reported here, but they are available on request.

Table Ad: Estimates of counter-urban migration from Hinterland of Large Towns differing from the general patterns of counter-urban migration presented in Table 5 (Model 5).*

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<td>Small Towns</td>
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</tr>
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<td>Region</td>
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<tr>
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<tr>
<td>HPRICE(i)</td>
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</tbody>
</table>

LOG-L = -18 937, N = 25 164
* The complete matrix of estimation results is not reported here, but they are available on request.
Table Ae: Estimates of counter-urban migration from *Towns* differing from the general patterns of counter-urban migration presented in Table 5 (Model 6).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Small Towns</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>Sign.</td>
</tr>
<tr>
<td>Individual</td>
<td>SCAND</td>
<td>1.126</td>
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<tr>
<td>Region</td>
<td>RUNEMP(i)</td>
<td>.004</td>
</tr>
</tbody>
</table>

*LOG-L = -3 227, N = 21 162*

* The complete matrix of estimation results is not reported here, but they are available on request.

Table Af: Estimates of counter-urban migration from *Hinterland of Towns* differing from the general patterns of counter-urban migration presented in Table 5 (Model 7).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Small Towns</th>
<th>Hinterland of Small Towns</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>Sign.</td>
</tr>
<tr>
<td>Individual</td>
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<tr>
<td>Household</td>
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<td>Region</td>
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</tr>
<tr>
<td></td>
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<td>-.001</td>
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</table>

*LOG-L = -5 728, N = 24 876*

* The complete matrix of estimation results is not reported here, but they are available on request.
### Appendix B: Transformation of odds to probabilities.

One example of transforming odds to probabilities

<table>
<thead>
<tr>
<th>Step</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Calculate the original probability of the dependent variable</td>
<td>0.150</td>
</tr>
<tr>
<td>If 15% →</td>
<td></td>
</tr>
<tr>
<td>2. Calculate the odds → 0.15 / (1-0.15)</td>
<td>0.176</td>
</tr>
<tr>
<td>3. b-coefficient</td>
<td>0.400</td>
</tr>
<tr>
<td>4. Odds ratio = $e^{b\text{-coefficient}}$</td>
<td>1.492</td>
</tr>
<tr>
<td>5. Calculate the product of the odds and the odds ratio → 0.176*1.492</td>
<td>0.263</td>
</tr>
<tr>
<td>6. $X = \text{probability}; (x/(1-x)) = 0.263$ → $X = 0.263/(0.263+1)$</td>
<td>0.208</td>
</tr>
<tr>
<td>7. Change in probability → (0.208-0.15) in % points</td>
<td>5.840</td>
</tr>
<tr>
<td>8. Interpretation: If the independent variable increases one unit, the probability of the dependent variable increases by 5.8 per cent points.</td>
<td></td>
</tr>
</tbody>
</table>
Most of these are available at: www.umu.se/cerum/publikationer/index.html

3. Jeanette Edblad (1996) The Political Economy of Regional Integration in Developing Countries
18. Christine Hudson (2000) The University and Regional Reciprocity
22. Leif Kåpe (2000, in Swedish) Förändringar i medelstora svenska städer
23. Örjan Pettersson, Anna Nordström, Linda Kislund (2000, in Swedish) Utvärdering av LEADER II Stad och Land – Hand i Hand

34. Patrik Asplund, Niklas Nordman (1999) Attitudes toward the Third Mission: A Selection of Interviews from Seven Universities in Sweden
37. Christine Hudson (2000) The University and Regional Reciprocity
41. Leif Kåpe (2000, in Swedish) Förändringar i medelstora svenska städer
42. Örjan Pettersson, Anna Nordström, Linda Kislund (2000, in Swedish) Utvärdering av LEADER II Stad och Land – Hand i Hand
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47. Patricia Morton (2002) Social Life and Urban Form in a Historical Perspective
49. Tönu Puu, Anna Norin (2002) Cournot Duopoly when the Competitors Operate under Capacity Constraints
54. Maria Fåhraeus, Martin Paju (2002, in Swedish) Utvärdering av sams-projektet etapp II
The Centre for Regional Science at Umeå University, cerum, initiates and accomplishes research on regional development, carries out multidisciplinary research, and distributes the results to various public organisations. The research projects are pursued in interaction with the numerous scientific disciplines within the regional science field.

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