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Andersen, Hans Skifter

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# Explanations for Long-Distance Counter-Urban Migration into Fringe Areas in Denmark

Hans Skifter Andersen\*

*Sociologi, University of Copenhagen, Øster Farimagsgade 5, Copenhagen, Denmark*

## ABSTRACT

In Denmark, as in most other European countries, there is a net migration from the less urbanized to the more urbanized parts of the country. This article summarizes the results of a Danish study on the extent and composition of migration flows; and on factors and conditions that have a decisive influence on migration to fringe areas. The study shows that a considerable share of movers to the fringe areas in Denmark can be characterised as income-transfer mover. They are people without employment moving to get lower housing costs. But there are also groups of people moving to employment in the areas, going back to places where they have grown up or moving to better housing conditions in a more natural environment. Copyright © 2009 John Wiley & Sons, Ltd.

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## INTRODUCTION

In many countries, there has been a trend towards a concentration of the population in parts of the country with economic growth, while other parts of the country suffer from economic decline and decreasing population.

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\*Correspondence to: Hans Skifter Andersen, University of Copenhagen, Sociologi, Øster Farimagsgade 5, Bygning 16, Copenhagen DK 1014, Denmark. E-mail: han@soc.ku.dk

Denmark is a small country with short distances between fringe areas and larger cities, but the same tendencies to unequal development are also found in this country. For many years, industrial policy has been the main political instrument for local authorities in the less urban areas in decline, but in recent years the focus has moved towards what could be called 'settlement policies'. How can these areas attract people who do not have their workplace in the areas or who have been pensioned? For this reason, it is important to know something about what kind of people can be attracted to move into less urban and distant areas, and for what reasons.

Counter-urban migration is normally understood to mean 'the movement of people out of cities to the surrounding areas' or 'a demographic and social process whereby people move from urban to rural areas' (from Halfacree, 2008). In some of the earlier literature on counter-urban migration, it was claimed (Champion, 1989) that this migration has led to population dispersion, while others have denied this trend (Lindgren, 2003). The disagreement is partly caused by confusion about how to define the concept of counter-urbanisation. One of the problems of these definitions is that 'urban areas' are not defined, but often based on how statistical geographical areas are defined (Vartiainen, 1989). Where do urban areas cease and where do rural areas begin? Some of the 'rural areas' are quite close to big cities and it can be argued that the increased migration to these areas can be understood as a development where the city just expands into the surrounding countryside and these areas become a kind of suburb. Also, commercial activities spread from the cities to the open spaces (Winther and Kalsø Hansen, 2006), and these processes have inspired some researchers to talk about

'porous cities' (Engelstoft *et al.*, 2006) with non-identifiable boundaries. To some extent, this development makes traditional research on 'counter-urban migration' meaningless. Vartiainen (1989) thus proposed that the term 'urban' is no longer distinctive and should only be comprehended as a descriptive term.

The focus of this paper is on long-distance migration from regions with economic growth and population increases to less urbanised places in regions with stagnation and often population losses. In his analysis of counter-urban movers in Sweden, Lindgren (2003) states that in Sweden population dispersion has mainly been the result of out-migration from cities to nearby villages while the number of people moving long distances to the countryside from major urban settlements was rather small in the 1970s but increased in the 1980s. Lindgren divided regions in Sweden in an urban hierarchy according to the size of the main cities in regions. There was a division within the regions between cities and 'hinterlands', which were the less urbanised parts of the regions. He then defined counter-urban migration as moves from a higher to a lower hierarchy, but not moves from cities to their hinterlands, which were characterised as suburban moves. Also, other studies of counter-urban migration can be found that have concentrated on the moves between regions organised in an urban hierarchy (Kontuly, 1992).

The aim of the research in this paper is to examine to what extent settlement policies can be justified as a relevant strategy for fringe areas in Denmark. Is it true that some people move to these areas for motives other than getting a job and are these newcomers attractive citizens? Some of the reasons for these moves mentioned in public debate are cheap housing in fringe areas, the desire of original inhabitants of these areas to return after completing their education in the city, or that some people from the cities are attracted by the scenery and by a different lifestyle in the countryside. To what extent are these motives important?

The paper reports some results from a study of long distance moves – internal migration – in Denmark. It is based on data from public registers on all moving persons in Denmark 2002. This data shows the circumstances under which the moves were made, which in turn throws light on the motives for moving.

In the paper, the extent of counter-urban moves in Denmark is revealed and explanations for these moves are analysed. These explanations must be interpreted in the light of our general knowledge about reasons for migration and long-distance moves. This is discussed in an opening section below. As the paper is only concerned with long-distance migration from more urbanised growth regions to less urbanised and declining regions, a comprehensive literature on all aspects of counter-urban migration is not attempted. Instead, the focus is on theoretical explanations for long-distance counter-urban migration to fringe areas. Those readers interested in a wider literature review on counter-urbanisation are referred to Boyle and Halfacree (1998), Fischer and Malmberg (2001), and Halfacree (2008).

### **Motives for Counter-Urban Migration to Fringe Areas**

Long distance moves can in principle be triggered by a simple comparison of advantages and disadvantages in moving, but place attachment and other intervening obstacles result in this seldom being the case. Migration often takes place as a consequence of changes in the family or in employment, which means essential changes in the 'usability' of the old place of living and which leads to a new evaluation of where to settle.

In traditional economic theory, the location of households is determined by the labour market (Böheim and Taylor, 2002). The location of workplaces determines how employees are locating. It is assumed that households first choose a place to work and then a place to live, which is within suitable commuting distance. This dogma, however, has been questioned by other, more sociological, research. According to Hanson and Pratt (1988), it is often so that the place of home is chosen first and then afterwards a work place is found. Some people choose to commute over long distances to obtain a good combination of living environment, job satisfaction, and income (Wiendels and van Kempen, 1997). The choice of a place to live can thus be seen as making a priority between workplace, place of residence, and commuting. For people outside the labour force, only living conditions have importance.

It is well known from other studies that mobility sharply decreases with age and is very low for people over 50 years. Family changes are not by

itself a reason for migration, but they can result in changes in needs and priorities that can provoke migration. Fischer and Malmberg (2001) are of the opinion that only marriage and divorce have importance for intentions to migrate but not the birth of children. This is, however, an opinion that can be discussed. The arrival of children involves substantial changes in needs, lifestyle, and priorities of families – especially housing preferences. Preferences for detached homes with gardens in more quiet surroundings are made stronger while preferences for living in central cities are weakened (Skifter Andersen, 2009).

Mobility and explanations for migration are very different among different kinds of families. This is of particular importance with couples where both partners have jobs. Decisions on migration and commuting are much more complex if two people in the family have to seek employment. Therefore, it can be argued that such families have strong preferences for regions with many and diversified job opportunities (Hanson and Pratt, 1988). It can also be argued that these households have larger incomes and better opportunities to find housing in such regions while counter-urban movers are expected to have lower income. In general, singles are much more mobile than couples and families with children. But it is more difficult for single people to migrate to a part of the country where they do not have a social network, than it is for families with children. The unemployed are a group that in theory should gain advantage by migration to areas with better job opportunities. Studies in Sweden and England (Fischer and Malmberg, 2001; Böheim and Taylor, 2002) have shown that the unemployed are more inclined to migrate between regions than the employed.

Place attachment is an important obstacle for migration and it has different importance for different people (Hidalgo and Hernández, 2001; Cuba and Hummon, 1993). Therefore, migration only takes place when the advantages gained by moving are much greater than those obtained by staying. But place attachment can also act as a pulling factor for migration in the cases where people have strong bonds to another place or region than the one they live in. This is especially the case for people who have moved away from the place where they grew up. Often, they still have family and a social network in their place of origin, which could be attractive for them to move

closer to. A Danish study (Ærø *et al.*, 2005) showed that a considerable percentage of people who moved to a fringe area were born in the area.

Counter-urban moves to fringe areas are mostly long distance moves and are also often moves from more urbanised to less urbanised places. These places have worse job opportunities with lower incomes and seldom offer good educational opportunities – especially for higher education. There are fewer facilities and access to shops, and cultural events, transport, etc. are worse. Advantages of fringe areas include cheap house prices, nearness to nature, and perhaps more closely knit communities.

Migration implies serious reasons for moving away from a well-known place of residence to a new place far away. Important reasons are access to employment or education. In the economic literature, it is especially changes in job and in education that have been in focus as causes of migration. But also other conditions can be of great importance. In the following, the importance of different possible reasons for counter-urban migration will be discussed.

#### *Education*

Choice of education is one of the most important decisions in life and is thus an important cause of migration as particular schools with higher education are concentrated in a few places in Denmark. The greatest mobility is found at the times of the year when education is beginning and when it is finished and the new candidates seek jobs and more permanent settlement (Nordstrand and Andersen, 2002).

It must be expected that migration in connection with the start of education goes from the less to the more urbanised parts of the country because most of the schools and universities are located there. There are many fewer educational centres in the fringe areas; they are mostly at a lower level and mostly used by the local youth. In Denmark, we have a special system of so-called folk high schools located at decentralised places in the country, and young people often go there for a year just after finishing the basic school simply to get away from home and find out what kind of education they want. These young people, however, seldom stay in the fringe areas after finishing at these schools.

On the other hand, finishing education could to some extent be a driver of counter-urban

moves. Not all young people stay near the place of education after they have finished, and some return to their place of origin.

#### *Career and Unemployment*

A Danish study of people between the ages of 20 and 59 years moving between municipalities (Deding and Filges, 2004) showed that in 44% of cases, a change of job happened in connection with the move, and if the partner was involved it was 68%. But only 20% of the respondents stated job reasons as the main cause of the move. It is therefore obvious to assume that in many cases, a decision to move to another place is taken first and then sometimes a new job is found near the new settlement.

According to economic theory (Tunali, 2000) it is to be expected that people will migrate from regions with low employment opportunities and low wages to regions with high economic growth where the supply of jobs is larger and wages higher. But higher costs of living and more expensive housing in growth regions often counteract this tendency.

People with higher education and specialised qualifications find that growth regions are especially attractive. These groups gain greater advantages by job changes and also can better afford the costs of moving (Böheim and Taylor, 2002). At the same time, it is often more difficult for them to find specialised jobs in the fringe areas. Manual workers are much less inclined to migrate. A study in England (Fielding, 1992) showed that managers and well-educated people migrate more frequently than the average and that the migration rate of manual workers is more than half the average. One of the reasons is that jobs for manual workers are available in all regions. Independent businessmen also have a lower migration rate, often because their entrepreneurial career strategies are based on local contacts and networks, which make it difficult to move to other regions (Green *et al.*, 1999). A Swedish study (Lindgren 2003) shows that there are some independent businessmen among counter-urban movers, but that they are often people who shift from being wage earners to being independently employed; and that they often do this because they cannot find employment.

It must be expected that job reasons will be of less importance for counter-urban migration than for other kinds of migration. We must expect that

people who put a lot of weight on their career, will be less inclined to move to fringe areas, where job possibilities are less extensive than in the urbanised growth regions. Therefore, people with higher education or higher status jobs will be less inclined to move to fringe areas. In terms of the sequencing of events, it should also be noted that moves to fringe areas sometimes are caused by job change, but in many cases people change job because they migrate and not the other way round.

Commuting is a solution for people who want to live in rural areas without changing job. An English study (Rouwendal and Meijer, 2001) has shown great willingness among households with jobs in cities to commute to gain access to detached houses in the countryside. This is another reason why job changes are of relatively less importance for counter-urban moves. An earlier Danish study of movers to fringe areas (Ærø *et al.*, 2005) showed that only 8% had got a new job in the area they moved to and that a further 10% had got a new job, but not in the area.

#### *Exit from the Labour Market*

At time of retirement, people are permanently released from their bonds to the work place and can choose where to locate their residence. At the same time, however, barriers for mobility are very strong among older people. This is certainly the case in relation to counter-urban migration (Lindgren, 2003). Lindgren's study showed some moves were made in connection with retirement, but the number was relatively small. It is especially 'younger' pensioners that migrate. In the earlier Danish study (Ærø *et al.*, 2005), 4% of movers to fringe areas were pensioners, most of them single.

#### *Demands for Changed or Improved Housing and Neighbourhood, or for A Change of Lifestyle*

These motives are often identified in the more general literature on counter-urbanisation:

'Country life has two main attractions: firstly, it allows counterurbanizers to live in something resembling a natural environment; secondly, it holds a potential for living in real communities in which diverse class groupings engage in a multitude of shared activities.' (Champion, 2001, p. 48).

The housing market in the more urbanised parts of Denmark – especially in the growth areas

– has been under pressure resulting in high house prices and housing shortage. It especially concerns the Greater Copenhagen Area. This makes it difficult for the middle class to obtain its most preferred housing – the detached house with garden, which is preferred by 80% of the population (Byforum, 2001). The lower prices in the less urbanised parts of the country can lead to migration to obtain a detached house. It must be expected that people in most cases will prefer to commute to their job in the city, but sometimes this motive can both lead to migration to fringe areas and to a shift of job. A qualitative Danish study of movers to fringe areas (Ærø *et al.*, 2005) showed that this was often combined with two other motives: to get closer to the nature and to get a change in lifestyle. Some of the movers wanted to leave a stressful life in the city and expected to move to a more meaningful existence in a close-knit community with an extensive social network. However, some of them became quite disappointed in their expectations of the social life in the new place. Also, Swedish studies have shown that counter-urban movers often try to fulfil a particular goal in life, which is mainly housing related (Lindgren, 2003).

#### *Demands for Cheap Housing*

A commonly proposed factor for explaining urban to rural migration (Lindgren, 2003) is the so-called ‘income-transfer’ hypothesis (Hugo and Bell, 1998). It implies that people, who permanently receive public transfer payments and thus are independent of the labour market, have incentives to migrate to rural areas where housing is much cheaper. People with low incomes can more easily afford a place to live in the countryside compared with locations in urban areas. Lindgren’s own study in Sweden partly supported this hypothesis by indicating that households with less income from work were more likely to make counter-urban moves. He also refers to Australian and American studies supporting the hypothesis.

#### *Desires to Go Back*

A Danish study of movers to fringe areas (Ærø *et al.*, 2005) showed that a considerable proportion of movers to fringe areas were originally born in the areas. It was especially younger people who went back after finishing their education, but it could also be people leaving the labour market

or having a break up in their family situation. It is also possible that people in such situations will move to other places they could be attached to.

#### DATA AND METHODS USED IN THE STUDY

Based on data from public registers in Denmark, a database was created containing all persons who moved (changed their address) in the year 2002. The database contained data on their situation both at the beginning and at the end of the year, so that changes could be identified. These changes throw light on the motives for moving. There were data on:

- (1) age, sex, education, income and income transfers;
- (2) family situation (including data on other members of the household who did not move);
- (3) housing and location of the home (Geographical Information Systems [GIS] data);
- (4) work/education and location of the workplace (or place of education) (GIS data); and
- (5) place of birth (GIS data).

For each moving household, a ‘head of household’ was identified as the person with the highest income in 2002. The statistical analyses were conducted on these persons.

Two statistical methods were used. Logistic regression was used to identify how movers to fringe areas diverge from other movers in general. Cluster analysis was then used to identify the size of different groups of counter-urban movers with similar reasons for migration.

#### SPATIAL DEVELOPMENT TRENDS IN DENMARK

Denmark is neither a highly dispersed country like Sweden and Norway, nor a very densely populated country like the Netherlands and parts of Germany. It is a small country with relatively small distances between different parts of the country. However, because of the many islands, transport could be difficult. Between the main parts, like Zealand, Funen and Jutland, there are bridges, but many of the middle-sized and smaller islands can only be accessed by ferryboat.

In Figure 1 is an illustration of how the economic activity in the country is concentrated. The

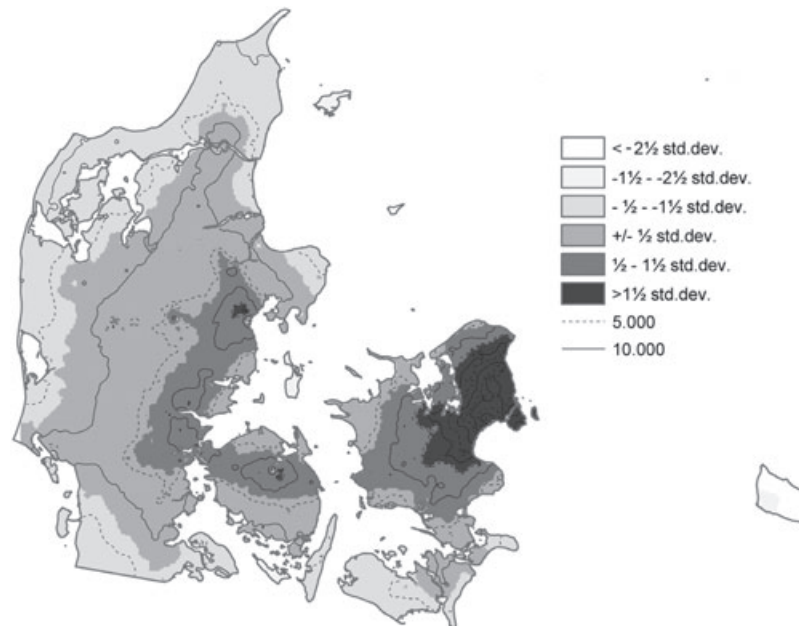


Figure 1. Work place potential in Denmark. [A measure of how the potential access (number divided by distance) to work places from every location differs (standard deviations) from the average for the country. The lines indicate the borders for the stated work potential] (Andersen and Engelstoft, 2004).

figure shows the potential access to work places from any location in the country measured by the total sum of the number of accessible workplaces divided by the distance to these places. In the figure is shown how this sum for each location differs from the average sum for the whole country (measured by standard deviation).

As the figure shows, the economic development in Denmark has produced a trend towards a spatial concentration of the economic activity in two parts of the country: The Copenhagen area, which lately seems to comprise the entire island of Zealand, and the eastern part of Jutland around the City of Aarhus and around Kolding. The motorway running over Funen connects these two parts. In this way, Denmark has been divided into an urban hierarchy with a high-growth area in a belt from Aarhus to Copenhagen, some intermediate middle-growth areas just outside this belt, and some low-growth fringe areas located in south-eastern and northern part of Jutland, on the larger islands of Bornholm, Falster, Lolland and Langeland, and especially on all the smaller islands, which are not accessible by bridges. As can be seen from Table 1, the high growth areas contain more than 60% of the population, while the fringe areas only have about 10%.

In this study, Denmark has been divided into four parts relating to the country's hierarchy. They consist of (a) Copenhagen and Zealand, (b) the eastern part of Jutland (the former Aarhus and Vejle counties), (c) some intermediate areas, which are neither growth nor decline areas, and (d) fringe areas with population decline – mostly the light areas in Figure 1. The division mirrors the economic strength of different regions in Denmark and to what extent they experience growth or decline.

These areas contain both urbanised areas and countryside. In the study, an attempt has also been made to divide Denmark into places according to their degree of urbanisation. Dense urban areas in cities are identified as parishes in cities with more than 50,000 inhabitants with a large share of dwellings in multi-storey blocks (>60%) and with many older buildings. Suburbs are defined as the remaining areas in these cities. Middle-sized cities have 15–50,000 inhabitants, towns between 2,000 and 15,000, and villages between 200 and 2,000.

There is some degree of uncertainty in such a division depending on the division of areas in cities and the division between urban and rural

Table 1. The Danish population by degree of urbanisation and urban hierarchy 2004 (percent).

Degree of urbanisation	Urban hierarchy				All
	Copenhagen and Zealand	Eastern Jutland	Intermediate areas	Fringe areas	
Dense urban areas	10.8	2.1	1.6	0.0	15
Suburbs	9.9	7.5	4.8	0.0	23
Middle-sized cities	10.2	1.1	4.0	2.3	18
Towns	6.8	4.7	8.7	2.5	23
Villages	1.9	1.6	3.0	1.5	8
Countryside	3.9	2.8	5.3	2.5	14
All	43	20	27	9	100

Source: Database with 20% of the Danish population.

Table 2. Moves in and out of areas in the urban hierarchy and net population loss to other areas 2002.

	Urban hierarchy before move			
	Copenhagen and Zealand	Eastern Jutland	Intermediate areas	Fringe areas
Moves into the area	16,551	19,547	22,454	11,586
Moves out of the area	15,202	17,901	24,160	12,875
Frequency of out-moves (percent) <sup>1</sup>	0.7	1.7	1.7	2.6
Net out-moves	-1,349	-1,646	1,706	1,289
Net loss of population (percent)	-0.06	-0.16	0.12	0.26
Net population loss to:				
Copenhagen and Zealand	0	1,034	623	-308
Eastern Jutland	-1,034	0	1,804	876
Intermediate areas	-623	-1,804	0	721
Fringe areas	308	-876	-721	0

Source: Database on moving households in Denmark, 2002.

<sup>1</sup>Number of out-moves as a percentage of population.

areas. Table 1 shows that 15% of the Danish population lives in dense urban areas and 23% in suburbs; 14% lives in the countryside and 8% in villages.

The table shows how the Danish population is distributed between the four areas of the urban hierarchy and urbanisation inside these areas. Most of the people living in more urbanised areas in the centre and suburbs of big cities are living in the Copenhagen area or in Eastern Jutland. Also, middle-sized cities are mostly found near Copenhagen or Zealand. Villages and especially housing in the countryside are more often found in the intermediate and fringe areas.

Partly because of uneven economic development in the different areas in the urban hierarchy, one should expect net migration from the lower levels to the higher levels of the hierarchy. Table 2 shows that this is indeed the

case. From the fringe areas, 2.6% of the population moved away in 2002 and less people moved into the areas. The result was a net loss of the population of 0.26% in one year. The frequency of out-moves were less from the intermediate areas. There was also a loss of population, but it was smaller (0.12%). The Copenhagen Area and Eastern Jutland had net in-migration and compared with the population, it was largest in Eastern Jutland.

The lowest part of the table shows the net flows between different parts of the urban hierarchy. In 2002, Zealand had a net influx of people from Eastern Jutland and from the intermediate areas. The interesting thing is that it had a loss to the fringe areas. More people are therefore moving from Copenhagen and Zealand to the fringe areas than the other way round. This is mostly because of moves to the islands south of Zealand,



called Falster and Lolland, which slowly are becoming a part of the Copenhagen Region.

What is not shown in these analyses is the migration from Copenhagen to Malmö in Sweden. Because of the Öresund Bridge to Malmö, a new and greater region is slowly becoming a reality including the southernmost part of Sweden. Because of lower housing costs in Sweden and higher wages and lack of labour in Copenhagen, more and more Danes are moving to Malmö and more Swedes are getting jobs in Copenhagen. It can also be seen from the table that the fringe areas lose people to Eastern Jutland and also to the intermediate areas, while the intermediate areas especially have a loss to Eastern Jutland.

In Table 3, moving persons are distributed according to the extent they move up or down the urban hierarchy and if they move to more or less urbanised areas. If we define counter-urban moves as moves from a higher to a lower level in the urban hierarchy, it can be seen from the table that these moves account for 5.3% of all moves. But only about half of these moves (2.8%) are going from more to less urbanised places. The table also shows that more people are moving towards a higher level in the urban hierarchy than the other way. Moves to a higher level make up 6.0% of all moves. This is 0.7% more than counter urban moves.

Suburban moves from more to less urbanised places make up 23%. There is a net tendency to move to more urbanised areas, but it is quite small – only 0.1% of all moves. This result is contrary to what has been found in countries like Great Britain (Champion, 2001).

Nearly 90% of all moves are done inside the same level of the urban hierarchy. Among these moves, there is a net tendency to move to less

urbanised places (0.7%). To a great extent, this is because of the great outmigration from Copenhagen to smaller cities and rural areas in Zealand.

Moves to higher levels often imply a choice of a more urbanised environment. Moving to a lower level mostly means going to places that are less urbanised. About half of the moves do not involve a change in the degree of urbanisation. These moves only a little more often go up the urban hierarchy than down (net 0.2%). Moves to more urbanised places more often imply moving up the urban hierarchy, while moves to less urbanised places often go down the hierarchy.

Moves simultaneously down the urban hierarchy and to less urbanised places account for 2.8% of all moves. Urban moves, which go the opposite way, account for 3.4%. Of necessity, these figures depend very much on the way we have defined our groups. But the clear conclusions are that net migration in Denmark is towards the more urbanised areas and up the urban hierarchy, but that there also is a considerable counter-urban movement. In the next section, the reasons for these movements will be examined.

#### MOVERS TO FRINGE AREAS COMPARED WITH OTHER MOVERS

Lindgren's (2003) study showed that counter-urban movers in Sweden were more likely to be older, less well-off, having a university qualification, either 'living alone' or 'single, being outside the labour force, and becoming unemployed close to the migration event. We would expect Danish counter-urban movers to be somewhat different. Sweden is a much more dispersed country with long distances between the urban centres and the fringe areas. The differences

Table 3. Moves in Denmark in 2002 distributed on moves between regions and between more and less urbanised areas (percent).

	Urban hierarchy			All
	To higher level	Same level	To lower level	
Urbanisation				
More urbanised	3.4	18.4	1.3	23.2
Unchanged	1.3	51.3	1.1	53.7
Less urbanised	1.3	19.1	2.8	23.1
All	6.0	88.7	5.3	100

Source: Database on moving households in Denmark, 2002.

between living in urban areas and fringe areas are thus much more pronounced in Sweden and commuting is much more difficult.

To analyse the composition of movers to fringe areas in Denmark, all persons who lived in the areas at the end of 2002, but not at the beginning, were selected. Among these persons, only those who could be called the 'head' of the household were selected. These were selected as the person in the moving household with the highest income, or – if people had moved together from different places to a new address – the person with the highest income in the new household. In total, 6200 moving persons/households were selected in this way.

To identify households with some of the expected motives for moving to fringe areas, five special binary variables were defined. They were:

- (1) *Job changes*: Going from unemployment or education to work, shifting place of work or shifting location of work more than 100 km;
- (2) *Finishing education*: Going from being a student to either work or unemployment and moving closer to the place of birth;
- (3) *Leaving work*: Going to unemployment or pension; and
- (4) *Improving housing*: Moving from apartments to detached houses.

Other binary variables used in the analysis were:

- (5) Couple (married, or living together with a person of the opposite sex with an age differences less than 5 years, at the end of 2002);
- (6) Children (Did the family have children?);
- (7) Wage-earner (Is not self-employed, pensioner or out of work); and
- (8) Higher education (Has long or middle length education).

Other continuous variables were:

- (9) Age (divided by 10);
- (10) Income of head of household (DKK divided by 100,000);
- (11) Number of employed persons (wage earners) inside household before move;
- (12) Increase in commuting distance after move in kilometre; and

- (13) Increase in distance to place of birth in kilometre.

A logistic regression analysis was undertaken to compare movers to fringe areas, moving more than 30 km, with all other movers. It was conducted on the whole group of moving heads of households (423,000). The dependent variable in the statistical analysis was if the person in question moved into a fringe area or not. The analysis was conducted as a backward stepwise (log likelihood) model. Table 4 shows the results from the regression. In a second model, the same movers to fringe areas were compared with all other moves of more than 30 km. A third model compared them with all moves of more than 30 km going between the four parts of the urban hierarchy.

Most of the independent variables were very significant in the statistical models. The established models were, however, not very successful in explaining moves to fringe areas, which points to the conclusion that important variables are missing.

The main result to be read from the table is that moves to fringe areas are different from all moves, but less pronounced from other long distance moves or moves between regions.

Compared with all moves, movers to fringe areas are younger. This is contrary to Lindgren's study in Sweden (Lindgren, 2003) that showed them to be older. Possible explanations for the difference could be that Swedish fringe areas are much more marginalised than Danish and distances between centre and periphery are much bigger. Another could be that the connection between migration and age is not linear and that this causes errors in the statistical analyses.

The table shows that counter-urban movers have lower incomes than other movers; also other movers between regions. They are also much more often people who are not wage earners and most often without employment. This is very much in agreement with the other studies cited above. More unexpected is that counter-urban movers are more often couples with children. This is contrary to what was found by Lindgren in Sweden, but in agreement with the argument put forward above; that it is in general more difficult for singles to make long-distance moves than for families. Finally, the table shows that counter-urban movers more often have higher

Table 4. Results of three logistic regressions of the differences between movers to fringe areas and all other movers, all moves &gt; 30 km, and all other moves &gt;30 km up and down the urban hierarchy.

	Compared with all moves		Compared with all moves >30 km		Compared with moves between parts of the urban hierarchy	
	Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)
Age/10	0.006	0.98	0.000	1.14	0.000	1.21
Couple?	0.000	1.26	0.000	1.17	0.000	1.23
Children			0.000	1.15	0.000	1.24
Income/100,000	0.000	0.91	0.000	0.94	0.008	0.97
Wage earner?	0.000	0.53	0.000	0.76	0.000	0.82
Number of employed in household			0.027	0.94		
Higher education?	0.000	1.21			0.000	0.82
Job changes?	0.000	2.17	0.000	1.17		
Leaving work?	0.000	1.69	0.000	1.46	0.000	1.35
Increased commuting distance	0.000	1.86	0.000	1.19	0.001	1.08
Finishing education?	0.000	5.56	0.000	1.36	0.014	1.20
Improving housing?	0.000	2.44	0.000	1.75	0.000	2.15
Increased distance to place of birth	0.000	1.98	0.000	1.09	0.008	1.04
Constant	0.000	0.01	0.000	0.05	0.000	0.08
Nagelkerke R2	0.061		0.030		0.057	
-2loglikelihood	60,652		38,759		31,454	

Note: Missing figures imply that the variable was not included in the statistical model.

education than all movers, but less often compared with other movers between regions. This is also in agreement with other studies.

The results in the lower part of the table illustrate the following conclusions relating to some of the possible motives for counter-urban migration. Compared with all moves inside and between regions, 'finishing education' has a quite high odds ratio (Exp(B) = 5.56). Moves to fringe areas therefore are much more often made in connection with a completed education, where one goes back to the area one has grown up in. Finishing education is also more important among movers to fringe areas compared with other long distance moves and to other moves between regions but not quite so pronounced.

Also, job changes are much more common among moves to fringe areas than all moves. They are also more common compared with all other long distance moves (>30 km). Job changes are, however, not significant in the comparison with other moves between regions. One would have expected that job changes would have been less important among movers to fringe areas than among other interregional moves, but this does not seem to be the case. Job changes seem,

unexpectedly, to be of equal importance as for other interregional moves.

Leaving work for either unemployment or retirement is more common among movers to fringe areas. It applies especially compared with all moves but also very significantly compared with all interregional moves. Leaving work is therefore a more important cause of moves to fringe areas than of other long distance moves.

Some of the implications of counter-urban moves are changes in housing situation and in commuting distance. It is very significant for movers to fringe areas that they often improve their housing situation by moving from an apartment into a detached house and this is also more significant compared with other distant and interregional moves. This could be one of the explanations for people moving to fringe areas where house prices are lower.

Some of the movers keep their old job and are therefore forced to commute a long distance. It can be seen from the table that movers to fringe areas experience an average increase in the commuting distance after the move – not only especially compared with all movers, but also

compared with other long distance moves and other interregional moves.

In an earlier study (Ærø *et. al.*, 2005), it was shown that a considerable proportion of movers into fringe areas were born there. But our analysis indicates that movers to fringe areas on average move further away from their place of birth compared with other movers (variable 'Increased distance to place of birth' has an odd ratio of more than one). Perhaps the explanation is that most people live quite close to the place where they were born while long-distance moves on average tend to move people further away from their place of birth. This is not so pronounced compared with other long-distance or interregional moves.

The analysis also, as other studies referred to above, to some extent confirms the so-called 'income-transfer' hypothesis: that some people living on income transfers move to fringe areas to get lower housing costs. Movers to fringe areas are much less often wage earners, meaning that they are more often retired or out of work.

### Clustering Movers to Fringe Areas

The problem with the above comparison between movers to fringe areas and other movers is that movers to fringe areas are not a homogeneous group but consist of many different people. Therefore, it does not make much sense to treat them as one group.

To identify different groups among the movers, a two-step cluster analysis has been conducted on all movers to fringe areas moving more than 30 km. The TwoStep Cluster Analysis procedure is an exploratory tool designed to reveal natural groupings (or clusters) within a dataset that would otherwise not be apparent. The algorithm employed by this procedure has several desirable features that differentiate it from traditional clustering techniques. By assuming variables to be independent, a joint multinomial-normal distribution can be placed on both categorical and continuous variables. By comparing the values of a model-choice criterion across different clustering solutions, the procedure can automatically determine the optimal number of clusters. The TwoStep algorithm allows you to analyse large data files.

The outcome of the analysis is very dependent on what variables are used as inputs to the grouping procedure. It is therefore important that the

selection of variables was based on the hypotheses formulated above on the possible motives for moving to fringe areas and the results of the regression analysis. New variables added to those listed in the regression included:

- (1) *Improving housing and being in employment*: A binary variable, which is one when people in employment move from apartments to detached houses;
- (2) *Improving housing and being unemployed*: People without employment moving from apartments to detached houses; and
- (3) *Going home*: Moving to a place less than 30 km from the place of birth.

The results are shown in Table 5. For binary variables, the proportion (percent) for which the variables are true is shown for each cluster. For continuous variables, the average value for each cluster is shown. Furthermore, values in percent of some other binary variables, which were not used to cluster movers, are shown in the lowest part of the table.

As a result of the analysis, seven clusters were identified. They can be described as:

*Job movers (Cluster 7)*: This is a group that have changed job in connection with the move and most often to a place near their new residence in the fringe areas because their residence is closer to their job than before the move. Some of them – but not so many as all counter-urban movers – have also made a change from apartments to detached houses. There has often been made fundamental family changes in connection with the move – divorce or moving together with a new partner (40%). About half of them have children. Their income is above the average of movers to fringe areas. They are an important group making up 26% of movers to fringe areas.

*Finishing education (Cluster 2)*: This is a more mixed group with many people leaving education and some of them going back to the place where they grew up; or getting a new job in the fringe areas. They are younger, half of them are couples with children, 34% are getting married or divorced; and they have high incomes. They make up 8% of movers.

*Going home to the place of origin (Cluster 3)*: These are other, mostly younger, people who move back to the place where they grew up. Many are couples with children moving to detached homes. Another large group is divorced (21%).

Table 5. Results of cluster analysis of movers to fringe areas. Percentage of cases in each cluster where logical variables are true and average value of continuous variables.

	Computed clusters							All
	1	2	3	4	5	6	7	
Logical variables in the procedure	<i>Share of cases percent</i>							
Job changes?	0	67	35	0	0	0	100	33
Finishing education?	0	60	0	0	0	0	0	5
Leaving work?	0	1	12	0	100	0	0	10
Improving housing?	0	0	5	24	0	0	0	5
Employed								
Improving housing?	0	1	4	0	0	100	0	5
Unemployed								
Going home?	0	21	100	0	0	0	0	9
Couple?	0	51	49	91	44	36	53	43
Continuous variables in the procedure	<i>Average value of other variables used to cluster</i>							
Age	32	29	30	37	41	46	33	34
Income 100,000 DKK	1.2	3.4	1.8	2.1	1.6	1.3	2.6	2.0
Increased commuting distance (km)	10	-5	13	30	19	2	-4	9
Share of movers percent	28	8	8	18	9	5	26	100
Other variables not used in the procedure	<i>Share of cases per cent</i>							
In employment before moving?	15	79	47	50	0	0	98	49
Student?	37	2	20	19			2	15
Pensioner?	22	0	10	14	19	48	0	13
50+ years?	18	7	10	21	33	42	10	18
With children?	0	51	49	91	44	36	53	43
From parents?	15	5	1	0	5	1	9	8
Marriage?	1	10	6	32	15	16	18	14
Divorce?	16	14	21	5	17	9	12	13
Living in detached house before move	61	37	38	50	54	0	50	49
Living in detached house after move	39	68	65	78	71	100	66	63

Some change job (35%) in connection with the move and some are leaving employment (12%). There are also some students and pensioners in the group. They have lower incomes than the average mover. They constitute 8% of movers.

*Leaving work (Cluster 5):* These are mostly people who become unemployed (80%) or retired (19%) who want to go to less urbanised parts of the country; some of them for housing reasons. They are quite old and have lower incomes. Quite a lot of them are couples with children (44%). They constitute 9% of the moving households.

*Housing demand commuters (Cluster 4):* This is a group of middle-aged couples with children with middle incomes moving – often together (32%) – to gain access to house and garden in the fringe areas without changing place of work. Some are pensioners and some still students. The price for many of them is a drastic increase in commuting distance. They make up 18% of movers.

*Housing demand from people outside the labour market (Cluster 6):* This is a group of unemployed, mostly single, who move to improve their housing situation by obtaining a detached house. Another motive could be, what we have called, income-transfer moves. That is, people moving to fringe areas to get lower housing costs. It is the group with the oldest people – half are pensioners – and with low income. About one-third is couples with children. It is 5% of the movers.

*Students and other low-income groups (Cluster 7):* This is quite a large group (28%) of very low-income single people moving to the fringe areas. Most of them are young people and many of them are students moving to the – few – educational centres in the fringe areas (37%). Some are pensioners – mostly with early pension. Some of these could be income-transfer movers. This is the only group where the share of people living in detached houses is decreased during the move.

Explanations are that many are moving away from parents or are getting divorced.

Taken together, quite a large share of the counter-urban movers are outside the labour market. Thirteen percent are retired; 23% are either on early pensions, social security, or unemployment benefit. Fifteen percent are students.

## SUMMARY AND CONCLUSIONS

Like many other countries, Denmark has experienced uneven economic development. This has resulted in net migration from fringe areas to urban centres and their hinterlands. On the other hand, migration from more to less urbanised areas in general occurs to nearly the same extent as migration from rural areas to more urbanised places. This is contrary to what is experienced in countries like the United Kingdom (Champion, 2001). In Denmark, counter-urban migration is not primarily a movement from cities to rural areas, but involves moves between more and less urbanised regions and between growth areas and regions in stagnation or decline.

These kind of counter-urban moves are mostly long-distance moves, which mean severe changes in the life of the family who is moving. It often implies that one has to give up daily contact with a social network and facilities one is used to at the old place of residence; and it also often means a change of job and working place. Especially when the move is from a more urbanised place to rural areas and small towns, it implies quite a dramatic change in available facilities and job opportunities and thus a change in the possible ways of life.

Research about migration and especially place attachment has shown that people who move over longer distances must have very important reasons for doing so. This could especially affect counter-urban moves because many factors favour the opposite movements to the more urbanised places and to growth areas, where job opportunities and available facilities are much better. Counter-urban moves are going 'against the stream'.

This paper indicates, as does earlier research, that counter-urban migration from growth areas to fringe areas in Denmark has many motives and that the movers consist of very different people. In agreement with other studies, the paper shows that counter-urban movers in

Denmark have lower incomes than other movers; also other movers between regions. They are also much more often people who are not wage earners and often without employment. They have higher education than all moves; but less often compared with other moves between regions. Results that differ from a study in Sweden (Lindgren, 2003) are that counter-urban movers in Denmark are younger and more often are couples with children.

One of the hypotheses examined in the paper is that some of the counter-urban movers are younger people, who have moved away earlier from the fringe areas to get education in the larger cities, and who, after finishing their education, are going back to the places where they grew up and are attached to. The statistical analysis supports this hypothesis, as people who have finished education in the year they moved, are more often moving to fringe areas. This is especially true compared with all moves. It is also true compared with other moves between regions, but not at the same high level. A cluster analysis of the movers to fringe areas reveals that about 10% are moving back near to their place of birth, but only a few of them have finished education in the same year. More than half have already been employed and in general they have quite high incomes. This indicates that some in this group start their career near the place of education and only after some time go back to their place of origin, many of them after having established a family and having children. Others in this group are singles, some of them having experienced a divorce, and a few are pensioners. Overall, it must be concluded that this group is smaller than expected.

Another hypothesis was that counter-urban moves are more seldom connected with job changes than other interregional moves. This does not seem to be the case. Even if the job market is weaker, some people move to the fringe areas for employment reasons because they have found a new job in the areas. Job changes are more common among counter-urban movers than among all movers but do not differ from other moves between regions in this respect. The proportion of moves made in connection with job changes is the same for moves down the urban hierarchy as the other way round, namely about nearly 40% increasing with moving distance. It was also shown in the statistical comparison

between counter-urban movers and other inter-regional moves that job changes occurred just as often for counter-urban movers. The cluster analysis indicates that moves in connection with job changes account for about one-fourth of the counter-urban moves. The group is neither old nor young; half of them are couples with children and with middle-sized incomes. One-third of them are moving in connection with either marriage or divorce. This is a higher proportion compared with other sub-urban movers. In general, however, family changes less often are stated as reasons for migration among counter-urban movers than among all moves between municipalities.

It is worth noting that movers who change job, contrary to all other groups of counter-urban movers, obtain a decrease in their commuting distance. This decrease could be one of the important motives for moving.

The study indicates like other studies, that improvement of housing quality and housing costs are important reasons for counter-urban moves. In the fringe areas, housing is much cheaper than in the growth areas and there is much easier access to the countryside and natural amenities. In the growth areas in Denmark, housing prices have in recent years increased so much that it has become much more difficult for the middle class to obtain their most preferred type of housing: the detached house with garden. This could give grounds for three different motives for moving to fringe areas. One is to obtain a detached house with garden for families, who cannot afford this in the cities. Another one could be in general to obtain lower housing costs. A third motive could be to move closer to natural amenities and escape the polluted and stressful life in the cities. Moves with these motives could be triggered by specific occasions in the life of the movers such as becoming unemployed, retired, divorced, etc.

Another study (Deding and Filkes, 2004), with data on motives for moving, has shown that counter-urban moves in Denmark are more often motivated by demand for better housing and environment than moves in the opposite direction. The statistical analysis in the current study shows that counter-urban movers much more often move from apartments to detached houses than is the case for both all moves and for moves between regions. This is not unexpected as

detached housing is much more common in fringe areas compared with other parts of the country.

The cluster analysis indicates that there are different groups of 'housing movers' with different motives. There is a group of middle-aged (37 years on average) couples with children and middle incomes moving from apartments in the growth areas to detached housing without shifting job. The price for these moves is a drastic increase in commuting distance. One-third of the group are newly married couples. Only half of them are in employment, some are still students or pensioners. They make up 18% of the movers.

Moreover, there are some different groups with quite low incomes, some of which could be characterised as income-transfer movers. Taken together, they constitute 42% of the movers. About 10% are people who become unemployed or retired and sometimes also divorced. Five percent are people outside the labour market moving from apartments to detached houses in the fringe areas. Half of them are retired. Finally, there is a large group (28%) of single people with very low incomes, many of them not moving to detached houses. Most of them are not in employment but students (37%), pensioners (22%), or unemployed/on welfare benefits (26%). Some are divorced (15%) and some are coming from their parents' home (15%). It is therefore obvious that some in this group simply are students going to some of the few places for education in the fringe areas of which quite a few are the special Danish system of so-called folk high schools. These schools are not real parts of the educational system but places where young people go to become more mature before choosing their education. They only stay there for 1 year and then return to the place they came from. These counter-urban movers are therefore not staying permanently in the fringe areas.

In summary, it can be concluded that the most important reasons for counter-urban moves to fringe areas in Denmark are housing and housing costs. On the one hand, there are some middle-class families with children moving to fringe areas to obtain their preferred type of housing and to get near-to-natural amenities. On the other hand, there is a large group of low-income families and singles moving to get lower housing costs, often on occasions such as taking

retirement, becoming unemployed, getting married, or becoming divorced.

The study indicates that settlement policies are a difficult strategy for fringe areas. Seen from the perspective of the municipalities in the fringe areas, income-transfer movers are not always very attractive and some of them could have social problems, which imply expenditures for local authorities (Gottschalk *et al.*, 2008). There are some groups, which could be more attractive. One is people who just get a job in the fringe areas. Some of them are attracted by housing, but they are conditioned by the development of the local labour market. Another and most attractive group is people who return to the place where they grew up either in combination with finishing education, with getting a job or taking retirement, often combined with marriage or divorce. But the size of the group is limited.

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