

From depopulation to repopulation: the shift of population development in central city areas

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Abstract

In their book *Urban Future 21*, Peter Hall and Ulrich Pfeiffer [6] state that “*Statistical evidence is very clear: Throughout the world, over the last century, cities have been decentralising.*” Professionals of different fields involved in urban research and planning will confirm this statement. However, we must now ask: Will this always be true? And is there any evidence of a different development?

Following the population development of his hometown, Stavanger confirms the statement of Hall and Pfeiffer in the period from 1960 until 1990. While the entire urban area has a growing population, the nine most central zones with a population of 53 000 persons in 1960, are down to 32,000 persons in 1990, with a decrease of 10 – 20 % each decade. However, in the following period 1990 – 2000 the development has changed: After decades of decreasing population, the central zones now have *population increase* with a total of more than 34 000 persons in 2000.

Is this a local phenomenon, or is it a common tendency? This paper will present and discuss the development of the central zones of larger cities in Norway. Recent data from the National Census Bureau (SSB) confirms a shift in population development from decrease to increase in central zones of all larger cities. The shift is marked and nationwide, regardless of city size and geographical location, i.e. sea-oriented or inland. Exception is found for one city with no population growth in the urban area as a whole.

The paper will discuss the magnitude of the shift, and possible explanations related to environmental and transport issues, changes in people’s lifestyle and changes in enterprises.



1 Background

“The statistical evidence is very clear: Throughout the world, over the last century, cities have been decentralising.”

Planners and researchers throughout the international community will confirm this statement by Hall and Pfeiffer [6]. The growth of cities in terms of population size and functional complexity is coupled with expanding urban surface. New urban developments often have a lower density than older parts of the city. In addition the new developments appear more scattered in the outer city areas, making the urban fabric more dispersed, i.e. “urban sprawl”. As Bunting et al. [2] state: “... over the period 1971-96 the majority of Canadian cities have undergone transition towards decentralised urban form”.

Parallel to new developments in outer areas, the housing densities in the inner city areas have been going down. With an aging population and houses being converted for commercial, industrial or public purposes, there has been a constant decrease of dwelling population in central areas of most western, industrialized cities.

But Bunting et al. [2] also state:

“Findings presented here point to previously unidentified trends towards recentralisation in a few CMAs (census metropolitan areas)”

The phenomenon of reduced population decrease and even population increase in central city areas is mentioned already in 1986 by Champion who claims Newcastle, Edinburgh, Swansea and Blackburn have reached a level of reurbanisation. The observation of reurbanisation is shared by van den Berg and Klaassen [1]. The tendencies have also been pointed out by Frey (1990) based on cases from New York, Boston, Portland, Philadelphia and Chicago. In France Pumain and Faur [11] advocates that the decentralisation of cities is about to turn into a more concentrated pattern of urban development. Lever [9] speaks of households who by the 1980’s “tended to migrate to the inner areas of the larger cities for reasons of employment and access to facilities.” In their study of urban land use in Norway Lyssand Larsen and Saglie [10] observed the highest increase in urban land per person during the 1970’s, while this development stagnated during the 80’s. In their report they conclude that “corresponding trends towards reurbanisation has been observed in European and American urban areas”.

This paper presents a study of population development in central city areas to see to what extent reurbanisation has reached cities in Norway. People’s choice of location for housing is believed to be an indicator of their attitude towards urban qualities:

Garden housing in the suburb with a private car in the garage for flexible travelling to work, shopping and leisure, or a comfortable apartment within walking distance from work, shops, cafès, theatres and public transport, or a combination?



1.1 General population development

The population of Norway has been constantly increasing since World War II (table 1). The average annual population increase was at its highest during the decade 1950-60. In the following decades the annual increase has been going down up until 1990. In the last decade (1990-2001) the annual increase is again rising. A new factor in the population development of Norway is the increase of immigration during the 1970's, 80's and 90's.

Table 1: National population development - decennial census.

Year	total population	decennial change		average
	persons	persons	%	annual ch. %
1. des. 1950	3 278 500			
1. nov. 1960	3 591 200	312 700	9,5	0,95
1. nov. 1970	3 874 100	282 900	7,9	0,79
1. nov. 1980	4 091 100	217 000	5,6	0,56
3. nov. 1990	4 247 500	156 400	3,8	0,38
3. nov. 2001	4 520 900	273 400	6,4	0,59

Source: Statistisk Sentralbyrå, yearbook 2003, table 45.

Postwar population development in Norway, like in many countries, has been dominated by the move from rural to urban areas, and from smaller towns to medium and larger cities. As a consequence, most medium and large urban areas have had a population increase well above the national average (table 2 - see appendix).

This urban development was focused by Rasmussen [12] in his book *Byregioner i Norge* (Urban regions in Norway). According to Rasmussen the large and medium sized centrally located urban areas would continue to increase their population at the expense of rural and peripheral districts. His predictions covered the period 1960 – 1990. This development he named “the inevitable urbanisation process”, arousing heavy criticism from defenders of national programs to support peripheral regions and rural districts.

These observations of national and nationwide urban development, serve as a background for what is the prime focus of this paper:

2 Population development in the central areas of city regions in Norway

A new attitude towards urban living has emerged during the 1980's and 90's. Young people as well as the elderly seem to put increased emphasize on convenient living. Apartment housing, cafès, indoor sports facilities, theatres, etc. are more often in the focus than the green lawns, bushes and trees of the



private single-family house in the suburb. Modern living is connected to the complexity and contradictions of urbanized space, rather than the “garden city” as coined by Ebenezer Howard in 1898.

Does this apply to every city? And to what extent can this be traced in the population development of central areas? To find answers, a quantity survey of population development in some Norwegian city regions is carried out.

2.1 The data source

The study is based on population data published by Statistisk Sentralbyrå (SSB), the national bureau of statistics.

Each tenth year Statistisk Sentralbyrå is doing a nationwide census of population and housing (Folke- og bolig telling – FoB). All data are related to local census tracts, and to the year 1960, 1970, 1980 and 1990. For the year 2000, the census was postponed to 2001 due to statistical development work.

The tracts used in 1960 and –70, were rearranged in 1980. Therefore it is difficult to compare the data before and after 1980. For this reason the study is carried out for the period 1980 – 2001. A more long term development is verified through a deeper study of the city of Stavanger during the period 1960 – 2001. Here the tracts of 1960 and 1970 are adjusted to correspond to the tracts of 1980.

The term *city region* includes a central city and its surrounding municipalities with more than 15 % of their workforce commuting to the central city in 1990 (based on public report Stortingsmelding no. 32, 1994 – 95).

The term *central area* applies to the historic part of the city, in general the developed city area as of World War II. The census data refer to the corresponding census tracts as of 2001.

2.2 Population development in the central area of 14 city regions 1980 – 2001

The survey includes all city regions with more than 100 000 inhabitants in 2001 (Oslo, Bergen, Stavanger / Sandnes, Trondheim, Drammen, Fredrikstad / Sarpsborg, Kristiansand, Skien / Porsgrunn), and selected city regions with 20 – 100 000 inhabitants. In the latter category two of the city regions have high growth rate (Tromsø and Bodø), two of them have medium growth rate (Horten and Molde), and two have little or no growth (Hamar and Kristiansund).

Three of the city regions include two historic city centres. The central areas of these cities are treated separately in the figures, making a total of 17 central areas.

The overall tendency in each of the 14 city regions is population growth in both periods (table 3). There is an increase in growth rate in all city regions, parallel to the population growth on national level. However, for the central city areas there is a shift from decline to growth in the population development of the 17 central areas (fig. 1 - 3). The shift takes place during the decades 1980-90 and 1990-01. The difference between the central area and the city region



development implies there is a reduced growth in the outer area of the city regions.

Table 2: Population development in city regions and central city areas.

	CITY REGION POPULATION	CITY REGION CHANGE		CENTRAL AREA CHANGE	
	2001	% 80 - 90	% 90 - 01	% 80 - 90	% 90 - 01
Oslo	1 033 200	7,2	12,4	-8,7	15,3
Bergen	319 400	6,3	10,1	-12,3	5,9
Stavanger / Sandnes	243 000	14,4	15,5	-11,2	8,8
Trondheim	205 700	4,8	9,8	-9,6	8,9
Drammen	127 400	6,9	8,5	-6,2	6,5
Fredrikstad / Sarpsborg	120 500	2,9	5,3	-3,2	5,3
Kristiansand	115 200	9,4	11,6	-3,3	8,0
Skien / Porsgrunn	99 600	2,3	4,7	-3,3	4,3
Hamar	69 400	2,5	4,2	-6,8	9,5
Tromsø	62 900	9,0	16,6	-4,8	20,9
Bodø	41 700	11,8	13,1	-18,0	13,2
Horten	24 300	3,7	7,6	-12,2	14,2
Molde	23 900	6,3	7,3	-5,4	13,8
Kristiansund	22 200	-0,5	0,7	-18,4	-1,6
NORWAY (total)	4 520 900	3,8	6,4		

Source: Statistisk sentralbyrå. FoB 1980, 1990, 2001.

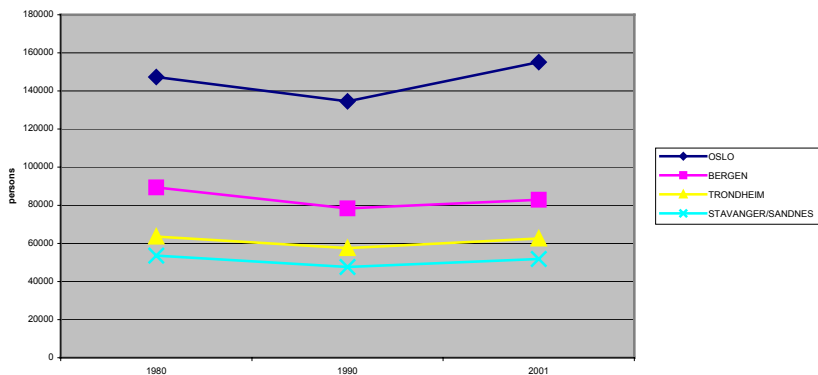


Figure 1: Population development in central city areas 1980 – 2001. City regions more than 200 000 inhabitants.



Among the largest city regions (fig. 1) the shift is most noticeable in Oslo, with the 2001 population larger than the 1980. Bergen has a lower 2001 population, while Trondheim and Stavanger/Sandnes are more even.

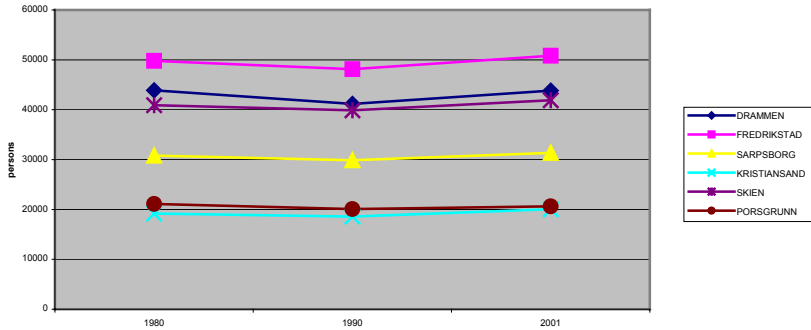


Figure 2: Population development in central city areas 1980 – 2001. City regions 100 000 - 200 000 inhabitants.

Most of the medium sized city regions have regained their central area population from 1980 by 2001, after a bottom level in 1990 (fig. 2). Fredrikstad and Skien, the larger of the two twin cities, have had the strongest shift, with a larger population in 2001 than in 1980.

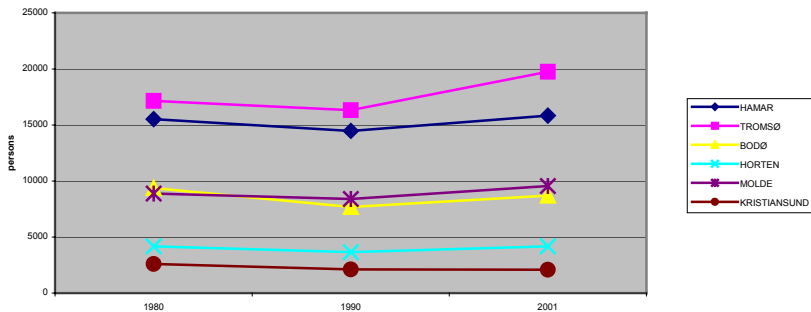


Figure 3: Population development in central city areas 1980 – 2001. Selected city regions 20 000 - 100 000 inhabitants.

The smaller city regions with 20 – 100 000 inhabitants also have population shift from decline to growth in the central area, combined with continued population growth in the city region as a whole (fig. 3). One exception is



Kristiansund with hardly any decline or growth in the city region. However, there is a noticeable change in the population development of the central area, from heavy decline (-18,4%) to moderate decline (-1,6%). Correspondingly there is a change towards reduced population growth in the outer area. This indicates it might be a question of time when the central area of Kristiansund also will experience population growth.

Tromsø and Molde has a high central area growth from 1990 to 2001 compared to the 1980 level, while the central area population of Bodø is lower in 2001 compared to 1980.

2.3 Population development of Stavanger city 1960 – 2001

The population development of Stavanger confirms the statement of Hall and Pfeiffer in the period from 1960 until 1990: “ ... *over the last century, cities have been decentralising.*” The city region as a whole has a growing population, and especially the outer areas, while the central area has a constant decline (table 4). For the eight most central tracts (three areas as shown in table) with a population of 44 200 persons in 1960, the population is down to 25 400 persons in 1990, with a relative decrease between -8,8% and -25,7% every decade.

Table 3: Population development in central and outer areas of Stavanger City - 1960 – 2001.

	POPULATION ¹⁾					% POP. CHANGE ¹⁾			
	1960	1970	1980	1990	2001	60-70	70-80	80-90	90-01
Vål/Eig/Kampen	<i>24244</i>	<i>19176</i>	15921	14521	15497	-20,9	-17,0	-8,8	6,7
Storhaug	<i>17768</i>	<i>13197</i>	10859	9580	10640	-25,7	-17,7	-11,8	11,1
Buøy	2188	1848	1595	1342	1729	-15,5	-13,7	-15,9	28,8
Total central areas	<i>44200</i>	<i>34221</i>	28375	25443	27866	-22,6	-17,1	-10,3	9,5
Total outer areas	<i>32075</i>	<i>47438</i>	62313	72666	81701	<i>47,9</i>	<i>31,4</i>	16,6	12,4
Total Stvgr. city	76275	81659	90688	98109	109567	7,1	11,1	8,2	11,7

1) *Figures in italic* are estimated.

Source: Statistisk Sentralbyrå. FoB 1960 – 2001.

However, in the following period 1990 – 2001 the development has shifted: After decades of population decline, the central tracts now have *population increase* of 2 500 persons reaching a total of 27 900 persons in 2001 (fig. 4). The relative increase is 9,5%. This indicates a new attitude towards living in central parts of the city.



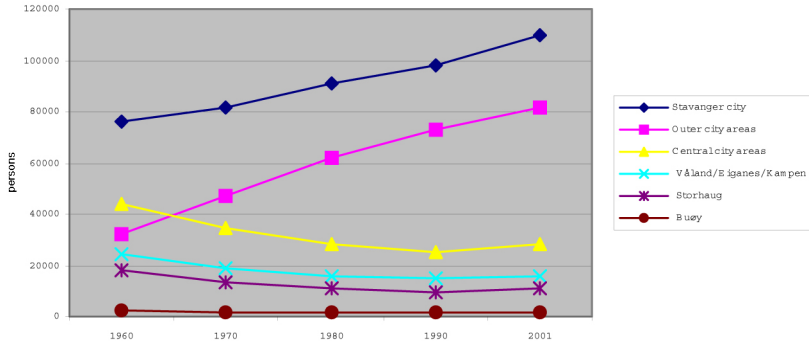


Figure 4: Population development in central and outer areas of Stavanger city 1960 – 2001.

The outer areas still have population growth during the period 1990 - 2001, but at a lower rate than before. While central area development has changed from a decrease of $-22,6\%$ in 1960 - 70 to an increase of $9,5\%$ in 1990 - 2001, the outer area increase has dropped from $47,9\%$ to $12,4\%$.

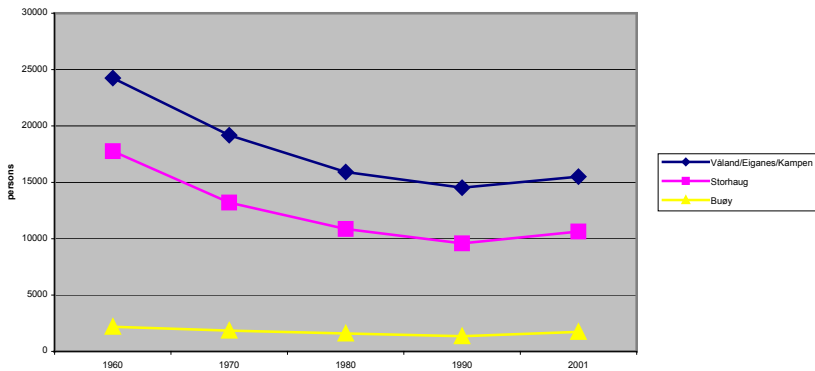


Figure 5: Population development in central areas of Stavanger 1960 – 2001.

The change from population decrease to population increase in the central areas is a gradual process (fig. 5). Indications of a reduced decline rate can be traced back to the 1970's, and is even more obvious in the 1980's. This tendency applies to all tracts. The physical evidence of this process is visualized by the construction of the first high-rise apartment house in the central city about 1970. The construction of high-rise housing and subsequently high-density low-rise housing in central areas continued during the 1980's and 90's.



3 Discussion

The shift from population decline to population growth in central city areas coincides with the increased focus on urban living during the 1980's and 90's. Opinions may differ as to the magnitude and importance of this shift, since outer areas still play an important part in the population growth of city regions. However, considering the limited surface of the central areas compared to the outer city region areas, the population growth of central city areas is decisive.

The shift is decisive and nationwide. The shift is not a question of one or two cities with city developers, political board and public administrators in favour of housing developments in their particular central city area. Regardless of city size and geographical location, i.e. sea-oriented or inland, population development of central city areas has shifted from decline to growth.

What are the reasons for this shift in population development? The prime driving force seems to be, as mentioned before:

- Increased focus on urban living.

Other objectives and challenges in urban development, planning and research can be targeted:

- Industrial and commercial activities moving to outer and exurban locations.
- More efficient land use, i.e. soil protection and densification.
- Improved transport demand for public transport.
- Reduced distances in urban living and consequently limited growth in car traffic.
- New immigrant citizens with social habits and household economy in favour of urban and dense housing.
- Changing demographic patterns, with increasing number of small (1 – 2 persons) households due to later marriage among the young, and length of life among the elderly.

A common background for several of these aspects, is the question of sustainability. This applies to the protection of fertile soil, improvement of public transport demand as well as the question of growth in car traffic.

With only 3,6% agricultural land in Norway [8], and several cities located in the most favourable agricultural districts, the necessity to limit city expansion is evident. Building on non-agricultural land will imply increased transport distances, which in turn is unfavourable to a sustainable development. A realistic alternative to building on distant non-agricultural land, will be to intensify the use of already urbanized land.


The use of public transport as alternative to the private car is closely related to urban development and urban city size. According to a national travel survey [4] daily travelling by public transport is 8 – 16 % in the ten largest cities. For smaller cities and rest of the country, the public transport travelling is 6 % and



5 % respectively. This indicates that conditions for public transport are far better in larger cities with high density than in small cities and rural areas.

Table 2: Population development in urban areas 1960 – 98.

	POPULATION		POP. CHANGE IN %				POP. CHANGE	
	1.11.1960	1.1.1998	60 - 70	70 - 80	80 - 90	90 - 98	1960 - 98	
							persons	%
Oslo	581 179	750 404	11,1	-0,4	6,6	9,5	169 225	29,1
Bergen	152 121	200 243	19,8	-0,7	3,6	6,9	48 122	31,6
Trondheim	92 614	138 008	21,0	13,9	2,3	5,7	45 394	49,0
Stavanger	70 100	108 802	13,2	14,5	8,1	10,8	38 702	55,2
Drammen	50 169	61 045	12,7	0,6	3,3	4,0	10 876	21,7
Kristiansand	37 390	58 339	29,1	5,1	7,0	7,5	20 949	56,0
Fredrikstad	45 228	52 033	13,1	0,3	-2,2	3,7	6 805	15,0
Tromsø	21 091	47 936	36,9	25,6	14,8	15,1	26 845	127,3
Tønsberg	31 641	41 627	15,0	1,1	4,2	8,6	9 986	31,6
Sarpsborg	31 888	39 885	14,3	9,4	-0,3	0,3	7 997	25,1
Sandnes	14 917	37 626	46,1	22,0	22,7	15,4	22 709	152,2
Porsgrunn	25 257	36 319	29,1	8,3	-0,4	3,3	11 062	43,8
Haugesund	26 700	34 723	9,7	3,1	8,2	6,4	8 023	30,0
Sandefjord	23 935	34 514	19,7	9,5	4,3	5,5	10 579	44,2
Bodø	17 902	33 972	36,5	13,0	9,9	12,0	16 070	89,8
Skien	27 807	30 825	6,4	-4,9	4,2	5,1	3 018	10,9
Moss	21 328	30 651	28,6	8,2	-1,0	4,4	9 323	43,7
Hamar	18 263	28 792	37,6	7,5	2,0	4,4	10 529	57,7
Arendal	18 082	25 502	17,4	8,7	8,3	2,1	7 420	41,0
Ålesund	20 341	24 635	25,2	-1,5	5,3	3,7	4 294	21,1
20 urban areas	1 327 953	1 815 881	16,1	3,6	5,3	7,9	487 928	36,7
NORWAY	3 591 234	4 417 599	7,9	5,6	3,8	4,0	826 365	23,0

 Population growth above national average

source: Statistisk Sentralbyrå

The shift from population decline to population growth in central city areas as revealed in this survey, can most likely be called a process of *reurbanisation*: An increasing number of people are repopulating the central areas. However, the meaning of the term in this context is different from the term used by Klaassen et al. [7]. They elaborate a model of ‘stages of urban development’ with four main stages: Urbanisation, suburbanisation, desurbanisation and reurbanisation.



The reurbanisation stage in their model is connected to an overall decline in the functional urban region. This is very different from the urban development as shown in the present survey.

What are the prospects of city region developments in the near future? Is central city growth a short-term happening that soon will be overrun by renewed outer area developments, or is it a lasting phenomenon? Judging from attitudes revealed in the present day housing market, the latter prospect is most likely to continue: To live in a central, urbanized area, is no longer a question of being left behind at a still stand, but an attractive living condition, preferred by people who have the opportunity and the means to choose.

What will then be the physical body of future urban housing development:

Continued and even increased urbanisation and densification of the central area?
Directed growth with increasing densities along certain designated corridors?
Increased densities in smaller central locations outside the main central city area?

The future of the present reurbanisation process is a question of population development in the city region as a whole, as well as the preferences and choices of the urban dwellers, developers, politicians and planners.

References

- [1] Berg L van den, and Klaassen L H (1987): *The contagiousness of urban decline*. In L H Klaassen (ed): *Spatial Cycles*, pp. 84-99. Aldershot, Gower.
- [2] Bunting T, Filion P and Priston H (2002): *Density Gradients in Canadian Metropolitan Regions, 1971 – 96: Differential Patterns of Central Area and Suburban Growth and Change*. *Urban Studies*, vol. 39, no. 13, pp. 2531-2552.
- [3] Champion, A G (1986): *The 'stages of urban development' model applied to upper-tier regions in the British urban system*. *Area*, vol. 18, pp. 239-245.
- [4] Denstadli J M and Hjorthol R (2002): *Den nasjonale reisevaneundersøkelsen 2001. (The national travel survey)*. TØI report 588/2002, Oslo.
- [5] Frey, William H (1990): *Metropolitan America: Beyond the Transition*. *Population bulletin of the United Nations*, vol. 45, no. 2, pp. 1-51.
- [6] Hall, Peter and Ulrich Pfeiffer (2000): *Urban Future 21: A Global agenda for twenty-first century cities*. E & F N Spon, London.
- [7] Klaassen L H, Molle W T M and Paelinck J H P (1981): *Dynamics of urban development*. Gower, Aldershot.
- [8] Langdalen, Erik (1994): *Arealplanlegging. (Land use planning)*. Universitetsforlaget, Oslo.



- [9] Lever, W F (1992): Reurbanisation - the Policy Implications. *Urban Studies*, vol. 30, no. 2, pp. 267-284.
- [10] Lyssand Larsen, Synnøve and Inger-Lise Saglie (1995): *Tettstedsareal i Norge. (Densely built-up areas in Norway)*. NIBR, rapport 1995:3, Oslo.
- [11] Pumain, D and J P Faur (1991): *Villes et régions au rendezvous de l'Europe*. *Population et Societé*, pp 254-269.
- [12] Rasmussen, Tor F (1969): *Byregioner i Norge. Den regionale konsentrasjon i bosettingsmønsteret. (City regions in Norway. The regional concentration of the dwelling pattern)*. NIBR, Oslo.

