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Polarisation tendencies in the spatial regional fabric in Denmark – Challenges on the road towards a more balanced regional spatial and economic development

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Abstract

From the late 1980's to the present day the overall spatial planning aims of the different Danish governments and the Spatial Planning Department have been bi-focal in their scope and magnitude.

On the one hand, and as a response to the ever increasing demands of the international economic and cultural competition between the cities and regions of a more integrated and globalized world, spatial planning policies and infrastructure investments, have been changed, adapted and redirected in an attempt to support and boost the competitiveness of key urban nodes and regions in the country. At the same time, and during the same span of years, spatial planning visions have been adopted and promoted that call for a more balanced but not equal development throughout the country. Where the latter spatial policies calling for a more balanced economic and spatial development throughout the regions and localities in the country have received widespread media and political attention, little or no attention has been focused towards the implications of channelling massive infrastructure investments into core regions and urban nodes at the expense of more backward or more peripheral regions and urban centres.

Recent research seems to indicate that the last 25 years have brought about an increased polarisation in the spatial and economic development of the country. A polarisation, which seems to be characterised by a strong and persistent growth of both population and employment in and around the main urban centres of Denmark while more peripheral or rural regions without major settlement nodes are experiencing a slow but steady decline in both population numbers and employment opportunities – thus presenting new and imposing challenges to spatial planning in its endeavour to ensure the aforementioned more balanced spatial and economic development.

This paper attempts to trace the tendencies of the last 25 years towards an increased polarisation in the spatial regional fabric of Denmark on the basis of various data sources. The aim is to give a detailed picture of status quo of and especially inequalities in the pace and direction of change. Attention is given to the location and development in population, migration patterns, workplaces, commuting - and service-sector employment as an indicator of change in access to services. The analysis will mostly draw on GIS-based mapping to represent change and status-quo. Spatial statistics, like kernel densities will be employed to arrive at a representation of the different indicators for polarisation tendencies within Denmark. The geographical units on which the "root data" is measured will vary among the various data-types. For population data and data on workplaces the 100x100 meter Danish data grid cells will be used, for service sector employment data grid cell clusters will be used, whereas the commute and migration data will be based on parishes and municipalities respectively.

INTRODUCTION

Hans Christian Andersen begins one of his lesser known fairy tales "Five peas in a pod" with the following remark.

"There once were five peas in a pod; they were green and the pod was green, and so they believed that the whole world was green, and that was quite right."

(Andersen in Haugaard, 1974: 445)

Unfortunately the five peas have got it all wrong. The whole world is not green – far from it. Contrary to the belief of the five peas, one could make the argument, that the world is in fact anything but green. It is instead decidedly multicoloured. A fact, which the five peas all too soon find out for themselves, and a fact, which the planning community at large, and the planning community in Denmark specifically would do well to remember in the years to come.

At the risk of sounding condescending or overbearing to our fellow planners throughout the Danish planning community, and at the risk of annoying and alienating the Danish politicians, the time has come for not only the planning community, but also the politicians, to leave their cosy green pods and step out into the real and multicoloured world. The time has come to acknowledge and take on the increasingly complex challenges of a globalised world. Challenges, which severely put pressure on not only our welfare societies as a whole, but also draw into question the ideologies and paradigms, that have governed the planning profession in the Nordic countries for the last three decades or so. Paradigms primarily concerned with the equal and fair geographical distribution of public and private services and investments, and paradigms firmly based on a belief and trust in the planning system in general and in spatial planning per se. The local government reforms of the 1970'ies rested on an overriding paradigm of creating the grounds for an equal and balanced development benefiting all regions throughout the country.

This core planning paradigm has from the beginning of the 1990'ies been subjugated to a steady corrosion to the point that one could ask the question of whether the visions concerned with ensuring a more balanced and equal regional are in fact still part of the ethical and moral base of spatial planning in Denmark, or whether these visions have been thrown onto the waste dump of history. A long line of National Spatial reports (Spatial Planning Department, 1993; 1997; 1999; 2003) from successive Danish governments during the 1990'ies and into the new millennium has for the last 15 years consistently promoted strategies that called for an increased competition between the various urban centres in the country and between the different regions, and – one could speculate - at the expense of a balanced and equal development.

What has been the effect on the regional spatial and economic development of such a shift in planning paradigms? The answers to such a complex question are many and varied, and a reaching a thorough answer is beyond the scope of this paper. However, we will attempt to present and draw up a number of tentative results and conclusions that will bring us a few brushstrokes closer to painting the full picture of the implications for the spatial and economic development in the Danish regions of such a shift in planning paradigms.

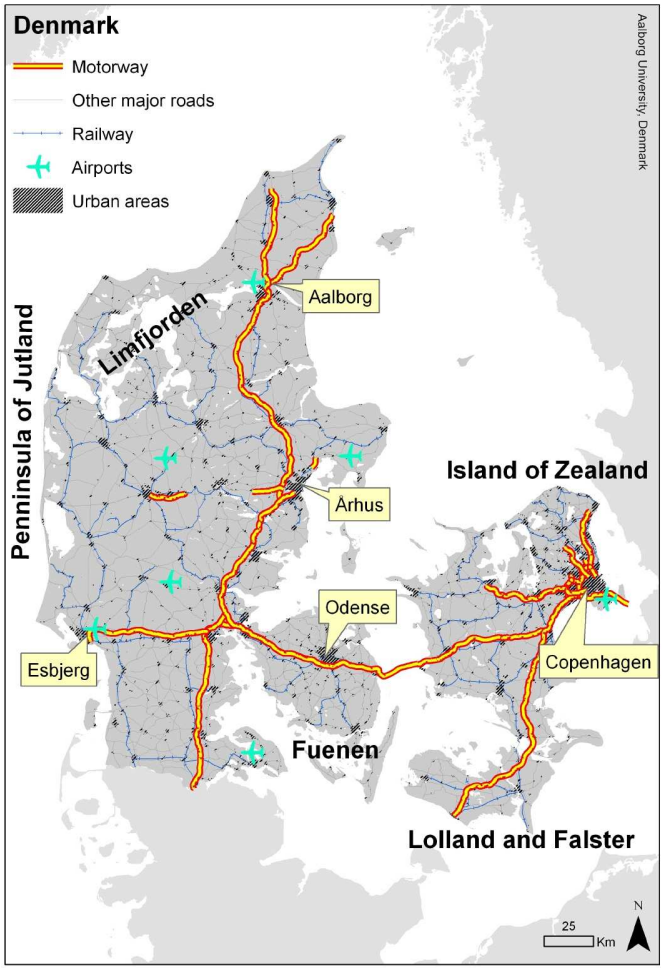

Figure 1: Urban areas and main infrastructure elements in Denmark. Names of the largest cities and islands are displayed on the map.

Perhaps this is a good a time as any to re-examine and perhaps rediscover our spatial planning heritage since Denmark at present is in the midst of introducing a sweeping local government reform. A reform, which will dramatically alter the administrative structure of the country, creating fewer but larger and more powerful municipalities. At present there are some 271 municipalities in Denmark. As of the beginning of 2007 this number will be reduced to some 98 municipalities.

The reform also more than halves the number of counties in the country, creating instead fewer, larger and far less powerful regions whose main agenda will be to operate the health services of the country, thus stripping these local government entities of most of their spatial and environmental planning tasks. Paradoxically the reform also involves a considerable increase in the degree of central control over the local planning processes with the establishment of a range of new decentralised state agencies with increased executive powers in relation to spatial and environmental planning initiatives.

Jørgensen and Vagnby (2005) in their recent paper concerning the local government reform presents a rather scathing critique of the reasons for and probable results and outcomes of this administrative reform. In their analysis they conclude that:

"An overall assessment of Danish physical and spatial planning paradigm shows some remarkable changes since the Planning Reform of the 1970es. From a situation where national spatial planning should ensure equal and balanced development in the entire country; via a shift in 1992 that encouraged diversity and competition between regions and cities; to a situation that pretends to favour local development, but where the state plays a strong, ambiguous and maybe distrustful controlling hand at the local branch office."

(Jørgensen and Vagnby, 2005:22)

They go on say, that unlike the local government reforms of the 1970's the paradigms, which have governed this reform could effectively be boiled down to a desire to create a more simple and efficient public sector, which is economically sustainable and cost efficient. In effect this translated into the dismantlement of the county level and the creation of larger municipalities of no less than 30.000 inhabitants.

The unfortunate side-effect of this rather single-minded attention to the demographic setup of the future municipalities is that little or no attention has been given to either the functionality of the future administrative structure or the geographical or territorial implications. Any considerations of Denmark's role in Europe as well as a whole range of subjects like the increased role of mobility in our societies or size and shape of hinterlands or catchment areas or even something as simple as commuting patterns are sadly absent in substance in this reform process (Jørgensen, 2004). What is even more of a mystery is that the local government reform is pushed through without any real or substantial discussion about the emerging polarisation tendencies in the Danish regional setup.

Despite the fact that more and more research (Christoffersen, 2003; Christoffersen and Ravn-Jonsen, 2005) suggests that Denmark over the course of the last 15 to 20 years has, and is experiencing a fundamental, even structural, change in the regional fabric, the challenges this presents are not addressed in any way by the forthcoming local government reform. Tanvig (2004) also questions the wisdom of the apparent lack of discussion in the current local government reform process concerning the polarisation tendencies between city-regions and rural districts. She goes on to say, that we in failing to address the spatial and economic polarisation, risk creating a divisive country made up of A-regions concentrated around the major urban centres of the country and B-regions mainly in the rural or peripheral regions of Denmark. The latest National Planning Report (Spatial Planning Department, 2003) also unequivocally points to an unbalanced spatial and economical development in Denmark, but the report fails to deliver any substantial solutions to this challenge.

This paper attempts to take up the challenge of addressing the questions raised in connection with the increased polarisation of the regional spaces in Denmark. We will do this by asking the following two questions:

- Has the economic growth in Denmark over the last 20 years been spatially evenly distributed or is the development characterised by a spatial polarisation between growth regions and regions in decline?
- What are the challenges for planning and how can we ensure that there is a future for all regions of the country?

The purpose of this paper is thus twofold. Firstly, we want to map and present the polarisation of the regional economic space over a 20 year period and secondly, we want to begin a discussion into the challenges that a polarised regional development poses for spatial planning in the future.

The paper is structured along the following lines. First, we will briefly rediscover and present three different perspectives on spatial and economic specialisation. Drawing upon the concepts of Urban Fields, Amenity environments and Growth poles, we set up the framework of the subsequent empirical analysis. This is followed by a geographical mapping of the distribution of growth in Denmark, and developments in commuting and migration as indicators of the rising interdependencies between regions. Finally, we begin a discussion of the planning challenges, which we as planners face in light of the presented development trends.

THEORETICAL PERSPECTIVES OF DEPARTURE

There are at least three theoretical perspectives that seems highly useful and relevant as a point of departure in explaining and understanding the current transformations and geographical configurations of growth in Denmark. One is the concept of the extended but functionally integrated area, the urban field. Another is the concept of the attractiveness of the surroundings as a special prerequisite for growth, the amenity environment. The last is the concept of the growth pole which is first and foremost a development strategy but also related to the reality of economies of agglomeration.

Urban fields

John Friedmann launched the "Urban field" (Friedmann and Miller, 1965; Friedmann, 1978) concept in the mid sixties as the future geographical frame of reference for urban and regional planning. Here he suggested that in the urban areas of the future the significance of the core will be much reduced in favour of a dispersed location pattern with multiple nuclei. He went further to go on to suggest that the urban areas, based on an increasing scale of spatial interaction, would be stretched out to cover a larger territory than ever before. As a consequence of this increase in scale and the dispersed form of the urban areas, interaction or flow becomes the relevant criteria for defining the urban entity - rather than proximity or co-location.

"What is properly urban and properly rural can no longer be distinguished…The corresponding view of the city is no longer of physical entity, but a pattern of point locations and connecting flows of people, information, money, and commodities…The idea of the urban field is similarly based on the criterion of interdependency."

(Friedmann and Miller, 1965:314)

The Urban field concept can be seen as closely related to Doxiadis (1970) contemporary concept of the daily urban system that focuses on how the extend of urban areas will be restricted by the distance one can or will travel in daily life. It can also be seen as related to Berry´s (1968) general field theory of spatial behaviour on the basis of which he delimits functional regions – as opposed to formal regions – from interaction data.

According to Friedmann and Miller the Urban field would stretch for a two hour drive outwards from the core of a metropolitan area and include large tracts of land in the same functionally integrated urban area. The two hour drive would be the approximate geographical limit for commuting to a job and the limit for intensive recreational use. This of course implies that the urban field is something that develops around what was originally a dominant centre. Things may be more complicated in the relatively dense western European settlement structure as the expansion of the "daily urban system" causes what was formerly separate urban entities to merge into larger functional units. Dieleman and Faludi (1998) used the term "Polynucleated metropolitan region" to describe such functional units consisting of clusters of interacting cities without a single dominant centre. There has been some debate on how the term should be understood (see fore instance Parr, 2004) and its relation to the Urban field can also be debated. Bontje (2000) fore instance sees the Polycentric urban region as a less extensive stage of the development of urban areas than the Urban field. A similar line of thought is reflected by Grava (1999) as he seems to relate the Urban field concept to a very high degree of dehieracization and unpredictability of travel patterns.

The polycentric urban region can be pragmatically interpreted as the outcome of the same mechanisms that produces the urban field: the increasing scale of interaction, the increasing size of daily urban systems.

Amenity environments

Several authors have dealt with amenity and place. Coppack (1988) fore instance interpreted the "amenity" quality as something beyond functionality:

"Amenity may be defined as the attraction invested in a place or area by virtue of its perceived pleasant characteristics, particularly those of an intanglible nature wich primarily satisfy psychological needs rather than physical needs" (Coppack, 1988:3).

Especially Dahms (1998, 1999) has focussed on how the amenity qualities of rural areas within urban fields have affected the local population growth. The quality of the environment seems to be a factor that will at least act to allocate growth geographically within rural areas.

Landscape and nature is however not the only relevant amenities. Glaeser et. al. (2001) presents four vital amenities for the attractiveness of urban areas: rich variety of services and consumer goods, aestehetics and physical setting, good public services and speed (transport costs/time). Glaeser et. al. (2001), Glaeser and Kohlhase (2004) suggests that what holds urban areas together is their role a centres of consumption and pleasant places to live – plus the relative high costs of moving people.

A pragmatic interpretation is that amenity qualities will be an important factor in determining the growth of a given area – provided that the area is within a certain range of a certain pool of population and jobs (an urban field). Implicit in this is that choice is gaining in importance. People may choose to go

and live in an attractive location or leave a location that they find (relatively) unattractive.

Poles of development

The growth pole / pole of development concept was introduced by the French economist Francois Perroux in the mid 1950´ies. According to Perroux clustering of activities and thus geographical inequalities and dominance is an unavoidable feature of industrialised nations (Polenske, 1988; Perroux, 1988).

"To define an economic policy, one must never start from a whole where development is evenly distributed. A nation that has been industrialised for a long time is made up of economically active and surplus producing regions, and regions that are relatively less active and deficit-producing (Perroux, 1988:4)

As a contribution to the interpretation of the developments on the Danish land surface the "growth pole" concept may be compared to the theory of Path dependence (Arthur, 1988) and Whebells (1969) more descriptive contribution on corridor development. These generally suggests that the location of growth is determined of prior decisions/developments at an earlier stage that gave a given location a "headstart". Thus the different areas are more or less dominating and have different preconditions for growth from the very beginning.

When one includes the increasing specialisation of society and its imperative in terms of the populations level of education and the dependencies suggested by the concept of agglomeration economies or economies of massed reserves (Anas, 1998) – then inequalities derived from the size of urban areas and regions are very likely to continue to distort – or pool the geographical location of growth in the future.

DATA AND METHODOLOGY

The paper aims to utilise the improved access to detailed geo-statistics and interaction data to draw new and detailed maps of the location of growth and interdependencies that is independent of the administrative boundaries (mainly municipalities and counties), that has dominated mappings of growth and development patterns until today.

The aim is also to combine different sources of data in an attempt to arrive at a more complete picture of the processes that are presently changing the Danish geography.

For the use of this paper we have benefited from access to basic data (mainly population and jobs) covering the years 1982, 1992 and 2002, distributed on the smallest geographical units in the newly established Danish datagrid (specifically 450.000 geographical units with information on jobs or population). Detailed information on the composition of jobs in a given area has been available for 8000 geographical clusters derived from the Danish datagrid. Interaction matrices for commuting has been available for 1390 geographical clusters and data on out-commuting has been available on the level of municipalities (271 municipalities) for the same points in time: 1982, 1992, 2002.

The main approach to analysis has been to draw maps of growth in population, jobs and jobs within the private service sector. The service-sector jobs can be seen as an indication of the development in access to services but will of course also reflect the transition of the local economy away from primary and secondary production (and/or towards "urbanisation"). The commuting and out-migration matrices are used to give an indication of the functional interdependencies within the country. Under the question of polarisation, distortions and directional biases in the interaction pattern is of course interesting, and it was chosen to focus on average commuting and migration directions (vectors), following the methodology of Rain (1999).

Maps:

- Absolute and relative growth in population, jobs and service-sector employment.
- Average commuting and migration directions for geographical areas (average vector).

Even though the force of detailed geo-statistics is that it allows for new maps to be drawn that are closer to the "reality on the ground", the 100x100 meter cells used here are also far too detailed to allow for a readable map of growth in Denmark to be presented. Aggregation is needed. For this purpose a kerneldensity function was used to smoothen the details of the 100x100 meter cells – to a level suitable for maps of Denmark (see figure 2 and 3). Thus, it is in some respects a step back from the fine-grained analysis theoretically possible on the basis of the small gridcells. However, it allows for maps to be drawn and it is still a considerable improvement compared to the stiff administrative boundaries, which have been used so far in delimiting or framing the geo-statistical and interaction datasources.

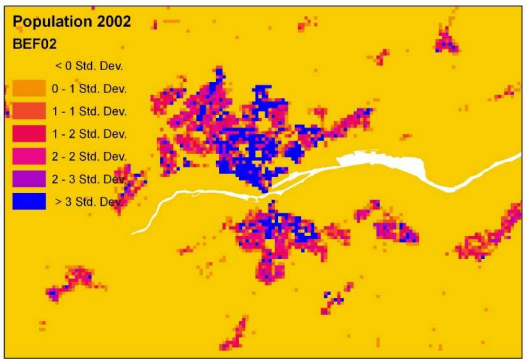

Figure 2: Map of population in the city of Randers based on the 100x100 meter datagrid as geo-statistical units.

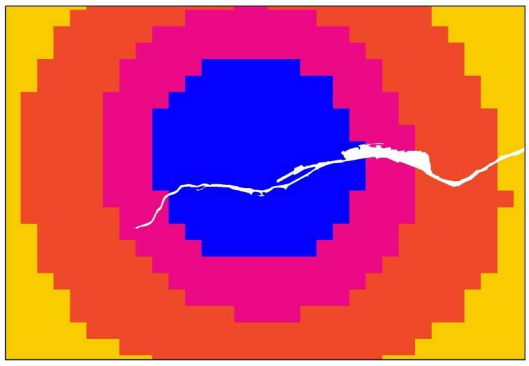

Figure 3: Same area and root-data as figure 2 aggregated by the means of a kerneldensity function. Specifically the population of each grid-cell was assigned to the centroid and the population of each "centroid" was assumed to be normally distributed with SD=3 km. The resulting aggregate/averaged densities was summarised on a 500x500 meter grid.

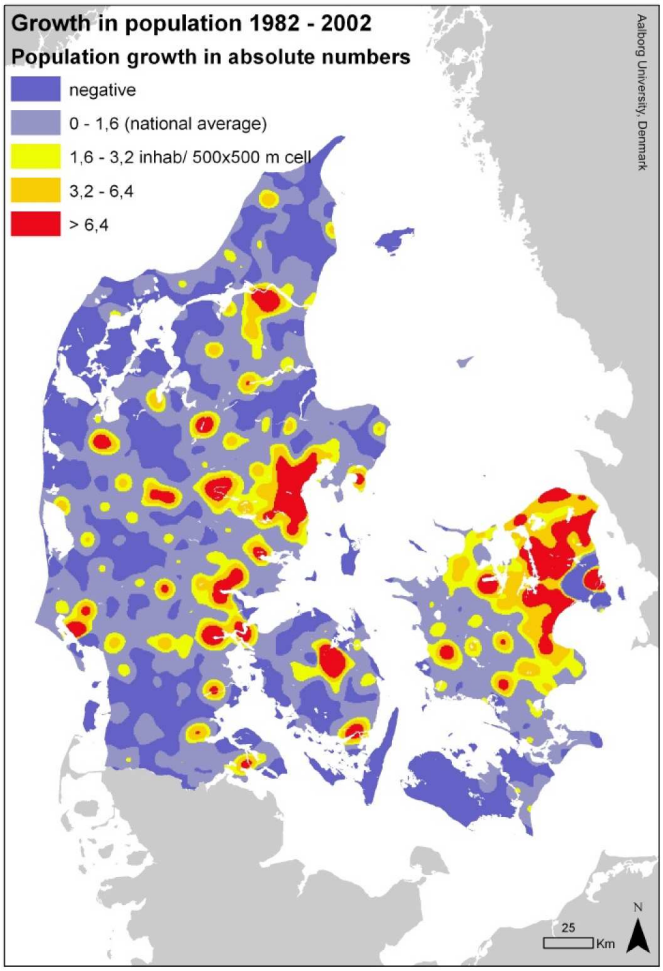

Figure 4: Population growth in absolute numbers for Denmark in the period 1982-2002.

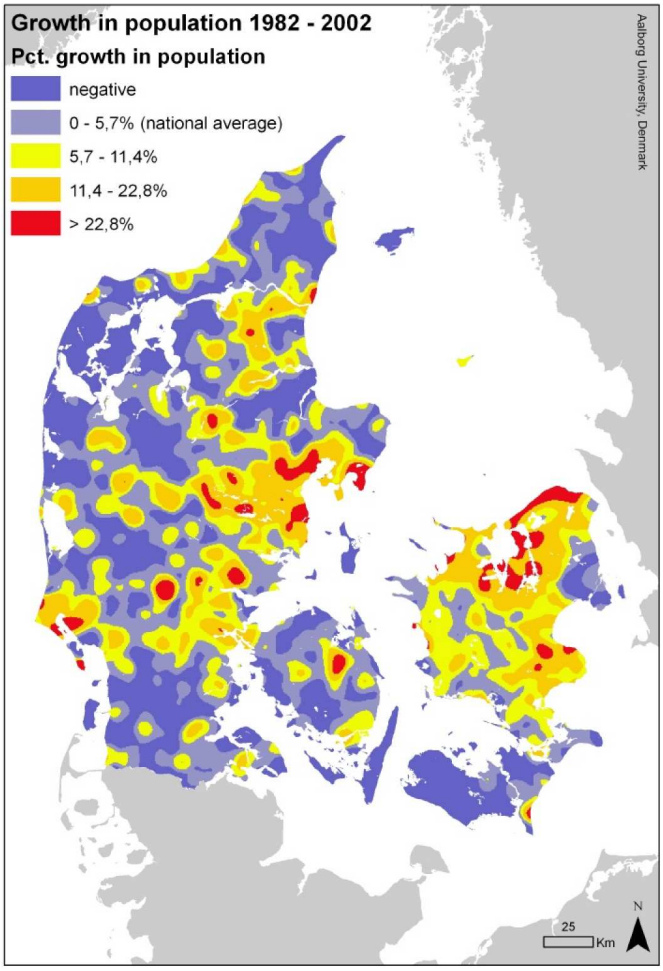

Figure 5: Relative population growth in Denmark in the period 1982-2002.

TENDENCIES TOWARDS POLARISATION?

Population-growth

The highest growth rates in absolute numbers is associated with the largest cities or the established urban system in the meaning of the areas that historically has contained the largest cities and the highest population densities. Thus most of the areas outside the vicinity of the larger cities displays below average growth rates and in some relatively peripheral areas the population is declining. The capital, Copenhagen is an exception. The population development around the capital seems to be polarised with the younger suburbs as one pole and the core as the other. The older suburbs in between has undergone decline in the period from 1982 to 2002.

High relative growth in population is also related to the established urban system but includes larger areas as the population growth associated with the urban areas also affects the development of the small cities and rural areas between the larger cities. High relative growth rates especially occurred around the capital and in east Jutland (south of the fjord, Limfjorden). Large areas primarily with a peripheral location vis-à-vis the densest parts of the urban system (the Capital and the east coast of Jutland) display growth rates below average and thus contain a decreasing share of the country's population. In parts of the periphery not even the largest cities have been able to keep up with national growth rates. This applies for instance to north-west Jutland (separated from the rest of the country by the fjord) and for the islands Lolland and Falster to the south of the Capital Copenhagen.

There are however also some interesting deviations from the established urban system to the geography of population growth rates. As an example the cities along the west-coast of the northern part of the peninsula of Jutland has experienced high growth – especially when one takes into account that these "islands" of growth – outside the established urban system – is surrounded by declining areas. The attractiveness of these sites along the coast is probably an important reason for this development. The tendency is also visible around the Capital Copenhagen where the highest growth rates in population especially occurred along the northern coast of Zealand and along Roskilde Fjord.

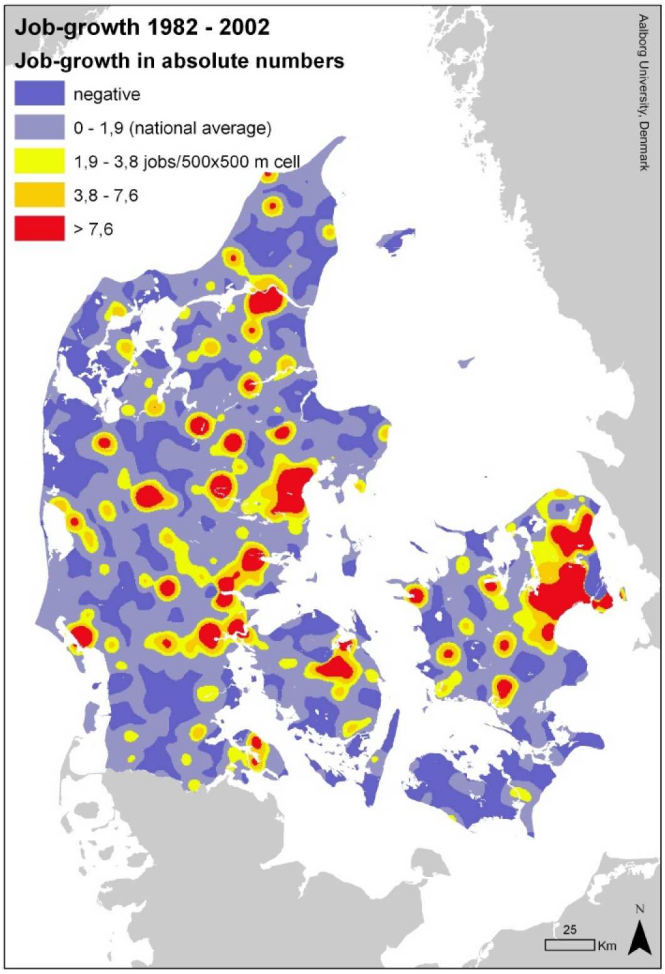

Figure 6: Job growth in absolute numbers for Denmark in the period 1982-2002.

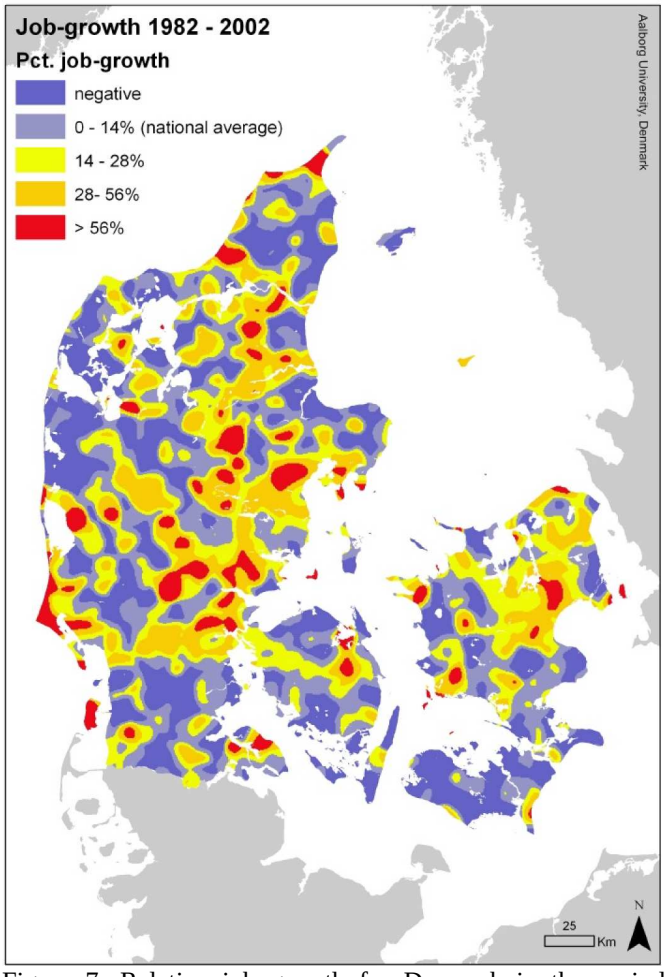

Figure 7: Relative job growth for Denmark in the period 1982-2002.

Job-growth

Like population growth – job-growth in absolute numbers is related to the established urban system. The highest growth rates occurred in or around the large cities. For the countrys two largest cities job-growth – as an economical model of urban form would suggest – occurred somewhat closer to the core than population growth. For many of the countrys mid-sized cities this is however not nesserily the case as a large proportion of job-growth is associated with externally located business areas (e.g. Aalborg, Odense). The Capital is again a special case as the core and the old northern suburbs experienced a decline in jobs from 1982 to 2002. This trend was reversed in the nineties – but not (yet) enough to counterbalance the loss of jobs through the eighties.

Most of the countrys surface can be characterised by below average growth rates in absolute numbers and some areas also by decline. The location of areas with a declining number of jobs corresponds well to the areas with declining population or below average growth. However the areas marked by job-loss are smaller that the areas marked by declining population. Turning to the relative growth in the number of jobs a difference between population development and job-growth can also be seen as job-growth seems to penetrate further out into the periphery than population growth, which is more narrowly related to the largest cities. This indicates that present population dynamics cannot be explained through access to jobs alone.

Generally high rates of job-growth occurred around the largest cities – in the most urbanised parts of the country. However, job-growth deviates more from the established urban system than the growth in fore instance population. Thus, there are numerous high-growth sites that are withdrawn from the dominant north-south axes of development in Jutland – and there is a marked tendency for the growth areas to form axis of development along the road network – especially on the island of Funen and on the peninsula of Jutland. Despite these tendencies to “break off” from the established urban system – the Capital /Zealand and east Jutland south of the fjord, Limfjorden remain the most favoured - and the peripheral areas in north, north-west and west Jutland, north and south Funen and the islands south of the Capital: Lolland and Falster remain the least favoured.
It is noticeable that the fjord, that cuts across the peninsula of Jutland, east-west, seems to act as a boundary that demarcates peripheral areas from areas experiencing growth.

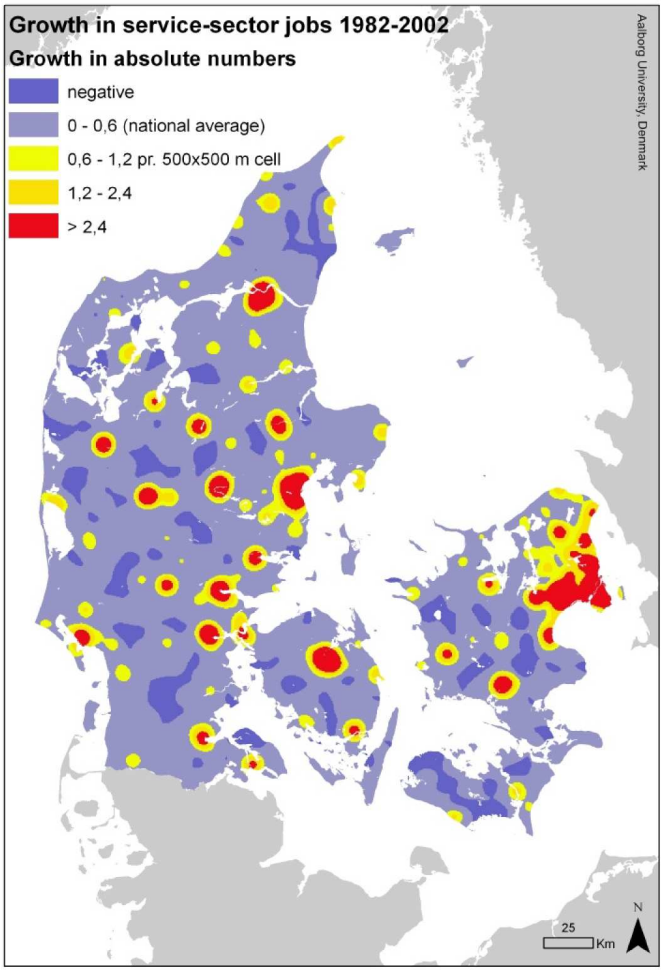

Figure 8: Growth in absolute numbers for private service sector jobs 1982-2002.

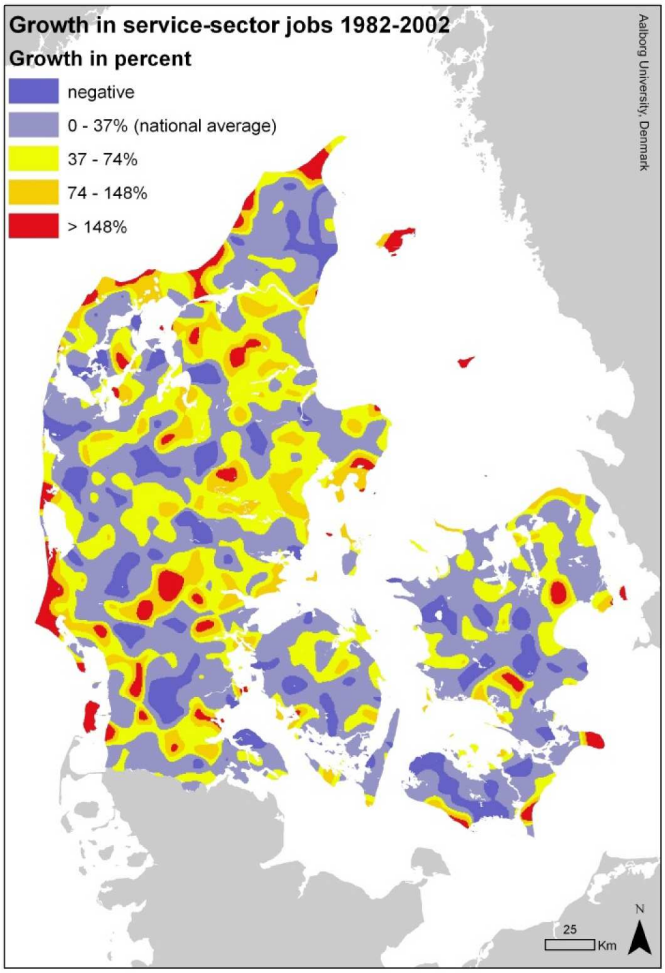

Figure 9: Relative growth in service sector jobs, 1982-2002

Service-sector job growth

The growth in private-service sector jobs gives an indication of the modernisation of the local labour market away from primary production and industry and the development in access to services – a factor, which is likely to be important in explaining the conditions for development in any given area – in an urbanising society.

The absolute growth in service-sector employment is generally more centrally located in the largest urban areas than population growth and job-growth. Even though job-growth shifts away from the historical centre in many of the larger cities, service-jobs seems to remain clustered around the core. Most of the country is below average when the service-sector job-growth is measured in absolute numbers however only small areas has experienced actual decline in these jobs. This of course reflects the general change towards a service based economy.

Returning to the special case of the capital – the core area has experienced strong growth in service sector employment in spite of the overall loss of jobs that characterised this area in the period from 1982 to 2002. Thus the core of the capital seems to maintain and strengthen its position as service centre even though its role as employment centre has been reduced.

The growth in service-sector employment in relative terms generally reveals strong growth in conjunction with the country's largest cities. The specific circumstances do however vary a bit as some cities (fore instance Copenhagen) has low growth in the core – and higher growth rates in the suburbs whereas other cities (fore instance Århus) has high growth rates all over. The high growth rates on the west-coast of Jutland adds to the explanation of the job growth in these areas - and highlights the special conditions for development of the attractive coastal zone.

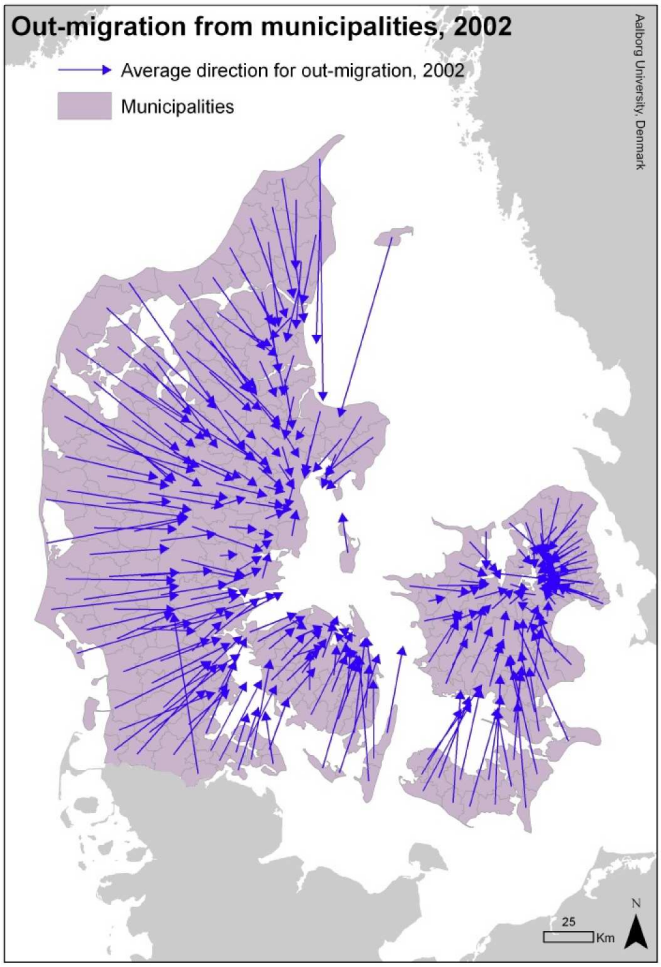

Figure 10: Average out-migration from the present 271 Danish municipalities in 2002.

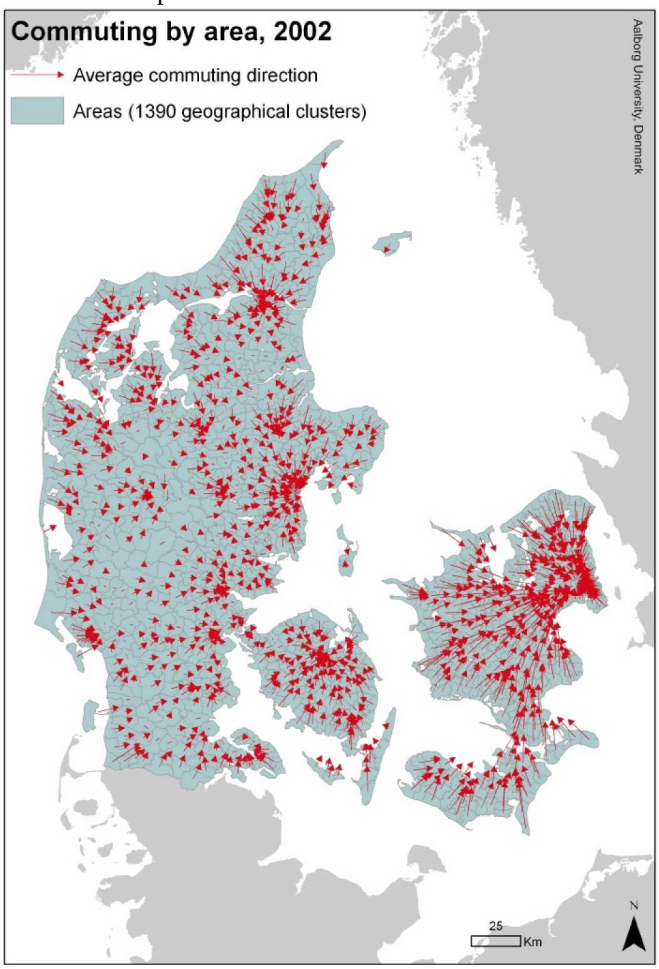

Figure 11: Average commuting direction in Denmark from 1390 geographical clusters in 2002.

Migration and commuting

The maps, which displays average migration and commuting directions from municipalities and geographical clusters provides an indication of the interdependencies, which exist between the different parts of the country. The increasing dependency between the periphery and the core/growth areas is clearly visible.

Out-migration has a strong directional bias towards the country's growth centres and population centres in east Jutland and the capital. This pattern has not changed much over the past 20 years. This reflects that distance dependence is limited when it comes to out-migration from municipalities and that most of the places "to go" is located in the direction of the growth areas. This also means that Denmark must be seen as a very integrated area when it comes to migration.

The average commuting direction generally points towards the same biases as the migration direction. It should be remembered that commuting within the geographical cluster is included in the calculations and that distance dependence is much higher when it comes to interactions undertaken at a daily basis – therefore the length of the arrows (the average directional bias) appears much more limited on the commute maps. However looking at the peninsula of Jutland fore instance – the general picture is one of a directional bias towards the growth areas in the east. The directional bias is reduced in some areas depending on its location vis-à-vis larger cities but a direction towards east and south-east remains "downstream". Similar maps has been used by the US bureau of census statistics as an aid to delimit statistical metropolitan areas. In large parts of Jutland no such independent areas can be distinguished on the maps. Only the largest cities in east Jutland on Fuenen and on Zealand seems to dominate the commute patterns sufficiently to be the dominant focal point for commuting from the surrounding areas.

The commute patterns have changed over the past 20 years. Looking fore instance on some of the peripheral areas characterised by decline or low-growth in population and jobs: the area to the north of Limfjorden in Jutland and the islands of Lolland and Falster to the south of the capital, it is clear that in these areas commuting directions have changed from some local "criss-cross" partly defined by small employment centres in the area – to a uniform directional commuting bias in the direction of the larger growth centres (Aalborg and Copenhagen). This reflects increased dependence on the growth areas – extended commuting and to some extent the availability of cheap housing in these areas that can be bought by people willing to commute long distances to the larger cities.

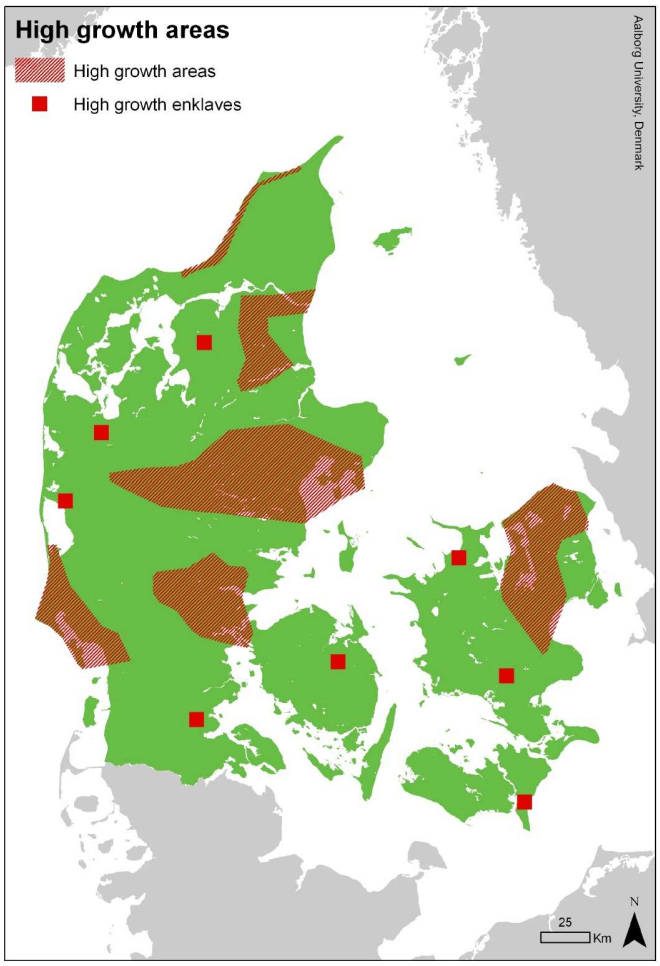

Figure 12: Areas characterised by high rates of growth in population, jobs and service-sector employment.

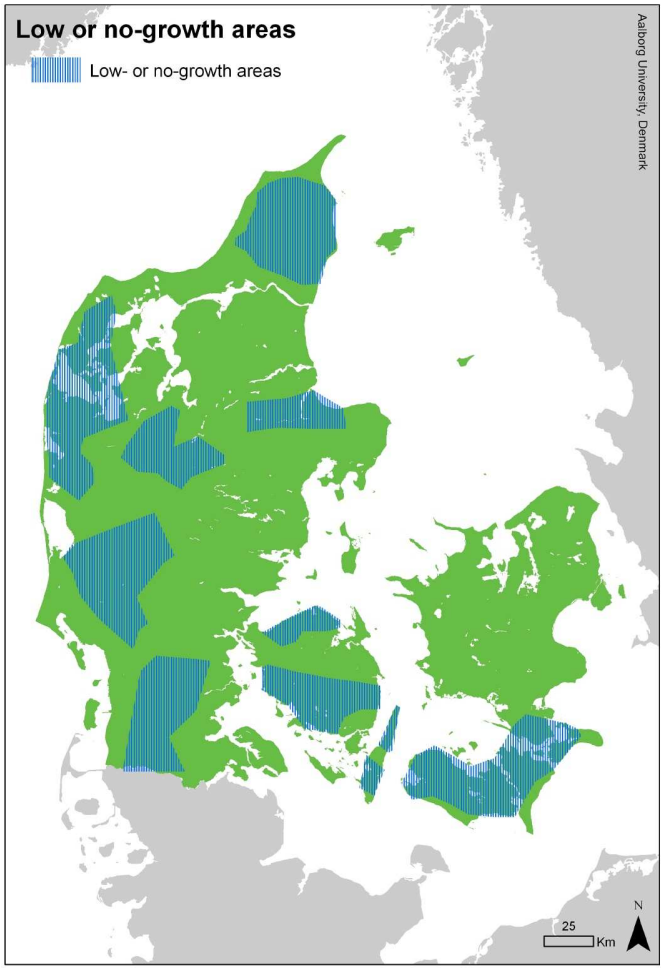

Figure 13: Areas characterised by below average rates of growth in population, jobs and service sector employment.

Summary on growth trends

The GIS-based analysis reveals that a polarisation between peripheries, which generally looses in shares of population, jobs and service-sector employment – and a number of areas – generally in conjunction with the most densely populated parts of the country – that generally gains in shares of total population, jobs and service-sector employment.

For the purpose of summarising, the findings from the thematic maps, areas and enclaves that across categories - consistently display high relative growth rates or below average growth rates are shown in figure 12 and 13.

High growth areas

Based on the maps of relative growth a number of areas and separate enclaves that has more than the double of national average growth in population, jobs and service-sector employment can be identified. The largest areas is located in east Jutland and around the capital.

Low growth areas

The high-growth areas are contrasted by a number of below average growth areas (areas that have below national average growth in population, jobs and service sector jobs). The low growth areas generally contain areas with decline. In some areas – fore instance the islands of Lolland and Falster – and the areas to the north of Limfjorden (Vendsyssel) – a declining number of inhabitants and jobs characterises large parts of these regions. These “lagging” regions are generally located in areas that are peripheral to the established urban system – that is, the areas that historically have been the sites for the largest cities and the largest population densities. The “lagging” areas on the island of Fuenen can be seen as an exception to this as these are located close to one of the country’s largest cities and in a central location between the country’s population centres.

Interdependencies

The maps on migration and commuting suggests that interaction patterns generally focuses on the largest urban areas in east Jutland, on the city of Odense on the island of Fuenen and on Copenhagen on the island of Zealand. In the case of the peripheral areas of Vendsyssel and Lolland-Falster the past 20 years of development has markedly increased their orientation towards growth centres outside their local boundaries. This development suggests that the declining periphery becomes more dependent on growth centres relatively far away. As such the analysis witnesses polarisation tendencies not only in the crude sense that areas are increasing or loosing in share of population, jobs etc. – but also in the sense that the lagging regions are increasingly turning towards the growth regions as a source of income made possible by external commuting and as the most likely future place of residence for people leaving their municipality of residence.

PLANNING CHALLENGES

The underlying premise of this paper is that central governments have an obligation to intervene to adjust regional inequalities in order to promote a more balanced spatial and economic development. At the very least governments have the duty to address potential spatial imbalances on a regional scale in their respective countries.

This obligation to intervene in the regional and spatial economics has not dimmed or become less pressing as we begin to tackle the challenges of a new century. On the contrary, the results from our study into the potential polarisation of Danish spatial economics imply that the need to intervene or at least address regional imbalances in our economic and spatial development has never been as great as the present time.

The increasingly polarised spatial and economic development, which Denmark has seen for the past 25 years, in terms of overall population- and job growth, growth in service-sector jobs, as well as migratory- and commuting patterns constitutes a clear and present challenge to not only society as a whole but also to spatial policies and planning. A persistent uneven distribution at the sub-national or regional level of the fruits of economic development could, if not addressed, lead to the slow but steady degeneration and dismantlement of the welfare state. A decline, which in turn could potentially lead to a geographically biased inequality, which again in turn could challenge the internal cohesion of the Danish society as a whole.

Whether we as planners take on this challenge or remain in our pods is of course to a large extent a rhetorical question, since the bases for and direction of any real planning action depends on the political climate of the day.

Policies invented and implemented during the New Right era in the United Kingdom and in the USA have had a profound spill-over effect on the spatial planning policies of successive Danish governments throughout the 1990'ies and in to the new millennium. Governments of both conservative and social democrat observance have for the last 15 years pursued a rigid policy of promoting national economic development, which, irrespective of its potential consequences for the subsequent growth or decline of individual regions or urban centres, has encouraged individual cities and city-regions to increase their individual competitiveness on a national and international level. Much like in the United Kingdom (Martin, 1988; Gaffiken and Warf, 1993) this reorientation of the economic and spatial planning policies could be viewed as a more or less implicit attack on the Keynesian welfare state with its emphasis on collectivism and public intervention into the market processes.

Irrespective of whether the economic and spatial planning policies of today favour public intervention in the market or not, and irrespective of whether we as planners subscribe to an intervenistic view, our study clearly indicates that the polarisation processes in Denmark over the last 25 years have progressed to a point where all regions in the country are affected and where no region is left unchanged either economically or in spatial development terms. Even a relatively small and homogenous country as Denmark is not immune to spatial and economic specialisation, which in retrospect should not have come as a surprise. If history has taught us anything, it is that spatial specialisation occurs whether we want it or not.

As with all processes of spatial and economic change, there are winners and losers. Unfortunately, the winners and losers are not evenly dispersed throughout the geospatial landscape of our countries, and so we as planners are faced with a multitude of different problems and questions. Problems and questions, which at best can be solved and answered using existing legislative and planning tools, or at worst force us to re-examine and re-orientate our existing toolboxes.

Our study clearly indicates that the regional landscape in Denmark seems to move towards a polarised urban system characterised by a series of growth centres and a declining or lacking periphery. These growth centres, urban fields, or metropolitan areas are to some extent linked by a growth corridor running along the principal transport routes in the country interlaced by a more or less well-defined network of below-average or depressed areas and regions with a stagnating or declining economy and spatial development. It is therefore clear, that one of the first challenges we as planners face, is that we have to diverge from the traditional dichotomist view of the spatial landscape being either rural or urban.

In line with Cloke (1977) and Cullinae and Stokes (1998) the polar dichotomy between urban and rural is increasingly being questioned; both in terms of defining what is rural and what is urban, since the transition from rural to urban very rarely is an abrupt transition, but rather a more gradual one; and in terms of the applicability to planning of differentiating between rural and urban – especially in a world of urban fields. The current Danish Planning Act does not reflect this, rather successive changes to the Planning Act from the 1970'ies and up until the present day has consistently emphasised the urban-rural dichotomy to the point that, crudely put, urban spatial planning matters are the sole providence the municipalities, whereas spatial planning in rural areas is administered by the regional authorities. The local government reform and the associated changes to the spatial planning system in Denmark will change this by giving the municipalities the sole responsibility of spatial planning in both urban and rural areas.

A redefinition of the urban-rural aspects of spatial planning is however only one aspect of the planning challenges, that the emerging urban fields, amenity environments and growth poles confront us with. How should we intervene into the spatial and economic dynamics of such regions and which regional intervention strategies should we apply?

Haggett (2001) points to three different overall strategies, which governments can apply in an attempt to intervene in the regional growth processes. The first strategy is investment in the public sector. The second is to attract private sector investments in a region by offering various inducements to business in the private sector. The third is to offer inducements to individuals and households to either locate in or leave a specific region. Successive Danish governments have at some point or the other during the last 25 years utilised at least one of these strategies, and as often as not have had several complementary strategies running alongside one another at the same time.

Short of setting up special economic zones (as China or North Korea), Denmark has through the post-war period brought into practice a wide range of different strategies in its bid to develop the regional economies of the country. Massive

public investments have thus for the last 30 years gone into improving the basic spatial infrastructure of the country. Large portions of these funds have gone into creating a comprehensive and cohesive network of motorways throughout the country (Jørgensen, 2001). With regards to these motorways, the main purpose of these has been to connect the main urban centres in the country rather than improving the plight of depressed regions or regions of need (Hovgesen and Nielsen, 2004a). With the exception of the two motorways in the northern part of Jutland, there is little evidence to suggest that the remaining part of the motorway network has had the explicit goal of providing growth to underdeveloped regions in the country. This may however be changing, as the most recent investment plans (Ministry of Transport and Energy, 2000) for the further development of our system of motorways seem to focus not only on the expansion of existing stretches of motorway, but also on improving the infrastructure base of some of the lesser developed regions in the country. Construction has thus begun on a new motorway connecting the southern part and underdeveloped part of the island of Funen with the country's main east-west running motorway.

However, it must be stressed, that the overriding priority of the infrastructure investment plan is clearly aimed towards consolidating and expanding the main motorways and rail links, which link the primary urban centres of the country. A priority, which has become a more and more established necessity with the merging of established urban centres into growth pole oriented and relatively densely populated mobility based urban fields with large catchment areas. Ironically, one is left with the feeling, that the pursued spatial strategies up through the 1990's to the present day of challenging large amounts of public money and political capital into the main urban centres has created a backlash in the form of sky-rocketing of housing prices in and around the main urban centres, a marked increase in commuting and the inevitable congestion problems that follow. A backlash, which effectively defines many of our spatially determined problems and thus in reality increasingly dictates much of the present day spatial planning in Denmark.

Aside from the highway scheme very little public money has gone into other types of investments into the infrastructure base throughout the more provincial and outlying regions in the country for the last 15 years. Up through the 1980's and prior to the beginning of the 1990's a policy of dispersal seems to have been followed by the Danish governments of that time, where public funds were distributed evenly throughout the regions of the country – often at the expense of Copenhagen and the capitals hinterlands. This changed dramatically in the middle of 1990'ies. Instead of and in full co-ordinance with the aforementioned paradigm shift in the spatial development policies of the time, massive public investments have from around 1995 been redirected from the rest of the country and poured into the greater Copenhagen area with the explicit aim of improving the infrastructure in and around the nations capital (Gaardmand, 1993; Hovgesen and Nielsen, 2004b).

"It is the opinion of the government, that an international strengthening of the nations capital would be in the interest of the whole of Denmark [our translation]."

(Spatial Planning Department, 1992:17)

This expansion of the infrastructure base in the capital city took on many forms throughout the last decade of the last century. Aside from expanding the network of motorways in and around the capital city, a metro-system was commissioned and built, a combined bridge and tunnel to Malmø in Sweden was built and the International Airport in Copenhagen was expanded. The effort to strengthen the competitive advantages of Copenhagen also led to the creation of urban development coorperations and massive urban development and redevelopment schemes were set up to redevelop the harbour of Copenhagen as well a huge, highly accessible, and previously undeveloped tract of land between the centre of Copenhagen and Copenhagen International Airport into attractive business and residential areas.

The increasing level of investments in the capital area is for one thing likely to ceteris-paribus reduce investments in other parts of the country. Another – and given the population development revealed by the maps - probably more important effect is that the investments helps to increase the profile and attractiveness of the Capital. Even though the general intention behind the 1990´s government interventions in the capital area has been to raise the attractiveness of the Danish capital in Europe and the world these efforts are likely to send repercussions through the Danish urban system as well. The large cities – and especially the capital – has experienced population growth and the periphery a decline - relatively independently of job-growth. A plausible interpretation is that these cities increasingly are seen as attractive "amenity environments" to live in. The question remains haw far this "trend" stretches and what there can be done to increase the attractiveness of the more rural and peripheral areas?

In some areas cheap and attractive homes in rural settings within reasonable commuting distances from larger urban areas could be part of the answer. The Danish government is presently attempting to stretch this option by offering an increased tax-deduction for commuters residing in designated peripheral communities. However, in some of the peripheral areas in west Jutland a tax deduction will of course increase the options but the distances are too long to make it likely that state-financed "extended commuting" is likely to make a significant contribution to the maintenance of the population base in the area.

Finally, we should perhaps bear in mind that:

"The questions of social justice in the distributions of the fruits of economic development are as important and as difficult in terms of regions as in terms of social classes."

(Friedmann and Alonso, 1964/1972:1)

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