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Conference Paper

A new regional balance: Challenges and opportunities for intermediate city regions in Europe

54th Congress of the European Regional Science Association: "Regional development & globalisation: Best practices", 26-29 August 2014, St. Petersburg, Russia

Provided in Cooperation with:

European Regional Science Association (ERSA)

Suggested Citation: Cornett, Andreas P. (2014) : A new regional balance: Challenges and opportunities for intermediate city regions in Europe, 54th Congress of the European Regional Science Association: "Regional development & globalisation: Best practices", 26-29 August 2014, St. Petersburg, Russia, European Regional Science Association (ERSA), Louvain-la-Neuve

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54th Congress of the European Regional Science Association

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A new regional balance: Challenges and opportunities for intermediate city regions in Europe.

Abstract:

The regional landscape in Europe has changed during the last decades. After a period of conversion, processes of diversion has reentered the scene. In the aftermath of the economic crisis South European countries and regions have suffered due to declining economic activity. The trend toward regional economic convergence has been interrupted, not only in a regional perspective, but also country wise. In particular the latter is a direct impact of the financial crisis and the European debt crisis.

A closer look behind the processes of conversion and disparities in the last decades unveils a more complex pattern, also before the current crisis. In most EU countries the trend toward conversion of economic performance between countries disguised an intraregional trend toward polarization, with growing metropolitan regions and shrinking rural areas. Prominent features of this process in the non-metropolitan regions were outmigration, aging population and a shrinking economic base. Central explanations have to be found in new economic growth theories and structural changes in the international system of production.

The purpose of the current paper is to investigate these patterns with special attention on *intermediate city regions*, usually located in the vicinity of the large urban agglomeration or farer away in the country. The project is both explorative and explanatory, aiming at to detect and define types of 'intermediate city regions' and to identify the drivers of change, based on the above mentioned conceptual anchors. The central research question is to what extent the processes characterizing the urban rural cleavages; also apply to the current situation of intermediate cities. Who are the winners or losers in this polarization process, and what characterize the well performing intermediate city regions?

Danish evidence points toward a mixed pattern. Central and economically well-structured city-region can maintain growth; more peripheral located city-regions face problems. In the short and medium term some city regions seems to benefit from restructuring of the public sector in the aftermath of the reform of the regional and municipality organization in Denmark, by attracting workplaces and people from their rural neighborhood. In the longer run the fundamental shift in business and industry away from traditional manufacturing and service toward knowledge intensive service and products may become decisive for the success of these regions.

Key Words: structural change - new economic growth theory - medium-size city regions - processes of conversion and diversion – the new regional (im-)balance.

JEL: R 1 - R11

Paper for the Special Session 'Regional and urban impacts and consequences of the economic crisis' at the 54th ERSA Congress in St. Petersburg, Russia, August, 26th-29th, 2014.

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1. Introduction

The regional landscape in Europe has changed during the last decades, and also the focus on the nature of the regional issue has altered. After a period of focus on processes of conversion and diversion within and between countries more attention again is on the urban rural aspects of these processes. The purpose of this explorative study is to identify the drivers of regional change with special attention on the urban rural and city- size issue, as a supplement to the traditional focus on inter- and intraregional convergence and divergence.

In the aftermath of the economic crisis South European countries and regions have suffered due to declining economic activity. The trend toward regional economic convergence has been interrupted, not only in a regional perspective, but also country wise. In particular the latter is a direct impact of the financial crisis and the European debt crisis. Parallel to these mainly macroeconomic induced trends growing attention is on the implication of the new division of economic tasks on different types of urban regions, i.e. metropolitan and capital regions on one side¹, and regions with smaller urban agglomerations on the other, i.e. the so-called ‘second tier’ cities and city-regions (see van Oort 2014), but also smaller agglomerations are affected. The later type of cities and city-regions are the main objective of the current paper.

The central research question is to what extent the processes characterizing the urban rural cleavages; also apply to the current situation of intermediate cities. Who are the winners or losers in this polarization process, and what characterize the well performing intermediate city regions?

The next section presents the overall conceptual and empirical framework of the analysis with point of departure in new economic growth theory as theoretical anchor for the analysis of the drivers of regional economic growth in general and the alteration of the inter- and intra-regional balance in particular. Furthermore this section provides a brief assessment of the spatial economic and urban landscape in a European regional perspective. Section three investigate the impacts of economic change along an urban rural dimension in Denmark with special attention to small and medium sized city regions. The most important findings and implications are summarized in the last section.

¹ The focus of this article is not the global or European competition between megacities or the largest metropolitan areas (see a European assessment see European Commission 2013 & European Union 2011, with special attention on the consequences of the economic crisis). For an early assessment in a European and North European context see Storstadutretningen (1990). In general city competition has come into focus; see Giffinger ed. (2005) for a Central European Perspective.

2. Context and Framework.

Convergence and divergence in economic development have been crucial issues in the European Union since the early years of European integration. The focus of the issue has shifted during the years. The dominant dimension has always been on convergence or the lack of convergence between countries, since the early 1990's reinforced by the process of economic and monetary integration¹. The second focus, in particular within the member state has usually been on the urban rural dimension. Structural change in business and industry, initiated through external shocks or by the process of integration itself has been the most important driver of regional alterations in Europe. Nowadays changes in the international system of production and the ability of countries and regions to adapt to these processes are of particular importance. This has reinforced the interest in the modification of the role for cities, their vicinity and in particular, the role of different categories of cities. In this context innovation and entrepreneurship are among the key factors of economic growth and competitiveness. Current strategies of policy (European as well as national and regional) are often derived from the concepts based on new economic growth theory, highlighting non-linear growth factors. These are predominantly based on a factor endowment favoring larger urban areas. This section of the paper provides a brief introduction to the empirical and theoretical aspects of the issue.

2.1 New economic growth theory² and the process of convergence and divergence

The reason d'être of regional development efforts is closely linked to the fact that some regions perform worse compared to others, and that this leads to a (comparative) derogation of the quality of living, and will create unequal conditions within a country or Europe as a whole. These complex processes vary over time, and are dependent on external as well as internal factors. This section will sketch some light on theoretical based explanation, before section 2.2 turns into a brief empirical assessment.

Traditional economic growth models have their focus on capital and labor as growth drivers. This type of growth has contributed significant to the reduction of international disparities within the EU area for several decades until the beginning of the 21st century. Since the end of the 1990's the pattern has changed, in particular in the mature industrial societies in North Western Europe. More refined concepts of growth and new growth models are operating with a wider range of growth

¹ For a general discussion and assessment until the introduction of the Euro see Cuadrado-Roura & Parellada(ed.) 2002.

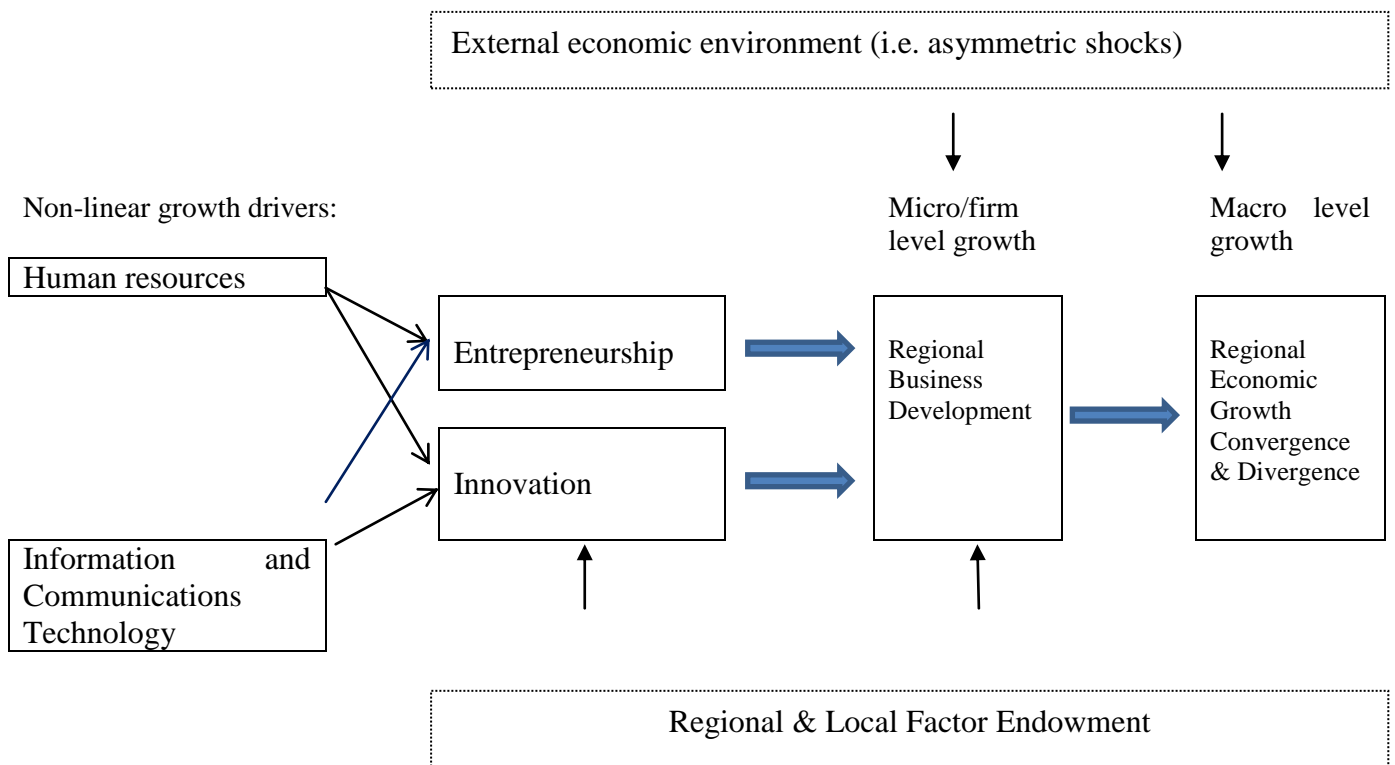
² This section is slightly revised version of a paper presented at the 17th Uddevalla symposium June 12-14, 2014 in Uddevalla, Sweden, originally based on Cornett (2013a).

drivers nowadays, and will have increased importance in future, in particular in a global perspective. Central factors like human capital, knowledge and innovation and even intangible factors like entrepreneurial spirit (Audresch 2006) are in the center of economic development policy. It has been recognized that some of the mechanisms behind economic growth are endogenous in a certain economic system rather than independent of previous performance (see Romer 1994). Innovation and the capacity to innovate are central factors for economic growth and regional development in this new context. The set-up of the regional and national system of innovation becomes crucial for the functioning of a modern business environment. Innovation has to be seen as both independent variable (i.e. a growth driver) and as a dependent variable with regard to policies aiming at stimulating innovative behavior in the firm or educational sector. In this perspective, the role of knowledge and innovation is at least twofold. In the short run, innovation and knowledge creation becomes necessary instruments in the process of regional adaptation to industrial change as a response to changes in the competitive environment. In a longer perspective, innovation and knowledge are preconditions for a successful restructuring of the economic base, nationally as well as regionally and locally. As a consequence, attention has been on the role of innovation policy in economic policy in general (i.e. OECD 2001), or Lisbon Strategy¹ or Euro 2020 (European Commission 2010) and on regional development in particular (see Acs & Varga 2002) and section 3 below.

Contrary to traditional growth theory in this non-linear approach to economic growth², the knowledge sector, innovation and entrepreneurship has become one of the crucial growth-drivers, and has attracted much attention a public policy perspective. Figure 1 below modifies the more common framework (see Cornett & Ingstrup 2010) with special attention on the nature of the mechanisms and the micro and macro aspects of growth, and the regional setting (i.e. the regional innovation system). In the current context the main focus is on the linkage between growth drivers and how they influent economic growth and development, direct as well as indirect, see figure 1 below. In particular the importance of innovation capabilities for regional growth and balance is assessed in a period of severe economic challenges regional, national as well as international.

¹ For an assessment of the original and the revised Lisbon Strategy see Mancha-Navarro & Garrido-Yserte (2008).

² For an assessment of traditional vs. new growth theory with special attention on to what extent growth factors are endogenous, see Solow (1994).

Figure 1: From growth driver to regional economic growth

Source: adapted from Cornett (2013a): 32

2.2 Dimension of convergence and divergence

The process of economic convergence and divergence determinates the degree of internal homogeneity and coherence with regard to the economic aspects of the societies or regional economic associations. In a study of the long-term development of regional disparities between European regions by Molle & Boeckhout (1995: 106) delimited the concept of coherence tentatively as:

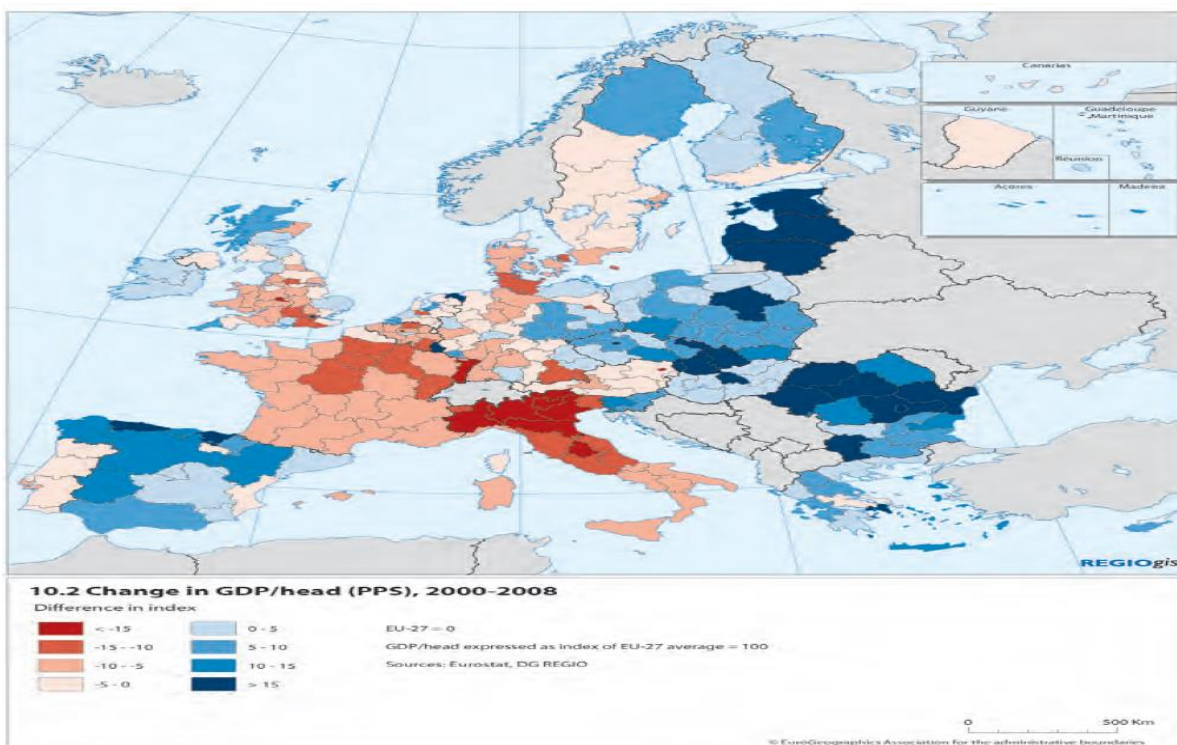
“The concept of cohesion is a rather vague one. It is probably best explained as the degree to which disparities (imbalances) in economic welfare between countries or regions within the European Union are socially and politically tolerable. In practice, indicators like income per capita are used to measure disparity. We assume that an increase in disparity is detrimental for cohesion and vice versa”

Regional economic cohesion is to a large extent the result of existing homogeneity or created through a process of convergence. If processes of divergence dominate, inter regional cohesion will usual disappear or be reduced over time. Convergence implies that in economic terms in the long run a pattern of steady state growth will be reached. The long term trend before the economic crisis and the factor behind the pattern of spatial and regional change (European Commission 2009, better

known as the ‘Barca report’) are still operating, but the impacts of these factors has become more diverse after the financial crisis and the European debt crisis.

Economic development in the last two decades has in most developed countries been characterized by two overlapping trends. The long-term trend toward a change in the global system of production, away from traditional manufacturing and products with relative low knowledge content, has been visible since the early 1990’s. This trend was further powered by the break-up of the Iron Curtain and the introduction of a marked economy in the former command economies of Eastern Europe. The development of new marked economies, but probably more important, the opportunity to take advantage of new locations with an affordable and well educated labor force for production and service functions just outside the doorstep of the industrial centers of Europe. The global financial crisis in 2008 and the European debt crisis in 2010, was reinforcing the trend by a number of short-term chocks, first and foremost in the so-called ‘PIIGS’ states¹.

Figure 2: GDP/head 2010 (PPS)



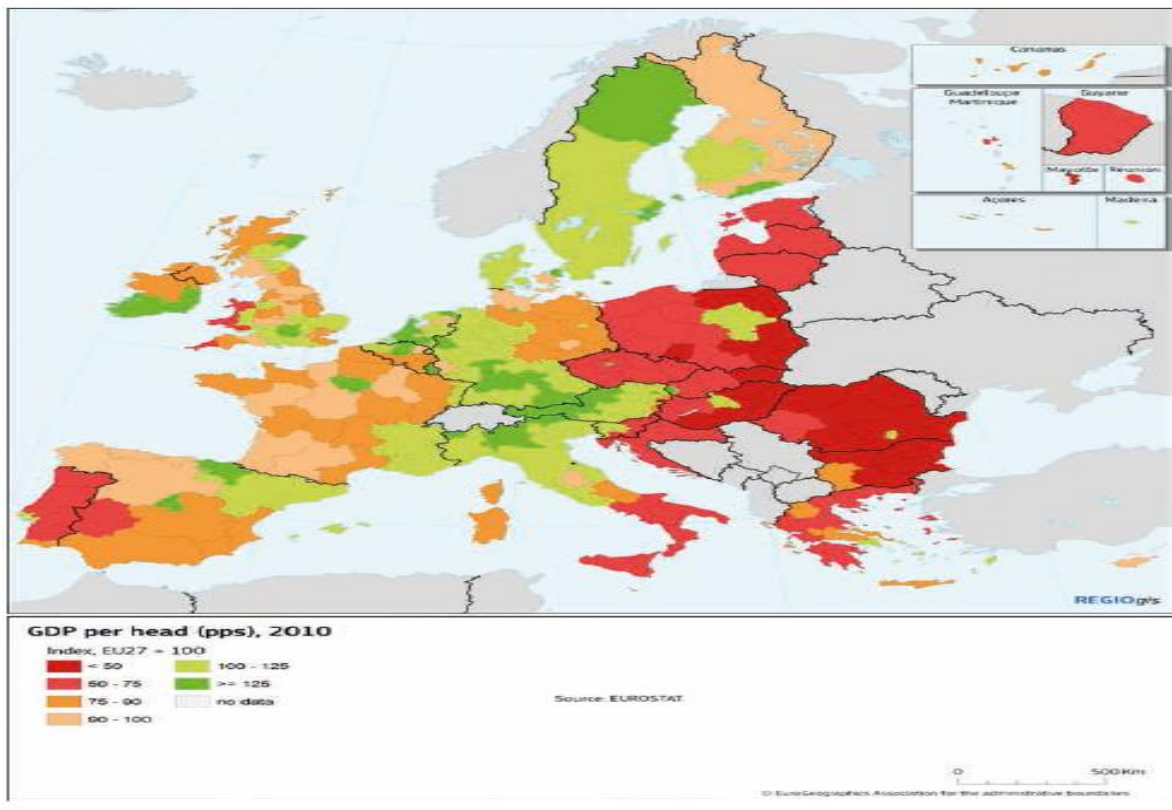
Source: European Commission 2013:45.

Turning to the national level the trend toward convergences between the EU member states debilitated (the North South divide among the Euro countries growth deeper) and on regional level the trend toward divergence continued in most of the EU. The maps in figure 1 and 2 shed additional light on the intraregional disparities and the development within the EU area as a whole.

¹ Portugal, Ireland, Italy, Greece and Spain, for details see Cornett 2013b.

The pattern is scattered, but common for all is a trend to become more divergent compared to the EU at large. Internal the urban-rural divide persists in most countries with increasing disparities between metropolitan and peripheral regions (see European Union 2010). In many countries the problem has become more complex, since the urban rural divide nowadays also has become increasingly visible on lower layers of the city system.¹

Figure 3: Change in GDP/head 2000-2010 (PPS)



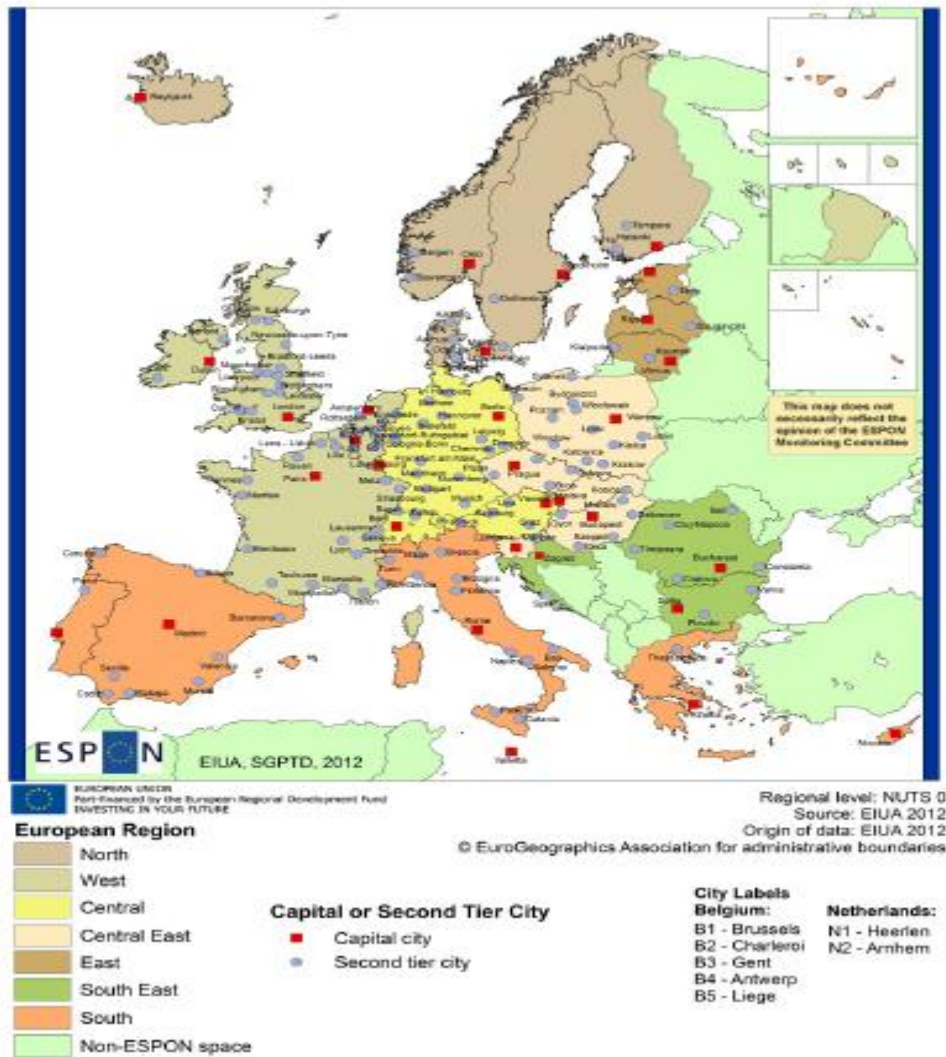
Source: European Commission 2013:45.

Processes of convergence and divergence on the regional level can hide the real forces behind, the interrelated forces of change in the international division of production and specialization and their significant different impact on metropolitan area, larger cities and rural area. A recent ESPON study (ESPON 2013) sheds some light on these processes with regard to the impact on ‘second tier’ cities in Europe. The study defines second tier cities: “...as those cities outside the capital whose economic and social performance is sufficiently important to affect the potential performance of the national economy” (ESPON 2013:3). The map in figure 4 provides a brief overview of the covered cities representing almost 80 % of the total urban metropolitan population. Many second tier cities

¹ The impact of the recession on various group of EU countries has been assessed in the Eighth progress report on economic, social and territorial cohesion (European Commission 2013). Surprisingly the 12 newest members (accessed 2004 & 2007) have been affected the least, with Poland as the best performing country (European Commission 2013: 19). A similar mixed picture can be found with regard to GDP and changes of GDP per capita in an urban-rural perspective (European Commission 2013: 22, 23 32 & 44).

contributes significantly to the more advanced knowledge based economic activities with regard to employment and trade in Europe (van Oort 2014). The crucial issue in the context of this study is to what extent the mechanisms at work can be transformed to ‘third or fourth tier’ cities.

Figure 4: Capitals and ‘Second Tier Cities’

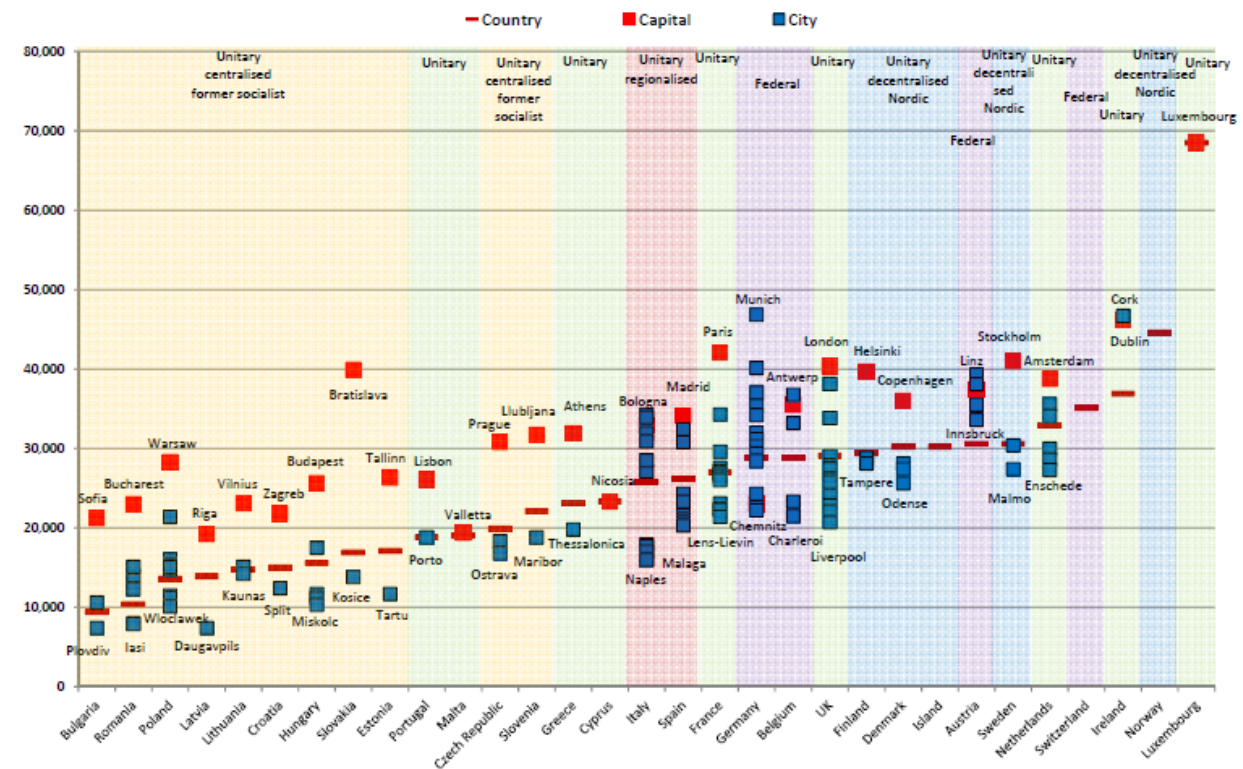


Note: The ESPON study is based on 31 capitals and 124 ‘second tier cities’ in Europe.

Source: ESPON 2013

In most countries the second tier cities are lagging behind the capital cities, but catch up took place in the years before the financial crisis. In general federal organized countries like Germany or Belgium have more and faster growing ‘second tier cities’, for details see figure 5 below.

Figure 5: Spread in GDP/cap. in PPS in capital and second tier cities 2007



Source: Eurostat

Source: ESPON 2013:14, based on Eurostat

The remaining part of this paper attempts to dig deeper into the issue and determinants of the process based on figures for Denmark, analyzing a third layer of cities: furthermore the geographical location in the national city system will be included in the analysis.

3. A new urban rural divide: The case of Denmark?¹

Throughout the course of history the political and economic balance has changed between countries, regions and even on the global level. Economic dominant regions lost their dominance or had been forced to alter their economic base. These adjustments have always affected economic life, the people, and cities and their vicinity². One may claim that these changes now are more frequent and maybe also takes place faster. The most crucial difference is probably that alterations nowadays take place in a global setting. This makes it more difficult, if not impossible for the nation-states to provide effective shelter against the wind of change. The global and all European implications have been mentioned in the initial part of this paper. In this section the intra-national development is in focus and in particular the implications for medium sized city regions. These regions often face special challenges as they often historical had a sound economy now contested by external threats.

From a principal point of view these regions have to be defined according to size of the urban area and the location in the country. In Denmark four principal types of location of these cities can be identified, i.e. the vicinity of the Metropolitan area of Copenhagen or in the 'East Jutland Urban Corridor, close to larger cities or more isolated locations. Table 1 provides a brief overview of urban areas in Denmark with more than 20.000 inhabitant's january1, 2013.

Table 1 Urban centers in Denmark with more than 20.000 inhabitants 2013

Inhabitants	Metro Copenhagen (1)	Vicinity of Copenhagen	Jutland city belt	Independent located
>1.000.000	1			
249.999 – 999.999			1	
100.000 – 249.999				2
50.000 -99.999			4	1
30.000-49.999		5	1	7
20.000-29.999		2		9 (2)

Note: (1) includes 18 municipalities or parts of municipalities with a total population of 1.181.239 primo 2013.

(2) Including Nørresundby part of the urban area of Aalborg

Source: Danmarks Statistik 2014.

The issue addressed her is predominantly to assess how this type of intermediate city regions are affected by the above discussed general trends. Somehow they may be caught in the middle. Not

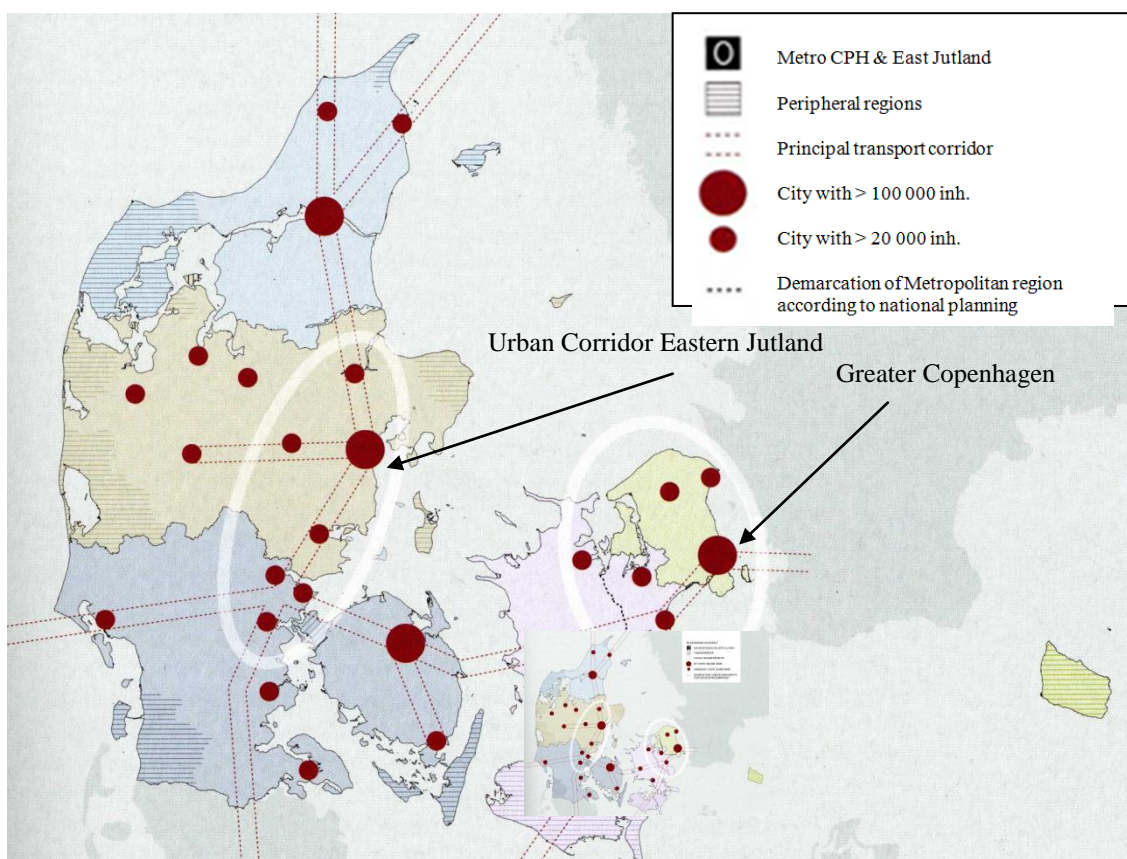
¹ This section is based on section 4 in Cornett (2013b, 222-224).

² See Christensen 1994, for an analysis of a period of significant change in the economic and political landscape of Denmark from 1960-1990.

really a rural region, but neither a sustainable city region. From an institutional (municipality) point of view they may cover large areas and often with a sufficient population base according to the type of (public) functions to be maintained. A good example of this is the municipality of Sønderborg. The city study belongs to the group of smallest cities in table 1 above. Sønderborg was ranked 23 out 33 city areas. The municipality as whole has 75.707 inhabitants ranked 1 in the group of independent located cities according to the map in figure 6¹.

The category of cities and city regions addressed in this section is usually not focused on that much in the Danish debate, since the problems of the ‘real rural’ and peripheral parts of the country are more urgent, in particular due to the consequences of the municipality reform 2007. Since many municipalities with cities in the category analyzed in this section cover large areas, they often also include rural and peripheral parts of the country. In some sense these regions represent the third trend identified in the introduction. The so called new urban rural divide exists on several levels in Europe (see figure 2), and even within a relative homogenous country as Denmark.

Figure 6: Urban systems in Denmark



Source: Modified Map based on Ministry of the Environment 2007:9.

¹ The municipality of Sønderborg was ranked 23 out 33 city areas with more than 20.000 inhabitants. The municipality as a whole has 75.707 inhabitants ranked 1 in the group of independent located cities. Nørresundby is not included since the city belongs to the urban area of Ålborg and is part of the municipality. Danmarks Statistik 2014.

The above sketched tendency, to focus on innovation, knowledge intensive entrepreneurship and human capital sets the countryside and the peripheral regions into a dilemma¹. As more policymakers focus on human capital and knowledge intensive business, the contradiction between local factor endowment and the needs of the new economy becomes visible. Young people seeking jobs are forced to move to the center regions to get education. Firms and prospective start-ups will face serious problems to recruit suitable employees. In top of this the structural unemployment problem may persist, with adverse effects on local demand and public service.

Table 2: Region of Southern Denmark Ranking out of 98 municipalities

	Human resource	Innovation	Entrepreneurship	ICT
Average Southern Denmark	59	57	50	53
Average 'Center corridor' ¹	49	43	25	43
Average rest of Southern Denmark ²	63	67	60	62

Note: Detailed definitions of human resource, innovation, Entrepreneurship and ICT see text and footnote below.

1. The 'Growth belt' or 'center-corridor' is defined by the municipalities of Vejle, Fredericia, Kolding, Haderslev, Aabenraa and Sønderborg, and is slightly different from the East Jutland growth corridor according to the Danish planning system, where Haderslev, Aabenraa and Sønderborg not are included.

2. Average for Southern Denmark outside 'center-region', Esbjerg and Odense.

Source: Region Syddanmark, 2007.

The table above examines the center corridor's score² for the part located in the region of Southern Denmark compared to the rest of the region with regard to the applied model's four growth drivers. Two important trends can be identified, factor endowment is significant poorer in the rural parts of the regions compared to the central corridor, and even the central corridor has a low score compared to the country as a whole. Only with regard to entrepreneurship related factors the average score of the center municipalities would qualify for the group of the best third of the country.

¹ For a study of the role of human capital (i.e. creativity) as an indirect factor for urban development in Europe see Audretsch & Belitski (2013), stressing that regional human capital only has positive impacts on economic development if concentrated in the knowledge based sectors of the economy.

² The score are based on variables operationalizing core aspects of the four growth drivers:

Human resource indicators:

a. Persons with further education per 10,000 inhabitants, b. persons with primary school education per 10,000 inhabitants, c. persons with higher education per 10,000 inhabitants & d. earned income per capita (primary income)

Innovation: a. employees in gazelle firms per 10,000 inhabitants, b. globalization preparedness & R&D intensive firms per 10,000 inhabitants *Entrepreneurship:* a. start-ups per 10,000 inhabitants, b. survival rate & financial companies per 10,000 inhabitants

ICT: Information Communication Technology level (Cornett & Sørensen 2007:361)

The rank score of Southern Denmark is compared to all 98 municipalities. Generally the region's score is relatively modest, between the average and the lowest 60 %. The 'center corridor' or 'growth belt' municipalities have a significantly higher score compared to the periphery, here defined as municipalities outside the 6 center corridor municipalities and the region's two largest cities, Esbjerg and Odense.

The current tendency toward international specialization and the structural change of the mature industrial economies toward advanced service economies has a build in tendency toward centripetal development of growth intensive activities like knowledge intensive services and a centrifugal trend for the previous dominating traditional economic activities, and has reinforced the above sketched unequal endowment with the crucial resources for growth according to the non-linear growth model within the region as well as between regions. Somehow this is similar to the spatial distribution of tasks observed in the classical location literature¹, but today the economic implications for the affected regions are much more threatening. Value added from many industries has disappeared outside the nation state or even Europe, and alternative employment for the workforce in the laid off industries, is not available in the short and medium term. Even commuting or migration to the center-areas will not always solve the problem due to the lack of low skilled jobs or the qualification of the potential commuters. In a spatial context this will at least create three main types of regions:

- agglomerations with a knowledge based economy with relative high income,
- intermediate regions around medium-sized centres or in the vicinity of the agglomerations and
- the 'true periphery', where even commuting not seems to offer a feasible solution.

The remaining part of this section will dig deeper into the issue, first in a general urban-rural perspective, followed by a more profound analysis of the economic and employment development a perspective for the intermediate city regions in Denmark.

3.1 The real rural periphery

'Udkantsdanmark' or peripheral Denmark has become the label for the rural the peripheral part of the country since the economic downturn in the aftermath of the financial crisis. Since the term mainly is political, no unequivocal definition exists, and even intermediate city regions (or the

¹ For an overview and elaboration of the concept of centripetal and centrifugal forces see Krugman 1999.

municipalities they belong to) are included¹. Common for the areas are that they suffered from the impact of the changing international division of labor, and the decline in the housing market. Furthermore the real periphery suffered from centralization in the public sector after the regional and municipality reform.

The immediate consequence in the most rural parts is usual shop closing, reduction of private and public service and outmigration. Aging communities are the result, and can already be studied in many countries. This is obviously not a new phenomenon, Ghost towns in the US are the classical examples what happens, if the economic base erodes in an area. The trend is already visible in the country side and smaller cities. The future challenge is to safeguard intermediate cities, now still to some extent benefitting from migration and the trend toward centralization in the public sector in the aftermath of the regional and municipality reform in Denmark.

The core problem is that modern welfare states have difficulties to cope with this type of marked forces, both internal and as a response to the change in the private sector. Nevertheless the public sector itself sometimes contributes to this development through centralization of public services on the regional and also municipality level. In a recent whitepaper from the Danish Ministry of Housing, Urban and Rural Affairs the problem areas were defined and delimited according to distance from and accessibility to larger urban areas (here defined as the 11 largest cities outside metropolitan Copenhagen) and the share of population in urban areas with more than 3000 inhabitants (Ministry of Housing, Urban and Rural Affairs 2013:6).

More important for the future perspectives of rural and in particular peripheral regions are the employment perspectives. Already now service - and in a Nordic perspective also public service employment - is significantly lower in areas without easy commuting access to urban and metropolitan areas. The former is important since job creation in the moment, and probably in future to a larger extent, mainly takes place in these sectors. The latter is important in two ways. First of all within the rural areas centralization in the cities of new larger municipalities takes place, and often in considerable distance from the most rural parts. Thus these areas also suffer from the intra-municipality centralization.

¹ A recent study from the Danish Centre for rural studies (Center for Landdistriktsforskning) illuminates the other perspective, that many rural areas actually belong to municipalities included in this study. Actually the target cities of this analysis can be found in all four categories identified in Sørensen 2014: 9), peripheral, rural, intermediate or city municipalities.

Table 3: Key indicators for the urban rural divide in Denmark

	Pop. 1.1.2013		Change 2007-13	distribution age (2013)		Share of pop. with high- est education 2012:		Partici- pation rate
	(1000)	%		15-24	25-64	Vocational	Tertiary	
Urban areas close to larger cities	3313,4	59,1	5,3	13,9	52,3	26,6	29,7	71,0
Remote urban areas	759,2	13,6	-0,2	12,4	49,7	35,5	20,8	69,1
Rural areas close to larger cities	711,1	12,7	2,1	10,7	52,3	38,8	22,8	76,2
Remote rural areas	801,6	14,3	-3,0	10,6	51,7	40,0	18,3	72,4
Small islands	4,3	0,1	-9,5	5,9	47,4	35,1	25,2	66,2
Denmark total	5506,6	100	2,9	12,8	51,9	30,5	25,5	71,4

Source: Ministry of Housing, Urban and Rural Affairs (2013).

Furthermore public services (i.e. hospitals) are relocated and moved to the largest cities in the regions, reducing employment and income opportunities in large parts of the periphery.

Overall the demographic development in Denmark has been in favor of urban areas or rural areas close to larger cities since the regional reform in 2007 (Ministry of Housing, Urban and Rural Affairs 2013:10). Similar patterns can be found with regard to unemployment, where the peripheral regions have been hit harder by the economic crisis, and probably will suffer even more by the ongoing process of restructuring due to the structure of employment (see table 4 below for an overview according to urban classification and main industrial sector), and the sketched overall future trend of economic development in the previous section of the paper.

Table 4: Employment structure according to place of residence (% of total 2011)

	Agriculture	Private service	Building & construction	Manufact- uring etc.	Public service, education etc.	Misc.
Urban areas close to larger cities	0,5	50,5	4,5	9,8	34,3	0,5
Remote urban areas	1,4	40,8	6,0	15,6	35,8	0,4
Rural areas close to larger cities	5,2	40,1	8,1	15,4	30,8	0,4
Remote rural areas	7,0	36,3	8,5	15,9	31,9	0,5
Small islands	10,4	36,4	8,3	9,9	33,7	1,2
Denmark total	2,2	45,8	5,7	12,1	33,7	0,5

Source: Ministry of Housing, Urban and Rural Affairs (2013: 14).

Overall the result of the last 7 years economic development and the political and institutional reforms left the rural areas with a complex set of problems:

- Decreasing private employment in industry and business
- Relocation and closing of public institution (in particular the former municipality administrations) but also schools and other service activities
- ‘Locked housing market’ making moving for unemployed people impossible or very expensive, with increasing long distance commuting.
- Eroding tax base and increasing welfare expenses.

Due to the complex Danish welfare and tax system the direct consequences for the municipalities are rather mixed. Since income taxation is based on place of residence the immediate consequences for the public budget are limited, but potential serious in the long run. Since many welfare services and transfer payments are covered by the municipalities the financial weak municipalities face increasing expenses, usually only partly and late compensated by state reimbursement or transfers. The next section will investigate the labor market and industrial consequences with special attention on the intermediate city regions.

3.2 Economic development and challenges in intermediate city regions.

During the economic crisis the spatial distribution of employment and unemployment has changed significantly. Due to migration and long distance commuting the decrease in workplaces not always is transmitted one to one into unemployment. Furthermore the aging of the population in particular in non-urban areas solves the statistical problem temporary by (early) retirement. The regional problem is nevertheless in the long run reinforced by this trend. In an international context the problem still is relative modest in Denmark compared to many other parts of Europe (Gans P. & Schmitz-Veltin (e.d. 2006) Table 5 below sheds some light on this issue based on employment data for the cities studied in this paper. The data in Table 5 are based on commuting data for the cities according to the official delimitation of cities (based on build up areas) in Denmark. Intra municipality commuting is included. Due to the size of the Danish municipalities’ intra municipality commuting can take place over significant distances.

With regard to the level of employment only the city of Copenhagen has maintained positive growth in employment in the period after the financial crisis. Only the independent located small and medium-sized cities have suffered more than the country at large, indicating that central location to some extent has compensated the impact of the structural change. For all types of cities

the pattern of commuting (here measured by distance between workplace and place of residence) more or less follows the overall development of employment. Of particular interest is that the long-distance commuting has increased significant outside the Copenhagen area, indicating that people are forced to increase their search area, if they lose their job. This is obviously reinforced by the frozen housing market in Denmark, in particular in rural and remote areas, i.e. the region of Zealand.

Table 5: Change in employment and in commuting in different types of cities in Denmark

	Total employment		Change employment	Change in commuting.	Change in commuting <50 km
	2007	2013	in % 2007-13	in % 2007-13	2007-13
Denmark:	3049916	2840079	-6,9	-5,7	13,9
'City of Cph.' (landsdel)	427483	434735	1,7	2,0	5,9
Metropolitan Cph.	615808	609691	-1,0	-0,6	6,9
East Jutland city belt	425464	401098	-5,7	-4,5	26,8
Independent located	557688	545007	-10,2	-9,0	11,0
Odense	105834	99079	-6,4	-5,1	27,8
Aalborg & Nørresundby	112143	108592	-3,2	-1,5	23,3

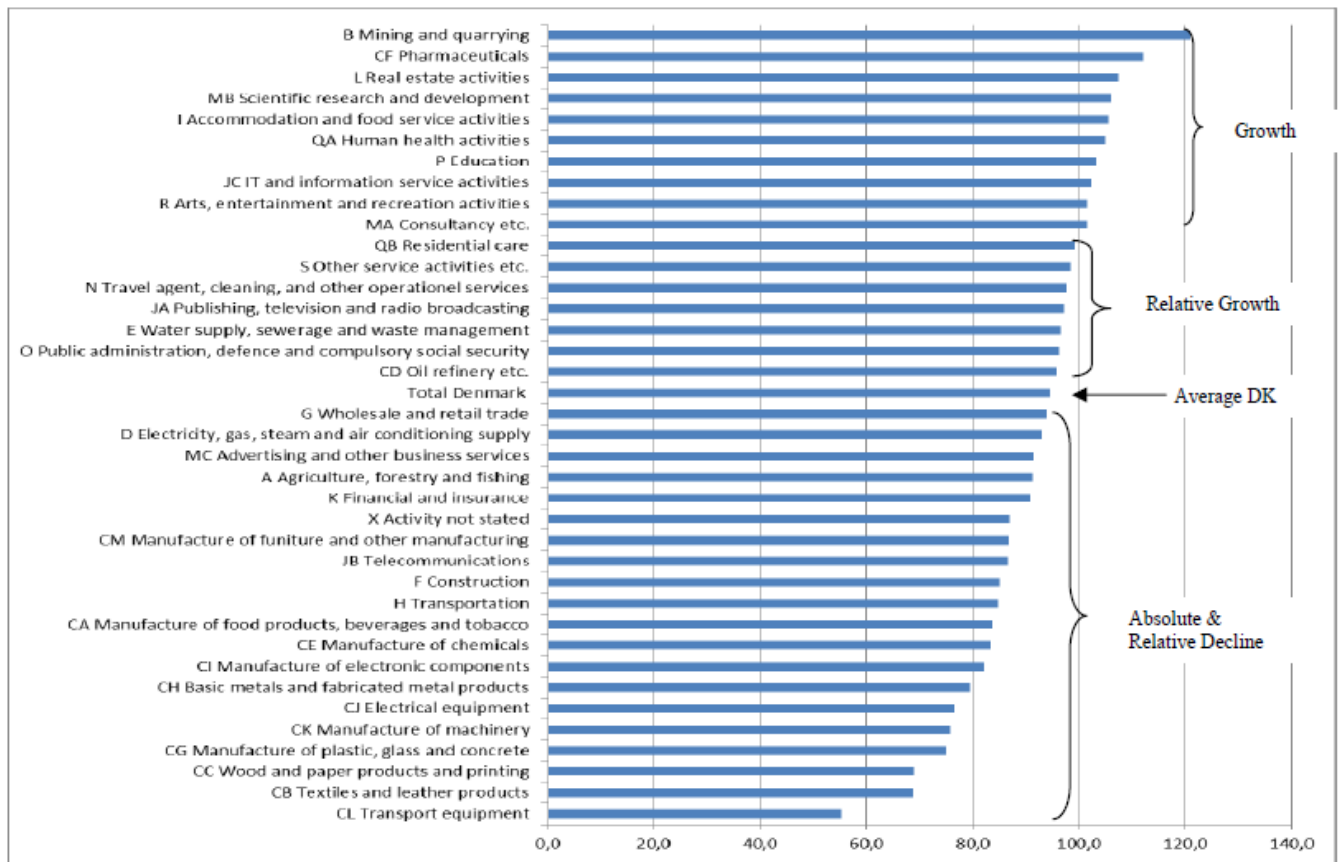
Note: Municipalities with cities with more than 20000 inhabitants, figures belong to the whole municipality, but can be used as proxy for largest agglomeration,

Source: Danmarks Statistik, Statistikbanken 2014.

One explanation is the very heterogeneous development in the labor market, driven by the forces discussed in section 2. The remaining part of the study will analyze the sectorial change in Denmark in a spatial context focusing on employment and workplaces in a Danish urban and regional context.

The first step is identifying the performance of industries and sectors with regard to employment growth in Denmark. Based on these data the urban system is investigated with regard to their ability to cope with the structural forces at work in the global production system, and the domestic reforms affecting the spatial distribution of functions.

Figure 7 identifies three groups of industries in Denmark based on data from 2009 (the first year fully affected by the financial crisis) and 2013, the first year covering most of the impact of Financial and debt crisis on the Danish economy. Group one are the sectors with overall growth in employment. Group 2 has shrinking employment, but is still performing better than the national average. In the last group 3, employment has reduced faster than average.

Figure 7: Growth in employment according to sector 2009-13

Note: Employment growth according to Economic sectors in Denmark based on Employed (work place) by region (municipality), industry (DB07) and time.

Source: Danmarks Statistik 2014

Based on the findings of the analysis presented in figure 7 table 6 examines the employment development from 2009 to 2013 in the defined categories of city regions in Denmark, compare table 1. The city of Copenhagen and the metropolitan region has the best performance in all categories, and the city itself maintains almost stable employment during the period of crisis. The East Jutland city belt performs only above the Danish average in group 1 and for total employment. The two large independent located cities (Odense and Aalborg & Nørresundby) follow more or less the City Belt, Aalborg & Nørresundby with better performance for group 3.

Table 6: Change in employment by sector and location 2009-2013

	Group-1	Group-2	Group-3	DK total
Denmark:	104,1	98,1	87,2	94,4
City of Cph.(landsdel):	107,9	99,9	92,6	99,9
Metropolitan Copenhagen: Hovedstaden:	104,6	99,2	91,3	97,6
East Jutland city belt:	107,0	97,5	86,7	94,7
Independent located:	102,2	98,5	84,1	92,1
Odense:	104,7	98,4	85,2	94,7
Aalborg & Nørresundby:	107,7	96,0	89,7	96,6

Note:

Group-1 (industries with increasing employment): B Mining and quarrying; CF Pharmaceuticals; I Accommodation and food service activities; JC IT and information service activities, L Real estate activities; MA Consultancy etc.; MB Scientific research and development; P Education; QA Human health activities, MB Scientific research and development

Group-2 (industries with negative growth rates above average): CD Oil refinery etc.; E Water supply, sewerage and waste management, JA Publishing, television and radio broadcasting; N Travel agent, cleaning, and other operational services; O Public administration, defense and compulsory social security; S Other service activities etc.; QB Residential care

Group-3: All other industries with negative growth rates below national average

Source: Danmarks Statistik 2014

The picture for the target group of this analysis, the intermediate-city regions is more scattered. The independent located intermediate city regions are in particular affected by the decline in group 3 employment, resulting in a decline from 50,7 % to 46,3 % of an overall decreasing employment reflecting the overall structural and regional change, see table 7. The overall pattern is obviously hiding many interesting details and peculiar developments in medium-sized city regions, i.e. the employment growth in the oil and offshore sector in the Esbjerg area and the significant decrease in group 3 in Skive and Randers. For specific information see appendix 2.

Table 7: Change in share of employment according to growth category 2009-13

	Group-1 %		Group-2 %		Group-3 %		Denmark total %	
	2009	2013	2009	2013	2009	2013	2009	2013
Denmark:	26,1	28,8	25,8	26,8	48,1	44,4	100,0	100,0
City of Cph' (landsdel):	32,4	35,0	32,6	32,6	34,9	32,4	100,0	100,0
Metropolitan Cph.:	30,6	32,8	28,2	28,6	41,2	38,5	100,0	100,0
East Jutland city belt:	27,2	30,7	23,6	24,3	49,2	45,0	100,0	100,0
Independent located:	24,2	26,8	25,2	26,9	50,7	46,3	100,0	100,0
Odense:	32,3	35,7	24,3	25,3	43,4	39,0	100,0	100,0
Aalborg & Nørresundby:	29,0	32,4	26,0	25,8	45,0	41,8	100,0	100,0

Source & Notes: see table 6.

4. Medium-sized city region: Challenges and perspectives

The new distribution of task between the traditional mature industrial economies in the north and emerging economies in Asia and other parts of the Southern Hemisphere has affected not only business and industry, but also the inter- and intra-regional balance in Europe and elsewhere in the OECD area. Traditional manufacturing and business services have been outsourced to low cost countries, with significant impacts on employment for low and now often also medium skilled labor. Many of these occupations in the last decades have been relocated away from the most urbanized regions. The implications are of particular salience in the South and Eastern part of Europe and the non-metropolitan parts of Europe in general.

The central research question addressed in this paper was to what extent the processes characterizing the urban rural cleavages also apply to the current situation of intermediate cities. Who are the winners or losers in this polarization process, and what characterize the well performing intermediate city regions?

In a European context also many the so-called ‘second-tier’ have performed relative good, and the present analysis of Danish data confirms this at least for Århus, but the regional trickledown effects are significant weaker in the East Jutland City Belt compared to Metropolitan Copenhagen, see Appendix 2.

In this perspective no promising perspectives are identified with regard to the Danish ‘third and fourth tier cities’. In general the industrial structure is under average with regard to the better performing sector in Denmark in (group 1& 2) in table 6 & 7. Only few of them have strong knowledge milieus, and if often narrow specialized. Furthermore these cities may have benefited from a temporary inflow of employment from the most rural areas, partly driven by the centralization in the aftermath of the regional and municipality reform in Denmark, and derived effects in the private sector, i.e. caused by the reform of the health, court and tax system.

According to the theoretical concepts applied in this study, the major challenge in future seems to be the lack of human capital and in the rural areas probably also ICT-accessibility in the local factor endowment (see table 2). This will become a barrier to facilitate a path-breaking regional development strategy based on innovation and entrepreneurship.

Appendix 1: Change in employment and commuting in Danish cities 2007-2013 according to location.

Appendix 1:	Change in employment and commuting in Danish cities (> 20.000 inhabitants) 2007-2013 according to location.											
	Total Commuting		No commuting		Total employment		Commuting >50Km		Change employment	Change in com.	Change in com.	
	2007	2013	2007	2013	2007	2013	2007	2013	in % 2007-13	2007-13	<50 km	
Denmark	2821641	2660349	228275	179730	3049916	2840079	177642	202289	-6,9	-5,7	13,9	
City of Cph.' (landsdel)	410144	418472	17339	16263	427483	434735	28770	30457	1,7	2,0	5,9	
Helsingør	23210	22015	2271	2074	25481	24089	722	847	-5,5	-5,1	17,3	
Birkerød	28406	26327	2467	2500	30873	28827	1294	1305	-6,6	-7,3	0,9	
Køge	26836	25116	2302	1868	29138	26984	1508	1741	-7,4	-6,4	15,5	
Roskilde	42317	39727	2976	2565	45293	42292	2804	2929	-6,6	-6,1	4,5	
Hørsholm	10473	9308	1121	997	11594	10305	392	371	-11,1	-11,1	-5,4	
Taastrup	31006	28904	1333	1035	32339	29939	2787	3312	-7,4	-6,8	18,8	
Ølstykke-Stenløse	11844	11125	1763	1395	13607	12520	411	382	-8,0	-6,1	-7,1	
Metropolitan Cph.	584236	580994	31572	28697	615808	609691	38688	41344	-1,0	-0,6	6,9	
Aarhus	179870	176109	9038	7027	188908	183136	12335	15151	-3,1	-2,1	22,8	
Randers	43475	39949	3523	2695	46998	42644	2177	2493	-9,3	-8,1	14,5	
Horsens	41574	40470	3249	2345	44823	42815	2170	2857	-4,5	-2,7	31,7	
Vejle	55636	50264	4821	3783	60457	54047	4384	5443	-10,6	-9,7	24,2	
Fredericia	27847	25916	1447	1023	29294	26939	2842	4032	-8,0	-6,9	41,9	
Kolding	51187	48722	3797	2795	54984	51517	4344	5842	-6,3	-4,8	34,5	
East Jutland city belt	399589	381430	25875	19668	425464	401098	28252	35818	-5,7	-4,5	26,8	
Herning	47095	43577	3943	3046	51038	46623	2789	3536	-8,7	-7,5	26,8	
Holstebro	31656	29246	2779	2068	34435	31314	1997	2347	-9,1	-7,6	17,5	
Skive	25394	21740	2531	1828	27925	23568	1633	1794	-15,6	-14,4	9,9	
Viborg	52991	47948	4786	3749	57777	51697	5303	4697	-10,5	-9,5	-11,4	
Frederikshavn	31209	28080	2417	1782	33626	29862	2378	2928	-11,2	-10,0	23,1	
Hjørring	31456	29200	3283	2470	34739	31670	1474	1698	-8,8	-7,2	15,2	
Silkeborg	41950	38061	4188	3234	46138	41295	1830	1997	-10,5	-9,3	9,1	
Hillerød	27977	27223	1833	1653	29810	28876	628	824	-3,1	-2,7	31,2	
Holbæk	29565	26812	3452	2649	33017	29461	2002	2032	-10,8	-9,3	1,5	
Næstved	34337	31182	3606	2677	37943	33859	2441	2716	-10,8	-9,2	11,3	
Slagelse	35625	31772	3034	2247	38659	34019	3415	3525	-12,0	-10,8	3,2	
Haderslev	26177	22933	2706	2173	28883	25106	1748	1880	-13,1	-12,4	7,6	
Sønderborg	38167	32781	2711	1922	40878	34703	1914	1981	-15,1	-14,1	3,5	
Ringsted	16205	15136	1528	1147	17733	16283	1427	1675	-8,2	-6,6	17,4	
Svendborg	25578	23163	2523	1987	28101	25150	704	754	-10,5	-9,4	7,1	
Esbjerg	62306	58503	4169	3018	66475	61521	4521	5789	-7,5	-6,1	28,0	
Independent located	557688	507357	49489	37650	607177	545007	36204	40173	-10,2	-9,0	11,0	
Odense	100375	95278	5459	3801	105834	99079	4673	5974	-6,4	-5,1	27,8	
Aalborg & Nørresundby	105636	104007	6507	4585	112143	108592	6920	8535	-3,2	-1,5	23,3	
Note:	Cities with more than 20000 inhabitants, intra-municipality commuting included.											
Source:	Danmarks Statistik, Statistikbanken 2014.											

Appendix 2: Change in sectoral employment in municipalities with cities with more than 20000 inhabitants 2009-2013 (index 2009=100).

Appendix 2	Change in sectoral employment in municipalities with cities with more than 2000 inhabitants 2009-2013 (index 2009=100)																			
	B Mining and construction	Health care	Manufacturing	Construction	Trade, hotels and restaurants	Transport and communication	Public administration	Education	Health care	Manufacturing	Construction	Trade, hotels and restaurants	Transport and communication	Public administration	Education	Health care	Manufacturing	Construction	Trade, hotels and restaurants	Transport and communication
Hele landet	120.9	112.0	107.4	106.2	105.7	105.0	103.3	102.3	101.7	101.5	104.1	99.2	98.3	97.5	97.1	96.5	96.3	95.9	98.1	97.2
Landsdel B	163.9	95.9	92.8	98.1	116.3	107.6	109.2	106.8	99.7	111.9	107.9	112.5	100.1	94.3	103.7	61.1	90.2	3271.4	99.9	92.6
Helsingsør	300.0	170.3	104.6	137.5	100.3	83.2	106.3	138.4	109.1	114.3	103.4	99.8	111.0	100.7	132.8	19.1	89.7	...	98.4	90.5
Rudersdal (00)	145.0	128.0	111.3	89.2	87.7	111.2	111.2	68.9	103.1	66.1	87.6	105.8	102.6	99.4	75.9	12.0	74.4	0.0	93.1	99.1
Køge	100.0	115.5	109.1	97.9	134.9	102.8	103.8	135.9	102.8	95.9	106.6	89.7	98.4	80.3	91.2	54.0	102.3	0.0	88.7	90.0
Roskilde	96.2	94.9	108.3	89.4	102.3	103.5	111.2	168.4	108.3	90.5	104.7	97.6	101.7	89.2	103.1	121.7	98.1	...	97.2	81.6
Horsholm ...	8.8	106.4	87.1	81.3	75.8	94.2	67.3	103.4	89.8	86.5	100.1	85.7	95.8	100.0	276.4	77.5	97.9	85.7
Høje-Taastrup	78.0	0.0	178.7	105.8	95.4	152.1	116.1	129.4	93.1	76.0	110.6	101.8	89.0	113.1	130.5	123.3	108.9	...	106.2	89.5
Fågelø (01)	93.5	104.1	2350.0	130.6	84.3	110.3	113.4	104.1	114.4	109.1	104.6	104.1	99.3	96.6	95.7	86.2	95.2	91.1	99.2	91.3
Region Hov	196.6	115.3	101.9	102.7	110.6	104.5	104.9	99.6	99.6	103.1	104.6	104.1	99.3	96.6	95.7	86.2	95.2	91.1	99.2	91.3
Aarhus	128.6	22.2	105.9	166.7	120.0	108.2	112.8	106.6	99.9	100.8	110.1	99.4	106.7	85.4	87.2	150.9	91.5	33.3	95.4	90.1
Randers	29.2	...	105.6	95.5	101.1	102.6	104.5	97.2	107.7	104.2	102.9	99.0	84.6	104.2	104.0	100.6	88.0	...	96.9	78.9
Horsens	127.3	...	127.3	72.7	109.2	105.3	106.4	135.1	107.3	108.6	108.3	102.1	93.2	121.0	132.2	284.9	105.1	0.0	107.9	84.8
Vejle	83.3	...	108.2	40.5	101.8	105.0	93.9	82.7	94.6	89.6	97.4	92.5	99.7	91.8	66.7	94.4	112.0	25.0	94.8	85.0
Fredericia	283.3	0.0	95.9	...	88.1	97.0	105.8	188.1	108.8	112.0	103.2	94.5	98.4	92.8	67.6	109.1	92.1	94.1	93.8	90.3
Kolding	668.8	...	120.2	74.2	96.4	113.8	101.9	129.8	106.1	102.7	106.9	102.3	94.2	107.0	106.0	122.0	103.4	50.0	103.1	85.2
East Jutland	156.6	16.7	109.0	132.6	108.8	107.0	107.4	107.7	101.5	101.2	107.0	98.6	99.6	93.5	91.7	130.8	96.7	91.3	97.5	86.7
Herming	58.3	...	114.0	...	123.9	99.4	103.0	116.1	96.6	80.6	102.2	103.5	100.4	98.4	74.1	105.6	99.1	50.0	100.7	86.1
Holstebro	100.0	...	103.4	66.7	112.8	94.7	100.9	156.3	104.3	98.5	100.3	97.7	85.5	90.2	99.5	118.3	94.7	...	95.0	87.2
Skive	109.0	...	90.4	100.0	84.0	95.3	95.2	110.4	128.6	98.7	96.1	104.0	92.5	96.1	128.3	135.8	137.0	...	111.5	78.9
Viborg	241.2	...	104.0	91.0	99.0	107.2	100.3	85.5	113.4	108.7	103.2	92.2	93.3	101.0	143.2	124.0	91.5	...	95.1	84.6
Frederiksha	75.0	...	105.5	0.0	99.2	102.9	86.8	68.6	103.1	112.3	97.3	111.7	107.3	107.2	98.8	103.3	93.8	...	104.7	84.5
Hjørring	75.0	93.6	108.5	133.3	91.9	111.2	100.1	98.7	121.6	95.1	103.5	112.5	93.3	100.7	81.0	89.8	93.2	0.0	102.8	86.7
Silkeborg	30.2	...	107.8	79.8	93.6	87.6	103.3	117.6	98.2	99.4	97.9	96.3	93.8	109.3	93.5	107.1	81.3	100.0	96.1	94.8
Hillørd ...	113.6	84.2	100.0	100.0	134.1	108.2	95.9	144.4	93.3	86.2	104.9	89.6	71.2	147.2	101.0	336.4	89.7	...	95.9	88.0
Holbæk	54.5	134.6	105.7	100.0	104.0	113.7	98.6	90.5	119.5	107.3	105.5	102.7	90.9	104.7	225.6	62.0	78.3	...	100.2	84.9
Næstved	200.0	...	102.4	...	98.1	90.9	108.6	109.6	130.3	84.7	99.0	92.3	105.3	92.4	202.0	187.5	97.0	0.0	96.4	86.0
Slagelse	100.0	98.7	99.8	94.0	95.6	126.2	112.5	145.5	110.6	92.7	111.5	86.8	96.0	108.1	111.3	103.7	91.6	100.0	92.7	79.9
Haderslev	55.6	...	111.1	44.4	106.4	100.4	91.0	84.4	126.0	100.2	99.5	100.2	83.8	90.7	65.8	46.5	79.1	...	88.7	86.3
Sønderborg	100.0	0.0	105.7	...	104.2	95.2	96.6	97.4	110.0	108.0	98.9	103.0	86.8	98.4	113.3	239.5	93.0	...	99.6	80.7
Ringsted	50.0	0.0	124.3	100.0	100.4	100.5	96.9	177.3	77.7	110.3	101.3	89.7	94.3	106.8	200.0	105.0	124.7	...	100.6	84.2
Svendborg	143.8	...	108.0	51.8	101.6	100.8	103.4	114.3	84.8	100.4	101.1	98.4	115.1	89.9	128.9	59.0	93.4	...	97.9	79.7
Esbjerg	114.5	430.0	102.0	4450.0	103.0	102.6	95.4	128.4	102.6	113.3	104.8	104.5	106.6	107.7	95.4	87.6	95.9	200.0	103.3	85.2
Independer	113.1	112.8	104.5	98.6	102.5	102.3	99.7	109.0	107.1	99.7	102.2	99.0	94.9	103.2	114.9	100.4	93.8	63.6	98.5	84.1
Odense	35.0	...	101.4	177.4	107.3	107.8	106.6	104.6	101.3	86.6	104.7	97.4	96.1	111.2	102.2	74.0	88.0	0.0	98.4	85.2
Aalborg &	113.6	102.9	108.7	153.2	112.1	105.7	112.0	104.0	97.6	101.7	107.7	95.2	100.1	88.8	123.3	104.3	99.4	0.0	96.0	89.7
Source:	Danmarks Statistik 2014																			

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