



Rural-Urban Outlooks: Unlocking Synergies (ROBUST)

ROBUST receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727988



September 2018

PRAC – Policy Research & Consultancy

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Snapshot: Expressions of Urban – Peri-Urban – Rural Relationships

CLUSTER STUDY FrankfurtRheinMain

FrankfurtRheinMain, Germany

1. Brief Description

The FrankfurtRheinMain metropolitan region has one of Europe's strongest economies and is a hub of capital, knowledge and goods flows. Generally speaking, high economic activity is usually concentrated in the "core" of metropolitan regions and weakens or disperses the further one moves from the centre.

This is where a concept of clusters comes into the picture. It has recently evolved into a significant approach to economic and regional research. Clusters can be a key factor in shaping the competitive edge of regions.¹ According to Amhaus (2016), clusters function best when they use a region's current economic strengths as a starting point and strategically build upon the network structure of a particular industry. The network can include companies, non-profit organisations, universities and decision-makers. When implemented well, a cluster can enhance regional economic growth and the capacity for innovation, foster entrepreneurship, increase employment, and stimulate academic research and development (Ebner and Raschke, 2013).

In this appraisal, we examine the *Cluster study FrankfurtRheinMain: Competitive advantages through networking*. The study was prepared by the Schumpeter Centre for Clusters, Innovation and Public Policy in 2013. It is based on a survey of almost 1,000 companies, the analysis of public statistics and the implementation of more than 30 expert interviews and 10 expert workshops. We examine this study in terms of cross-sectoral, as well as urban – peri-urban – rural, relationships and data.

2. Questions and/or Challenges

The study identifies twelve clusters (**Fig. 1**) for the FrankfurtRheinMain metropolitan region. It analyses their potential for fostering regional economic development and suggests a common course of action for decision-making. The twelve clusters are: automation; automotive;

¹ See Michael E. Porter's analysis of the importance of clusters for the development of regions (Porter, 2003).

chemistry, pharmacy and biotechnology; consulting; finance; health economics; information and communication technology; cultural and creative industries; logistics and traffic; aerospace engineering; material technology; and environmental technology and energy.

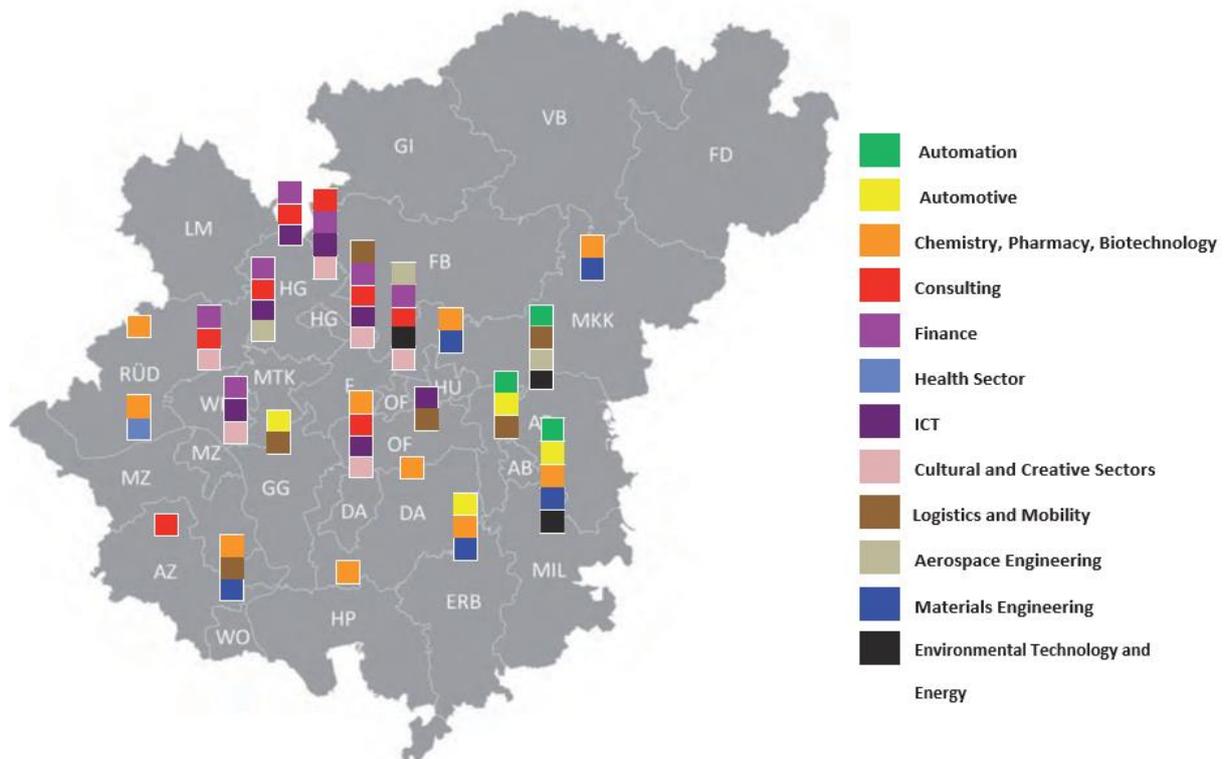


Fig. 1: Database of the Institute for Employment Research, Social Security Employees
(all as of 30.06.2011; Source: Ebner and Raschke, 2013)

The study contributes to a common understanding of the region's economic strengths, thereby supporting decision-making and the identification of joint goals and strategies for regional economic development. The focus is on more effective business models, potential for economic growth and employment creation through clustering. The authors also see their study as a first step towards building common ground between public and private sectors, academics, and decision-makers about existing regional potentials and their strategic alignment.

The distribution of the twelve clusters across the FrankfurtRheinMain metropolitan region (**Fig. 1**) illustrates that no clusters were identified for the north-eastern and southern parts of the region, which tend to have more rural characteristics.

- > Considering the above, can introducing a cluster approach in more rural and distant areas of the metropolitan region enable, and foster, a more balanced regional development?
- > Can the cluster profiles of individual industries be complemented with cross-sectoral considerations? This would allow a more holistic approach, and with it, possible synergies between different clusters in the larger region. This will in turn contribute to overall regional growth.

3. Main Insights

New business models and labour markets, and public infrastructure and social services are priority themes for the FrankfurtRheinMain region in ROBUST. The cluster study is therefore very relevant.

The study highlights that a strategic dialogue between different actors in the region and across sectors is needed for formulating common economic development objectives. What is largely missing, is a cross-cutting analysis on how to better harness regional economic potentials from an urban – peri-urban – rural perspective.

3.1. Indications of the application of the new concept of 'New Localities'

The study identified eleven separate metropolitan regions in Germany in 2013, some of whom cross the political and administrative boundaries of individual federal states and thus establish their own control logic. Since they are primarily defined by economic contexts, metropolitan regions, unlike the federal states, do not have a distinctive, independent political-administrative steering structure. Instead, metropolitan regions have fuzzy boundaries and they depend more on governance frameworks at other levels, such as municipalities and states.

The concept of 'new localities' can also be seen as a new way to look at and analyse space and spatial relations, and as a means to highlight that absolute, relative and relational space co-exist. While looking for synergies and networking opportunities across clusters is totally in line with the core aims of ROBUST, the authors do not explicitly look across the urban – peri-urban – rural continuum.

The idea of 'regional' development is a key aspect throughout the study, but there is no differentiation between urban, peri-urban and rural areas. Moreover, indications of reconfiguring the spatial relations within and beyond the (peri-)urban area are not discussed in the cluster study.

3.2. Insights related to the broad area of 'Smart Development'

When examining the cluster study, we adopted a more encompassing understanding of 'smart development' that also included the connectedness and embeddedness of activities, the valorisation of local cultural, natural and social resources, and the more orthodox understanding of smart specialisation as (technological) innovation and ICT-based.

The economic structures of the individual cities and districts in the FrankfurtRheinMain metropolitan region are characterised by a proximity of industrial and service clusters. The service-oriented clusters predominate in the three largest cities of Frankfurt am Main, Mainz and Wiesbaden. Production-oriented clusters dominate cities such as Hanau and Offenbach am Main.

The creative and cultural industries in the FrankfurtRheinMain region are characterised by a high degree of structural heterogeneity. In contrast to a location with an international profile (such as Berlin), FrankfurtRheinMain could position itself via regional access to a dynamic customer and partner base and thus to products and services close to the market. To promote this positioning, institutionalised coordination of the various cluster initiatives and networks is required.

In terms of new technologies, FrankfurtRheinMain is the core of a pioneering high-speed data network. The House of IT (HIT), in particular, located in Darmstadt plays an important role in ICT/digitisation. It aims at strengthening the links between business, education and research and acts as an interface between many ICT projects in the metropolitan region. Concrete goals of the HIT are to promote interdisciplinary cooperation in application-oriented research projects, transfer knowledge and technology, integrate regional teaching and further education, as well as establish a business incubator for the development and commercialisation of new business ideas in the field of ICT. HIT clearly contributes to the implementation of smart development strategies.

3.3. Other insights that could be relevant for further work

The two key notions that are predominant throughout the study are economic and job growth. A focus on employment might be interpreted as some limited expression of the care about social issues. However, generally, social issues and goals clearly mattered much less in the study than economic goals like prosperity, stronger entrepreneurship and higher business revenues. Similarly, environmental goals were only brought up a few times when the authors stressed that more emphasis should be placed on environmental sustainability.

The potential for more beneficial relations and coordination and integration across the rural-urban interface hardly played a role

The interlinkages between rural and urban spaces are not discussed in the study, instead the concept of the metropolitan region is placed centre-stage. Metropolitan regions are seen as "engines of social, economic and cultural development". FrankfurtRheinMain in particular, is regarded as a significant transport hub with a high population density and more than one nationally important economic centre with international links. This combination gives a competitive edge and enhances socio-economic relations within the metropolitan region.

In terms of potential for more beneficial relations, there are a number of initiatives and networks at regional, national and EU level that aim to strengthen possible synergies across economic, social and environmental areas in the region through the cluster approach. One of the examples is the Eco-innovation Action Plan of the European Commission's DG Environment.²

² European Commission, DG Environment. Eco-innovation Action Plan, <https://ec.europa.eu/environment/ecoap/>

However, what seems to be missing is that the individual initiatives and networks should be better coordinated through integrated cluster management and effective engagement across clusters.

Factors that limit and enable beneficial relations between rural, peri-urban and urban areas and smart (rural, territorial or regional) development

The authors recorded a good supply of skilled workers, profitable business activities across industries, efficient infrastructure and multiple educational and research facilities as the main strengths of the FrankfurtRheinMain metropolitan region. Factors such as high wages and good living conditions increase the attractiveness of the region. These and presence of educational and research institutions jointly stimulate the inflow of skilled workers within the region and afield.

Logistics and transport are sectors set up directly at the interface between ecological sustainability and resource efficiency. This makes them important for further regional development, at the same time leading to political controversies. The transport industry is expected to address a range of problems generating environmentally friendly and innovative solutions. Such solutions are believed to be the way forward as they can cope with ever-increasing traffic. In order to find effective solutions, relevant actors should communicate the need for sustainability more explicitly. For instance, employing cross-industry and cross-cluster measures related to environmental technologies would be effective.

An important constraint to note is the lack of institutional support in some clusters. For instance, companies in the Environmental Technology and Energy cluster point to the need for more effective support in the areas of finance, information and administration. Moreover, revision of regulations in their sector is urgently needed, as the high technology content of the cluster requires new institutional frameworks.

The important role of innovation and of the innovation capacity of key actors and institutions

In FrankfurtRheinMain, the diverse regional economy provides a rich institutional environment for innovation supporting institutions, initiatives and networks of science, associations and administration. In addition to numerous cluster initiatives, regional institutions are designed to foster the knowledge transfer between universities and companies in order to increase innovation performance.

Generally, the high quality of regional R&D provides a very good basis for innovations. The cooperation between companies and research institutions is mainly project-based, including interdisciplinary and cross-sector cooperation. What is missing in the study, is a more differentiated analysis of the location of educational establishments and of innovative institutions – this also in view of the relations between rural, peri-urban and urban areas.

Impact of beneficial relations between rural, peri-urban and urban areas on the creation of value added and job growth

More than a quarter of employment in the FrankfurtRheinMain region is tied to high-value, knowledge-based services such as logistics and transport (gateway function), health services, consulting, finance, information technology, and cultural and creative activities (OECD, 2015).

The twelve clusters were examined regarding their local employment concentration and short-term employment development since the financial crisis 2008-2011. With high localisation ratios (see the table in section 4), the financial services and consulting clusters form the strongest regional specialisation in the FrankfurtRheinMain region. Both clusters have continued to increase employment in the region since the financial crisis, but their percentage share of total German employment in these clusters is falling.

The concentration of service-oriented employment – both internationally and locally – is associated with lower presence of production-oriented clusters at regional level. The exceptions are chemistry, pharmacy and biotechnology clusters, which have above-average levels of regional employment concentration. A regional cluster strategy should address these spatial, local strengths and their respective specialisation patterns.

Examples of good (and bad) practice in smart development and/or the contribution of rural-urban synergies to smart regional growth

A cluster approach can – in principle – effectively support smart development, and specifically smart specialisation. Cluster initiatives can integrate companies, non-profit organisations, universities and decision-makers to jointly explore new market opportunities that create jobs, attract capital and have a long-term, positive economic impact. Dynamic clusters provide businesses with matchmaking opportunities, business training and access to new talent, innovative research, counselling and mentoring (Amhaus, 2016).

The reality might be less positive. According to Rivas (2016), A. Ebner from Goethe University, indicated at the second InFocus thematic workshop *Cluster-based local economic development in the context of RIS3* that he sees cluster development as a "*private sector-driven affair, partly financed from the government and academia*". Rivas (2016) stresses the importance of Frankfurt's 'House of'-model that is rather radically promoting industry-oriented research. The model is funded by territorial administrations (usually the Land Hesse and the city of Frankfurt), yet the key role is played by universities and academic institutions which are looking for more straightforward cooperation with the industry.

Rivas (2016) underlines that there is still much to do in terms of multi-level governance. The Federal Government is the main actor in an explicit cluster policy. The Federal Ministry for Economic Affairs and Energy runs the Go-Cluster programme, as a stimulus to improve cluster management as well as international positioning. Rivas discusses that the Federal Ministry steers a research and innovation strategy for smart specialisation, but he argues that no effective steps have been taken so far to embed that strategy into the city and regional level. One possible reason is that, smart specialisation as a policy concept is quite unknown among relevant actors in regional business, innovation and research.

Rivas (2016) also claims that FrankfurtRheinMain has not been able to create a shared sense of place so far, compared to other metropolitan regions in Germany, like Rhein-Ruhr and Berlin. It works as a single functional urban area that stretches over three Federal states and includes several significant urban centres, but it does not go far beyond.

4. Data Sources and Indicators

There is ample literature on cluster functions and benefits for a region and there are accurate regional and national statistics, some of which that were used for this study. Overall, a lot of work has been done to compile this cluster study, from significant meta-analysis of existing studies and checking regional statistics to querying almost 1,000 companies and organising about 40 expert interviews.

However, limited research has been done so far on cross-sectoral interconnections between individual industries in the FrankfurtRheinMain region. This hinders development of a more comprehensive cluster strategy revealing networking potential and possible synergies between different clusters in the region.

Table 1 Data / Indicators used

Data / Indicator	Source
Regional economic growth	Corporate and VAT statistics 2009-10; Statistical regional offices of Hesse, Bavaria and Rhineland-Palatinate; Employees and Companies 2008-2011; Institute for Employment Research (IAB)
Employment statistics	Statistics of Federal Employment Agency, Institute for Employment Research (IAB)
Classification of economic activities (WZ08)	Federal Office of Statistics (https://www.destatis.de/DE/Methoden/Klassifikationen/GueterWirtschaftsklassifikationen/Content75/KlassifikationWZ08.html)
Diamond model of regional competitiveness	Based on Michael Porter's diamond model adapted for this Cluster study
62 influencing factors	Online survey of 912 companies Meta-analysis of existing studies and documents (300 publications) 37 interviews with experts from industry, science and regional institutions
Methodological elements of Cluster of Innovation initiative	The initiative developed at Harvard Business School adapted for this Cluster study
Localisation quotients (LQ) as a measure of regional concentration	Common standard method for detecting relative spatial concentrations utilized in the Cluster study (Cortright, 2006; OECD, 2007)

5. Critical Appraisal of Data Use

No data and analysis are provided in the study that directly and explicitly differentiate between urban, peri-urban and rural space, and the relationships between these different types of area (this is also underlined by the word cloud in appendix, **Fig. 2**). At the same time, there

are manifold indications that support our hypothesis that promoting cluster formation can potentially enable, and foster, more balanced territorial development. The identification of key regional clusters and of possible synergies between them can in particular enhance regional economic growth and capacity for innovation, foster entrepreneurship, increase employment, and stimulate academic research and development.

Metropolitan regions can – in principle – contribute significantly to wider regional development by upscaling the economic power of urban cores. They have the potential to include rural areas in the regional structure in addition to the urbanised sub-regions. At the moment, however, the areas that are more distant from the core of the metropolitan region are largely decoupled from the centre. It is worth noting that their potentials for clustering were not sufficiently explored in this cluster study. Focus in the cluster study has been on high-tech, finance and similar sectors. New orientations like more decentralised smaller-scale green economy clusters in rural areas, and SMEs that are often contributing more than larger companies to the economic development of rural areas, and job growth, were largely ignored.

6. References

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