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LEARNING REGIONS AS DRIVING FORCES FOR URBAN ECONOMIC RESILIENCE – TWO SUBREGIONAL EXAMPLES OF POST-INDUSTRIAL CITY TRANSITION

Introduction

As seen from the regional perspective, the economic development gained lately two important concepts, which stimulate the debate: the learning region concept and economic urban resilience concept. Both concepts have different theoretical groundings and apparently focus on topics that are not so related.

Urban resilience appeared as an influential topic after terrorist attacks and natural disasters which occurred in first decade of the 21st century (Godschalk, 2003). It was noted, that some cities are overcoming those shocks and crisis better than others. Explanation of this phenomena was connected with infrastructure, social and economical structures that can absorb the disruption and allow the city to recover faster.

Economic urban resilience is the ability of a city to cope with the economical shocks either of global or local origin. Whether it means a return to previous levels and patterns of growth or rather its complete reconstruction which allows a return of growth to unprecedented levels is a matter of secondary importance.

The learning region concept is founded on the conviction that knowledge and ability of its creation as well as transfer is a precondition of regional economical development and competitiveness. Knowledge is a key resource in innovation based economy, and this made the learning region concept very popular: both between researchers and authorities. The popularity of the concept led to its attenuation because it was used to cover different understandings of learning and knowledge creation (Suchaček, 1999). Despite those difficulties, the learning region is a fruitful concept. It embraces problems of learning, institutional thickness, regional cooperation, knowledge transfers and innovations.

Do those two concepts have anything in common? The answer to such a question is "Yes, they do". What underlies this paper is a conviction about the specific interrelation between those two concepts. They correspond well, because features specific for the learning region contribute to economic urban resilience.

Learning regions should be seen as driving forces for urban economic resilience. Features of a learning region make the region more resilient. Different levels of analysis: urban and regional, should not mislead our interpretation. Urban areas concentrate most of the economic life of the region, and talking about learning regions one must have especially cities in mind. City life fosters the knowledge flows, institution creation and cooperation between key agents.

Simme and Martin (Simme, Martin, 2009) in their evolutionary approach to economic urban resilience describe the model on three dimensions:

- the potential of accumulated resources to the system, like: competences of local firms, skills of local workforce, local institutional forms and arrangements, physical and soft infrastructure;
- the internal connectedness of a system actors or elements – it relates to patterns of trade and untraded dependencies among local firms, local networks of trust, knowledge spillover, formal and informal business associations, patterns of labour mobility;
- the resilience – perceived as a measure of a system's vulnerability to shock. High resilience is associated with phases of creative and flexible response – they would depend on innovative capacity of local firms, entrepreneurial capabilities and setting up of new firms, institutional innovation, access to investment capital, willingness of workers to improve educational attainments.

Most of the factors enumerated in this model include: resources of knowledge, competences of firms and employees, institutional thickness, business associations, and patterns of cooperation, untraded dependencies, networks based on mutual trust, knowledge spillover sometimes through labour mobility, innovative capital and firms, entrepreneurial spirit are also integral elements of learning regions. In other words Simme and Martin's model describes the learning region with added resilience components to it, or rather, they see the learning region as a resilient one.

What is presented in the example of two subregions of Silesian voivodeship, a region possessing some features of a learning region that copes better with unexpected changes and shocks of an economical or political nature.

1. Research method and area

Examples that are discussed in this paper are based on research results from a grant from Ministry of Science and Higher Education No. N N116 335538 "Industrial region as 'learning region'. Sociological conditions of transformation on example of Silesian Voivodeship". This research was conducted in Silesian voivodeship in all its four subregions. This paper concentrates on two subregions: southern and northern.

Both discussed subregions in many spheres are on opposite sides of the scale. The southern subregion, covering 2354 km^2, is developing and prosperous. It has the lowest unemployment rate in the voivodeship and highest entrepreneurial index. The northern subregion, covering 3050 km^2, on the opposite suffers because of stagnation. It has the highest unemployment rate and lowest entrepreneurial index.

However, in many spheres these subregions are similar. What makes them comparable? Both subregions consist of three land counties and one urban county, which is the capital of the subregion. Those capitals are: Bielsko-Biała in the southern subregion and Częstochowa in the northern one. Both mentioned cities were previously capitals of voivodeships until 1999, when the administrative territorial structure of Poland was reformed. The reform altogether reduced the number of voivodeships from 49 to 16. In effect, the former częstochowskie voivodeship and bielskie voivodeship were merged with former katowickie voivodeship and created together Silesian voivodeship. The loss of capital city status challenged development processes in both cities, but its consequences were different in each of the analyzed subregions.

The theoretical framework of the learning region was confronted during in-depth interviews with respondents recruited from three different spheres: regional political authorities (recruited from municipal and county level), experts connected with business support organizations (recruited from the most important and influential organizations) and entrepreneurs from three main sectors of economy (following Clarks' divide): primary sector – mining and agriculture, secondary sector – industry, and third sector – services. Altogether there were 100 in-depth interviews, giving 25 in each subregions.

Conceptualisation of research was difficult because of the immaturity of the learning region concept. The whole research program was based on the theoretical framework of learning region by Asheim (Asheim, 1996), Storper (Storper, 1993), Florida (Florida, 1995) as well as by Rutten and Boekema (Rutten, Boekema, 2007a). The main examined relations were triangular interconnections between regional authorities, institutional set-up and companies. This led us to choose those groups of respondents. What should be pointed out, it is that this perspective is similar to the regional innovation systems approach (Cooke, Morgan, 1998; Cooke et al., 2004).

2. Theoretical framework of learning region

Learning region is the key concept to our research. "It pertains to the transfer, creation, absorption and implementation of knowledge among regional partners, which, in turn, triggers innovation and regional renewal" (Rutten, Boekema, 2007a).

In a learning region, regional actors engage in collaboration and coordination for mutual benefit, resulting in a process of regional learning. Regional characteristics affect the degree to which the process of regional learning leads to regional renewal.

Analytical distinction between learning region and regional learning is of key importance here. The learning region is "[…] the theory that explains regio-

nal learning; that is, the process of knowledge creation between actors within a region while accounting for the characteristics of that region, its actors and the relations between them" (Rutten, Boekema, 2007b, p. 276). In other words, regional learning is the dependant variable in this proposal, while the learning region is the independent variable. What are the components of this independent variable?

Conceptualization of the earning region concept given by Rutten and Boekema (2007a), enumerates groups of variables that should be taken into consideration.

Spatial proximity facilitates regional learning through agglomeration advantages, where economy scale stimulates the development, and fosters exchanges of knowledge (including tacit knowledge) in cooperation and competition. However here we face the danger of lock up situations typical for industrial districts dominated by one or two branches of economy.

The institutional set-up of region includes here a presence of knowledge centers that enable cooperation between researchers and businesses and smoothens flows of knowledge in the region. Moreover it covers presence of so called animators, that would be mainly business support organizations.

Regional interfirm networks – such networks function best when partners are rather equal in size and market position. Such networks, that build on horizontal relations, between cooperating as well as competing partners are best to bring about knowledge diffusion and innovations.

Social capital is one of the most important variables. It is the basis for cooperation, both for institutionalized as well as informal networks built on trust. Regionally embedded conventions must also be taken under consideration here. This covers, for example, the ability of the local community to cooperate in a moment of crisis or willingness of workers to improve educational and professional skills.

Regional innovation policy is "[…] what local authorities do to facilitate the process of regional learning" (Rutten, Boekema, 2007a, p. 137) . It doesn't close in the paper copy of the local development scenario but rather in the attitude of authorities to cooperate with firms and help them to cope with administrative difficulties.

Mentioned variables all together facilitate regional learning and innovation-creation.

3. On the way to regional renewal – advantages of the learning region

3.1. Spatial proximity

Having all those variables in mind, one can investigate both mentioned subregions and compare how advanced they are on their way to becoming learning regions. The provisional hypothesis underlying this paper is that leraning regions

are more resilient. As it will be presented, none of those subregions can be said to be a full fledged learning region, but the one that is more advanced with this seems to be more resilient to stress of economic and political origin.

To prove this statement, it is necessary to follow all variables step by step. First Spatial proximity variables should be discussed.

As already mentioned, both northern and southern subregions were struck by administrative reform and loss of capital position by both cities (Bielsko-Biała and Częstochowa) put them in a difficult situation. But thanks to their former position, both cities play key roles in following subregions and generally they are doing better than the rest of the subregion because in the main cities economic life of those subregions is concentrated.

The lack of space for new investments is an indicator of this spatial concentration of companies in Bielsko-Biała. It is a very untypical situation in Poland, but Bielsko-Biała doesn't really have new green-fits. This lack of new spaces for investments is partly due to natural conditions. The urban sprawl is limited by mountains and hills surrounding the city. But on the other hand the transformation process wasn't the cause of the closure of so many companies, and most of them after reprivatization still have the same localization as before. So the supply of free industrial spaces was rather low. Both these factors made space for investments scarce.

All suitable spaces were already sold to investors, and only some of the old industrial spaces can be reused. Because the city still attracts new investors, the lack of space is an incentive to select those with good prospects to stay in the city for longer periods of time and contribute to regional development.

On the contrary, in the northern subregion, investors are scarce. The high unemployment level leads local authorities to lure any investments they can. As one respondent from local authorities pointed out that: it is better to have investments in non-innovative branches than none.

The transformation process led in both cities to liquidation of the textile industry. Both cities suffered a rise in the unemployment rate. But what is important, Bielsko–Biała is called the city of 100 industries, that's why textile industry was only around 10% of its labour market. In Częstochowa, as well as textile industry there were also ironworks, which were also closed. This deepened the crisis.

Entrepreneurial spirit is strong in Bielsko–Biała. To measure entrepreneurial attitudes in subregions it is best to take measure of registered enterprises per 10 thousands citizens (see Table 1).

Table 1

Number of registered enterprises per 10 thousands citizens

Subregion	Number of companies per 10 thousands inhabitants
central subregion – Bytom district*	850
central subregion – Gliwice district	901
central subregion – Katowice district	1018
central subregion – Sosnowiec district	969
central subregion – Tychy district	925
northern subregion	891
western subregion	733
southern subregion	1042
Silesian Voivodeship in general	923

* Because of changes of data aggregation there is no general data for the central subregion. Districts enumerated in table, are based on GUS aggregation procedures.

Source: GUS (Central Statistic Office).

As one can see, northern region has rather low entrepreneurial index (891) while it is highest in the southern subregion (1042). It is even higher than in the very centre of the region (Katowice district). The structure of these enterprises is dominated by rather small, family firms. Their existence is possible thanks to the spatial proximity of big companies. This is also, what stimulates the small enterprises to keep up to that level. Cooperation with well developed partners is beneficial for companies as this provides advancements in technology and quality. Interviewed entrepreneurs pointed out that cooperation with bigger and more advanced partners forced them to develop their own company, to meet their partners' requirements. This way we can see the spill over effect of investments.

Very important, in this light, is what Asheim called industrial climate. Industry was located in both joined cities (in Bielsko and in Biała) before World War I (WWI), and since then, different industries are present in the city. We can say that this region has strong industrial traditions. In fact, in all families someone always worked in industry. During World War II (WWII) the city wasn't damaged much, and after the war, technologically advanced companies like car manufacturer (FSM), a glider factory, electric tools producers (Befama), a medical equipment producer, a light bulbs factory and other industries were located in Bielsko-Biała.

All groups of respondents stressed this industrial tradition of the region. They pointed out that it wasn't heavy industry but often technologically advan-

ced industry. This required well educated employees with high levels of skills, and who could not only maintain or operate the equipment and tools, but took care of them. Respondents mentioned "advanced industry mentality" both on the level of workers and on the level of management. This knowledge potential allowed many redundant employees to start their own companies during the transformation period.

While the southern subregion is dominated by white-collar workers and the elite of blue-collar workers, in the northern subregion most of the workforce are pink-collar workers. These are employed in services not requiring high qualifications like commerce, tourist services, restaurants, etc. Częstochowa is one of the most important religious centers in Poland. Every year hundreds of thousands of pilgrims follow to Częstochowa. This creates demand for tourist services. However, what must be mentioned, is that many of those pilgrims are one-day visitors, they don't stay in the city for more than one night. Moreover these pilgrimages follow Częstochowa from all directions, making transportation more difficult. This factor doesn't lure investors to the city.

3.2. Institutional set-up of the region

Most businesses support organizations from the southern subregion of Silesian voivodeship concentrated in Bielsko-Biała. Those organizations are of different kinds: chambers of commerce, guilds of crafts, but also such institutions like Regional Development Agency (ARR). The Regional Developed Agency functions as a public company. Its creation was initiated by municipal authorities, which until now are major shareholders. As it was cleared by the respondent representing local authorities, such a company can react much faster and is much more flexible when cooperating with companies and enterprises than municipal authorities can ever be. Local authorities intended to create such an institution to be mediating and coordinating between authorities and local business.

Respondents were also asked whether, in their opinion, there is a need for such institutions. They usually answered negatively to this question, instead they often pointed out, that instead of creating new organizations, already existing institutions should be more flexible and adapt to changing conditions and demand.

In the northern subregion, business support organizations are also present, but their activity is much less noticeable. Interviewed entrepreneurs from the southern subregion easily enumerated a few such institutions even if they didn't cooperated with them. In the northern subregion, most entrepreneurs couldn't mention one, and sometimes they didn't know that such organizations existed. In fact, when they needed training, information or help connected with European funds they turned to other companies, they just bought those services.

To sum this up, in both cities business support organizations are present and in both entrepreneurs expect them to work better than they do now. However, there is a big difference between the northern and southern subregions. Business support organizations in Bielsko-Biała are numerous and flourishing, while in Częstochowa they are rather sparse and not recognizable to entrepreneurs.

3.3. Regional interfirm networks

Regional interfirm networks in the southern subregion usually take the form of clusters. The most prosperous one is Silesian Aviation Cluster. It was built by companies that emerged from liquidated glider factory. Those companies are functioning in composite branch. However most of them are rather small ones. The cluster is effective because there is real coopetition (cooperation connected with competition). They often compete offering a similar spectrum of products, but they also often subcontract one another or pass contracts which they can't do to other cluster members that can.

The cluster activities led to the creation of *Bielsko Technology Park – Aviation, Enterprise and Innovation* in Kaniów, near Bielsko-Biała.

The park was built on a mine slag heap and is a good example of forging handicaps into opportunities.

There is also an IT cluster named NTT Hills located in Bielsko-Biała, however it is not very active. That is so, because firms cooperating in this cluster are not competing with one another, they found their local niches and they don't penetrate other members' territories. This results in rather low levels of knowledge exchange~~s~~ (simply because there is no need for such exchange and not because of lack of good will).

An energetic cluster is located in the central and southern subregion. However its headquarters is in Katowice, that's why it's activity is not so noticeable in Bielsko-Biała.

A newly born building cluster appeared as a grass roots initiative. Building branch companies needed some assistance in technological development and they found it at the local University[*]. This is a good example of where small and medium enterprises cannot generate the knowledge they need, by their own efforts, and they must acquire it from within regional context.

The University of Bielsko-Biała is mentioned most often by interviewed businessman as a main research partner, but it must be admitted, that nearly all universities from all over the region were mentioned too.

[*] University of Bielsko-Biała (original polish name: Akademia Techniczno-Humanistyczna).

In the northern region such activities are scarce. There appeared an idea called New Technologies Uplands. As a respondent from local authorities put it, the goal is to create an area of new technologies such as silicon valley. So far the initiative wasn't fruitful.

To sum it up: in the southern subregion there are several business clusters, but only one or two of them are prosperous. However they are mostly upwards initiatives. In the northern subregion, such clusters are nearly nonexistent. The only one mentioned is surely unrecognized by interviewed entrepreneurs and is a top – down initiative.

3.4. Social capital

The southern subregion has strong local identity and long tradition differing its citizens from upper Silesia. Those differences originated in the period of Partitions of Poland. Bielsko and Biała were border cities. As one of my respondents pointed it out, people living in borderlands are more active.

This specific location resulted in some creativity which was stimulated also by ethnic differences. Before WWII 30% of citizens of Bielsko were Germans, 30% Jews and the rest were the Poles. After the war, when only Poles stayed in the city, people migrated to Bielsko from all over Poland. To quote one of respondents: "Those, who were migrating were those who were active, who were adventurous, who were not afraid to take risks".

To all these differences, one must add religious differences. The southern subregion is the only part of Poland, where protestants are numerous. Poland is a Catholic country, but in the Bielsko area, protestants are very active. This protestant tradition is strong. When Bielsko was part of Habsburg empire it was the main protestant enclave in the whole empire. Up until now, the only statue of Luther in Poland is located in Bielsko.

If we turn to Florida's Melting Pot Index, it would be highest in the southern subregion of Silesian voivodeship. It is a typical borderland region with active and creative citizens.

Regional mobilization in a moment of crisis is a good example of high levels of social capital in the subregion.

After administrative reform, when Bielsko lost its status of voivodeships' capital many institutions were transferred to the central subregion. However**,** this resulted in local mobilization and cooperation of local authorities, politicians from this region, companies and citizens to keep key institutions like a customs office, a national court register, an economic department of district court etc. in Bielsko-Biała. This mobilization was successful and those institutions stayed in

the city. So the loss of capital status was a challenge but not a disaster. Bielsko-Biała was just more resilient than Częstochowa.

In the northern subregion**,** loss of voivodeship status is treated as a disaster and all respondents blame it for the difficult situation the city and region face. What must be mentioned, is that many institutions stayed in Częstochowa after administrative reform. Even Silesian Voivodeship Office has its department in Częstochowa.

3.5. Regional innovation policy

Regional Innovation Policy is what authorities do to foster knowledge creation and transfer to stimulate innovations in the region.

The formal activity of regional authorities is encapsulated in the local development strategy prepared and consulted in cooperation with experts recruited from knowledge centers (university) and businesses supporting organizations.

The triangular interrelation between local authorities, business supporting organizations and firms was of prior interest in our research project. This cooperation and interrelation is specific. Public-private partnership between companies and local authorities are not very popular, however some good examples of such partnerships were mentioned by respondents representing both authorities and companies. However, experts stressed that the climate is not good for such partnerships. Local authorities are afraid of corruption, accusations and all cooperation between the public and private sphere is seen in this light. That is why, as one of respondents said: "The easiest and safest strategy for authorities, is to do nothing and offer nothing and to give nothing to entrepreneurs".

Where business supporting organizations as mentioned earlier the Regional Development Agency, are a key intermediary between local authorities and businesses. Direct partnerships between entrepreneurs and authorities are sporadic. In other words, the triangular interrelation is a rather linear one.

In the northern subregion, the climate for private – public cooperation is also not favourable (as is for the whole country), but weak institutions are not playing their intermediating role. In fact, interviewed businessman claimed that they are left without any help and often stressed, that they can rely only on their own.

4. Failures and biases

Is the southern subregion a learning region? To such a question one must answer no, but it has many features typical of a learning region. So far presented were factors contributing to regional learning, but now failures and biases of this process should be discussed.

Let us start with the weaknesses of the networking process. Only one of mentioned clusters is prospering well (aviation), and one prospecting to be prosperous (building). The best example of networking processes' weakness is the Animation cluster failure. In Bielsko-Biała, are located prosperous animated movies companies, and the city had quite a long tradition in this business (*Bolek i Lolek*, *Reksio* movies). Some of these companies are now Disney's subcontractors, so we can say they are keeping a good level.

Those companies were willing to join the cluster and several meetings were held. They haven't succeeded because there was no animator (paradoxically), who would animate all the processes and run the cluster at its beginnings.

The other bias is weakness of agricultural producers' groups. Even though, membership in such a group is beneficial to its members, farmers are not willing to join these groups. As respondents stressed, farmers have a strong sense of individuality. It doesn't mean they are not cooperating. In fact the flows of knowledge were noticeable and farmers seemed to be proud that they learned from one another. However, this spontaneous cooperation and readiness to help neighbours doesn't lead to institutionalization of this cooperation.

The main weakness is still a low level of companies' development. Interviewed experts pointed out that many firms are based on very simple ideas and that they are not developing. Entrepreneurs lack knowledge, they are not reflective, they usually have no clear vision of their business and aims. They don't have strategies and usually can't build them. They introduce changes and products reactively. That's why they are unable to name their expectations and plans toward institutions. In effect, they can't build long-term strategies and relationships.

And the last biases, which have already been mentioned are difficulties and barriers in cooperation between companies and local authorities

Those biases are easy to find also in the northern region. However**,** more often respondents had difficulties naming them (blaming the transformation process or administrative reform). In fact**,** simple-idea businesses are as popular in the northern region as they are in the southern. However**,** no respondents pointed it out. The difference is of what isn't known. If you don't know something and you are aware of it, you search for information, you search for knowledge. Lack of knowledge isn't disqualifying**,** only lack of activity to overcome this situation is. On the other hand, when you don't know that you don't know, there is no chance to overcome this bias. This is also the difference between the northern and southern subregion.

5. Learning region as resilient system

Turning back to the concept of economic urban resilience features of resilient system should be considered. Godschalk (2003, p. 139) claims that redundant systems are:

- *Redundant – with a number of functionally similar components so that the entire system does not fail when one component fails*. In Bielsko-Biała we can find this redundancy in numerous business support organizations or inter-firm networks like clusters. A given company can find support and assistance in different institutions, and can search for key resource of learning economy: knowledge in many partners it cooperates with.
- *Diverse – with a number of functionally different components in order to protect the system against various threats*. In Bielsko-Biała this diversity is noticeable in a broad array of branches of industry. It is called city of 100 industries. Its resilience was proven after textile industry collapse. All redundant workers were soon absorbed by newly created enterprises in different branches of industry
- *Efficient – with a positive ratio of energy supplied to energy delivered by a dynamic system.* This efficiency is best seen in the way the city manages its scarce investment space resources.
- *Autonomous – with the capability to operate independently of outside control*. Incorporation into Silesian voivodeship was a challenge towards local autonomy. One of indicators here may be the reaction of respondents to the sharing of funds in voivodeship: in both locales respondents said that funding is concentrated in central area, but when in the northern region frustration dominated, respondents from the southern subregion commented usually: "Well it is so, but we can do on our own".
- *Strong – with the power to resist attack or other outside force* B-B showed its strength in its moment of crisis, when main actors mobilized and saved local independent institutions.
- *Adaptable – with the capacity to learn from experience and the flexibility to change*. This adaptability is one of the key features of a learning region. Adaptability would be a feature of the city's inhabitants: workforce willingness to learn, ability to use their knowledge and skills in different business, and to create their own enterprises.
- *Collaborative – with multiple opportunities and incentives for broad stakeholder participation.* Dense cooperation networks, strong interrelations and opportunities for cooperation should be mentioned here. Stakeholder participation is still problematic but appearing more and more often.

The main idea underlying this paper, is that learning regions are driving forces for urban economic resilience. Based on two examples, it can be stated now, that areas that have more features of learning regions are more resilient, cope better with an oncoming crisis and are better managing altogether. What this analysis doesn't explain is the origins of such a comfortable situation in the southern subregion. It is focused on the question on how we can build a resilient learning region. One of main weaknesses of the learning region concept is its descriptive character: we have plenty of case studies and examples but we still lack good, fully fledged theory of the learning region. If we turn the perspective now, and see learning regions through lenses of urban economic resilience we may find the hints to build such a theory.

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