On some aspects of territorial competitiveness: Spatial complexity analysis

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1. INTRODUCTION

There is a long-term interest in the concept of territorial competitiveness. However, a consensus on a definition of the term is missing (see e.g. Benzaquen et al., 2012; Kitson et al., 2004). Dujon (2008) distinguishes two different approaches in this regard. The first approach is focused on territorial productivity. Thus, territories are competitive if they are able to increase their outputs compared to inputs. The second approach is a broader one because it adds a number of other factors, such as infrastructure, human capital or innovations, to the territorial competitiveness concept. Note that territorial competitiveness is our first theoretical concept of this article.

Because of its political prominence, there is a large body of literature on various factors of territorial competitiveness now (see e.g. Nijkamp, 2009). These include also the modern smart specialization concept which has experienced a relatively short but exciting life so far (see Foray, David and Hall, 2011). What is the rationale of this concept? McCann and Ortega-Argilés (2011) mention two typical features in this regard:

• First, smart specialization emphasizes the importance of activities which absorb and spread innovations produced in core R&D centres.
• Second, the success of smart specialization is strengthened by the sector size and linkages between actors.

In addition, McCann and Ortega-Argilés (2011) point at close relations between the smart specialization and place-based development concepts. They claim that public financing is desirable to remove development traps of particular territories and that stimulation of actors on the basis of smart specialization is regarded as a suitable strategy.
Finally, the programming principle is our third key theoretical concept. The essence of this principle claims that program-based development may create a desirable thematic coherence which is not achievable from isolated, not inter-linked projects (see e.g. Bourne, 2007). It is noteworthy that the European Union (the EU hereafter) cohesion policy is based, among others, just on the programming principle. In practice, the so called Common Strategic Framework provides strategic guidelines on further development of the EU territory through cohesion policy interventions. For our article it is crucial that this strategic document emphasizes the importance of smart specialization as a source of territorial competitiveness (see EC, 2012; Camagni and Capello, 2013).

Altogether, the nexus of territorial competitiveness, smart specialization, and programming was closed. And just relations between territorial competitiveness and smart specialization in the context of the programming principle are the subject of our interest in this article. Our main goal is to introduce how these relations were reflected in the Zlín City Development Strategy 2014-2020 (the Zlín 2020 Strategy hereafter). Note that the authors of this article played the leading role in formulation of this development strategy.

The article is structured as follows. The second chapter provides some theoretical insights into relations between territorial competitiveness and smart specialization, respecting the importance of strategic approach. The third chapter introduces our analytical approach for studying assumptions of smart specialization in the Zlín 2020 Strategy. Subsequently, the implementation process of our analytical findings into the development proposal of the Zlín 2020 Strategy is sketched out. The last chapter concludes.

# 2. LITERATURE REVIEW

In the EU, there is a broad political debate on the impact of spatially concentrated innovation-based specialization on territorial competitiveness now. These include, among others, the influential Barca’s report (see Esqueda, 2010) or one of the EU flagship initiatives called “Innovation Union” (see EC, 2010). Consequently, the concept of smart specialization has become one of the leading concepts how to increase the EU competitiveness in its EU 2020 strategy (see e.g. EC, 2012 or Foray, David and Hall, 2011 for the importance of the smart specialization concept).

The rationale of the smart specialization concept is based on two assumptions (see Foray, David and Hall, 2011; McCann and Ortega-Arigilés, 2011):

- First, the smart specialization concept claims that territories may not be engaged in all R&D activities because of their limited resources. Thus, territorial specialization in the most promising innovative domains is highly desirable. In other words, territories support their unique knowledge base as a source of innovation and territorial competitiveness.
- Second, the smart specialization concept aspires to grasp benefits arising from economies of scale and knowledge spillovers in territories. In other words, sector size and linkages between actors are essential to fully utilize fruitful benefits from smart specialization.

There is a rather strong theoretical underpinning of the aforementioned assumptions. Thus, innovations are regarded as a key ingredient of territorial development in a number of theoretical concepts. These include, among others, the concepts of innovative milieu (e.g. Esqueda, 2010), clusters (see e.g. Pavelková and Jirčíková, 2008; Žižka, 2008), or regional innovation systems (see
e.g. Skokan, 2010; or Isaksen, 2001). Similarly, economies of scale and knowledge spillovers are cornerstones of e.g. the agglomeration economies or industrial district concepts. In this way of reasoning, territory-based benefits are derived from input-output relations of economic subjects, from common labor market, and from information exchange (tacit knowledge and social capital). One type of agglomeration economies – economies of localization – is specifically focused on benefits arising from specialization in one industry (see e.g. Phelps, 2004). It is noteworthy that a better ability to innovate is regarded as a positive impact of agglomeration economies (see e.g. Scott and Storper, 2003).

There are differences between particular types of territories in their assumptions for practical implementation of the smart specialization concept. Naturally, core territories with their strong innovation bases have the best assumptions in this regard (see e.g. Camagni and Capello, 2013). Nevertheless, the smart specialization concept is highly relevant also for peripheral territories characterized by a small specialized market on one hand and limited linkages between actors on the other (McCann and Ortega-Argilés, 2011). McCann and Ortega-Argilés (2011) speak about innovation-based diversification of traditional, locally embedded, large scale industries as the way how to implement the smart specialization concept in this type of territories. Note that the innovation-based diversification of regional specialization may be regarded also as the way how to escape the lock-in threads (compare e.g. with Grabher, 1993).

Finally, what are the political implications which may be drawn from the smart specialization concept? Foray, David and Hall (2011), McCann and Ortega-Argilés (2011) give the following points in this regard:

- Territories need to identify or “discover” the technological domains which are likely sources of competitive advantage in future. Thus, it is necessary to identify knowledge intensive domains (e.g. ICT) with a high growth potential but simultaneously considering inherited territorial structures such as economic basis. Note that smart domains are expected to be supported in their early development phase.
- Territories support spatial knowledge diffusion on the basis of linkage creation between actors (e.g. linkages between R&D subjects and firms, supply chains and others) including interregional linkages (see also Esqueda, 2010 for this argument). In this way, human capital relevant for the smart specialization concept is also developed. The relationship between smart specialization and labour market is noteworthy.

Altogether, the importance of the smart specialization concept for territorial development seems to be well substantiated. Moreover, the current practice of territorial development upholds the importance of programming approach. Thus, thematic coherence of particular projects is searched and subsequently embedded in programming documents. In this regard, the nature of the smart specialization concept represents a suitable framework how to ensure such coherence. The abovementioned arguments represent a fundamental theoretical framework how to involve the smart specialization concept into the Zlín 2020 Strategy.

3. THE ZLÍN 2020 STRATEGY

The Zlín 2020 Strategy was elaborated as a fundamental conceptual document of the Zlín City for the period 2014-2020. The document was completed at the end of 2012. Its content respects
the traditional structure of strategic documents. First, analytical part defines the main development strengths, weaknesses, opportunities and barriers of the Zlín City in particular thematic areas. Subsequently, development vision, strategic goals and measures are formulated for each thematic area. Naturally, it is out of the scope of this article to introduce all aspects connected with elaboration of this strategy. Instead, our focus is just on the issue of smart specialization.

3.1 Smart specialization in the Zlín 2020 Strategy – analytical part

The analytical part of the Zlín 2020 Strategy respects the fact that the Zlín region may be regarded as the peripheral region not only in the European but also in the Czech context. Thus, the approach coined by McCann and Ortega-Argilés (2011) – innovation-based diversification of traditional, locally embedded, large scale industries – was chosen. Two areas of analytical work may be regarded as relevant in this regard – assessment of innovative environment and of territorial specialization. Note that we decided not to restrict our interest territory by administrative boundaries of the Zlín City because economic development has its wider spatial relations. Thus, our analysis is related to administrative territories of three municipalities with extended power – Zlín, Otrokovice and Vizovice (the Zlín agglomeration hereafter).

Let us turn our attention to the assessment of current territorial specialization in the Zlín agglomeration. First, we compiled a database of 880 economic subjects which met two conditions, the economic subject has more than 10 employees and its seat of residence is in the Zlín agglomeration. Note that subjects of public and non-profit sectors were excluded from the analysis. On the other hand, we added subjects with seat of residence outside the Zlín agglomeration if they employed more than 200 employees in the Zlín agglomeration. We used the commercial database Albertina and Register of Economic Subjects of the Czech Statistical Office as the data-sources. Thus, the state in the year 2011 is depicted. Tab. 1 gives the review of attributes which were followed for economic subjects in the database.


<table>
<thead>
<tr>
<th>Attribute</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry of prevailing activities</td>
<td>NACE-CZ codes (three digits)</td>
</tr>
<tr>
<td>Number of employees</td>
<td>Categories – the middle value</td>
</tr>
<tr>
<td>Turnover</td>
<td>Categories – the middle value</td>
</tr>
</tbody>
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Second, we calculated the structure of industries according to their shares on the number of economic subjects, on the number of employees, and on turnovers. Fig. 1 gives top five industries of the three evaluations. The findings point at two relatively strong industries in the structure of the Zlín agglomeration, in particular plastics industry and rubber production. Thus, territorial specialization seems to be related especially to these two industries (compare also with Esqueda, 2010).
of larger economic subjects and importance for employment, and ICT programming because of their relatively higher number of larger economic subjects.

Third, we assessed also some aspects related to development dynamics of the abovementioned industries. Thus, changes in added values in the period 2007-2010 were analyzed. The year 2007 was selected as the base year. Accounting documents of particular firms were the main source of information. Data were compiled for 434 economic subjects from the database. However, we would like to stress that our evaluation must be interpreted with caution because of incomplete sample of analyzed firms, because of a relatively short period evaluated and because of the influence of the base year 2007. Nevertheless, some interesting findings may be drawn (see Fig. 2).

Rubber production and ICT programming show the ability to recover from the economic crisis of the late 2000s. These are only two industries which generated higher added value in 2010 compared with the base year 2007. It is also noteworthy that rubber production in the Zlín agglomeration tends to have better figures than the whole industry in the Czech Republic. Machinery seems to be most seriously hit by the economic crisis of the late 2000s. Such a decline was not experienced by any other analyzed industry.

*Fig. 1 – Top five industries in the Zlín agglomeration according to selected criteria (2011). Source: own elaboration based on Albertina and Register of Economic Subjects of the Czech Statistical Office.*

Note: 221 – Rubber production; 222 – Plastics industry; 412 – Construction; 432 – Installation works; 464 – Wholesaling with household products; 465 – Wholesaling with ICT products; 467 – Other specialized wholesaling; 477 – Retailing with other products; 494 – Road freight transport
References


