Principle of regional integrated investments and their relation to sustainable development of the Hradec Kralove - Pardubice agglomeration

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Abstract. The subject of the paper is to introduce the theoretical approach to sustainability of the economic pillar of the bi-centric Hradec-Pardubice agglomeration. To create sustainable corporate behaviour while ensuring long-term prosperity, consumption, a balance needs to be struck between production and consumption on the basis of supply and demand.

1. Introduction
The Hradec - Pardubice settlement and industrial agglomeration formed an important industrial and agricultural area in the center of gravity of the East Bohemian Region. At present, the extensive development of the tertiary sphere and the importance of both regional towns determine the pace of development of logistic centers accompanied by the development of transport infrastructure, but also the development of higher civic amenities. The whole organism of the agglomeration complements recreational functions in zones of biologically and landscaped valuable territory. The urban settlements included in the bicentric conurbation act as places with a concentration of population, job opportunities and public and commercial services. Because of their background, depending on their size, they become development poles, within which significant resources are created, which result in the development not only of the agglomeration itself. The specific position of both the regional cities of Hradec Kralove and Pardubice and their metropolitan areas creates a very strong bipolar settlement regional agglomeration within the Czech Republic.

The identification of development approaches in already approved but also in progress documents outlines different views on the agglomeration itself and there may be mutual development collisions due to insufficient coordination of strategic objectives and their actual implementation. Therefore, a summary of the main indicators often encountered by individual strategies is not a sufficient guide for mutual coordination. Comparison of approaches of development of core cities and subsequent implementation of development goals influences the future character of this agglomeration. Setting out key (common) indicators used in strategic documents not only in core cities can positively influence the development of the agglomeration as a whole. The determination of the main indicators can be used for the so-called strategic framework of bi-centric agglomeration in practice, for example for spatial planning and urban development authorities not only at the level of local government.

2. Principle of regional integrated investments and their relation to sustainable development
In the theoretical works we can come across ideas of long-term influence of demand and supply, which influence the behavior of economic subjects. Contributing to a beneficial economic theory that can reliably influence changes over time is highly beneficial in economic analyses, along with a mathematical model for the determination of equilibrium states using classical models of mechanics.
(which Adam Smith (1776) dealt abundantly in his work). From the perspective of long-term concepts, it is necessary to use just long-term equilibrium states, short-term equilibrium states do not contribute to the sustainability of the economic situation, there may be unsustainability and mutual conflicts of investment intentions. To achieve developmental stability of economic potential, it is necessary to use elementary economic rules of demand and supply. The main rule is - where there is no demand = no supply. Despite the existence of demand, long-term or medium-term threats to the sustainability of the economic pillar need to be selected. These are mainly commodities or their properties, which can negatively affect the long-term development of the municipality, city or agglomeration itself. An example is the location of a collecting yard or incinerator or heating plant. The aim of each methodological approach is to utilize and certify its effectiveness using specific tools and methods. It is often possible to meet with the use of multi-disciplinary methods, which can be effectively applied not only to mathematical models but also to demographic or social models – e.g. forecasts of population development etc.

From the historical development of economic disciplines from the last three centuries, it can be concluded that the joint effort for economic development was an effort to find tools enabling strengthening of economic development not only of individual municipalities, towns or regions but also of the whole Czech Republic. After the mercantilist development of the 17th and 18th centuries, when the economic policy of the emerging economies of Europe was shaped by the notion of development by supporting the export of domestic goods and the accumulation of capital within the state - mainly gold [1].

In the 2014-2020 EU programming period, the principles of the territorial dimension are applied, which means targeting the interventions of the European Structural and Investment Funds 2014-2020 (ESI funds) to specific types of territories of the Czech Republic in accordance with the National Document on the Territorial Dimension [2].

An integrated territorial investment strategy has been developed for the territory of the agglomeration. This strategy defined the boundary of the agglomeration in a different way than it was defined in the territorial planning office. The main reason is the accession of the Czech Republic to the European Union, which brings other possibilities and therefore it is necessary to provide such an important area of this agglomeration with strategic materials that will ensure not only regulated and efficiently used inflow of investments but contribute to strengthening sustainable development of the agglomeration itself [6]. The Integrated Territorial Investment Strategy is a document assessing the potential and problems of the demarcated area and proposes its further development through concrete measures financed by European funds.

3. Creation of partnership cooperation between core cities and support of the integrated territorial investment strategy of the Hradec - Pardubice agglomeration

In 2011, the first mention of the possibility of using integrated tools for the period 2014-2020 appeared, reflecting on the redefinition of the agglomeration for the purpose of using integrated territorial investment. The holding of several meetings at both official and political levels has led to discussions on the future form of cooperation, possible focus and delimitation of a common metropolitan area. In order to specify further possible direction of development, a Case Study - Development of the Hradec-Pardubice agglomeration in terms of Cohesion Policy in 2014+ was prepared in 2013, which laid the cornerstone for the creation of a system of integrated territorial investments. The official confirmation of the creation of the joint strategy was the signing by the political leaders of the two core cities in the Memorandum on 05/2013. On the basis of these joint steps, the formation of the Hradec Králové-Pardubice agglomeration is carried out in a partnership approach, which demonstrates the cooperation of both core cities in the form of regular meetings at the official level, including meetings with other municipalities and key actors. Important enterprises, owners and administrators of important infrastructures, school and educational facilities in both parts of the agglomeration (Hradec and Pardubice). Based on the ITI implementation structure for projects funded by the European Regional Development Funds, it was necessary to appoint and create a governance structure based on the ITI partnership approach and coordination capability. Ensuring the partnership principle is ensured through
structures created at the bearer of integrated investments, the key components of the management structure are [3]:

- The main and entry subject is the ITI Bearer - who is responsible for the preparation, elaboration, implementation and monitoring of the ITI Strategy, for fulfilling the partnership principle and for coordinating the activities of relevant actors within the functional area of the Integrated Strategy. This role is played by the statutory city of Pardubice.
- Working groups - well-functioning working groups are a prerequisite for consistent fulfilment of partnerships in the development of agglomeration and planning processes. The working groups of this strategy are advisory and initiation groups of the ITI Holders, whose outputs are a necessary and irreplaceable basis for a higher degree of management of this strategy. They are established for thematic areas designed for the preparation and implementation of ITI by both statutory cities or the core of the agglomeration. The task of the (core) working group is to participate in the expert definition of specific objectives of the strategy and to assess their factual fulfillment, propose indicators and monitor their fulfilment, including recommendations to the Steering Committee suggestions for strategy change in the area, including new projects. The working groups are divided into thematic areas, see Table 1.

| Table 1. Working groups focused on individual thematic areas in ITI [3]. |
|---------------------------------------------------------------|
| PS1 Attractive and environmentally friendly transport         |
| PS2 Environment                                             |
| PS3 Education and use of monuments for education and development of creative industry |
| PS4 Colleges and cooperation of schools and companies in the field of R&D |
| PS horizontal Municipal cooperation in agglomeration          |

4. Conclusion
Territorial development planning is the so-called spatial planning, which is carried out in a purposeful effort and systematic coordination of plans and changes in the given territory. In order to realize the objectives, it is necessary to have developed an institutional system with effective use leading to the realization of the objectives.

Spatial planning is widely used in the public sector to influence the deployment of both current and future activities. The aim of spatial planning is to achieve a rational arrangement of the area within the functions and their mutual relations, ensuring a balance between building development and requirements and placement of building plans while maintaining the existing nature and landscape protection. It also affects the distribution of economic activities between regions and their coordination.

Spatial planning contains elements of national and border planning, regional policy and detailed planning of the territory. National spatial planning shall contain general development frameworks or perspectives for spatial management and lower-level spatial plans. These perspectives usually contain a transnational dimension in which they seek to interpret the implications of wider territorial development for the state. National spatial planning also includes national guidelines or plans, which may not have a spatial dimension in themselves, but which define the field for decision-making at regional and local level. At this level, perspectives and guidelines are closely linked to the social and economic policies of governments and seek to coordinate cross-sectoral activities [4].

Within the bi-centric agglomeration, we encounter strategies of the Hradec Kralove and Pardubice regions. The following analyzes show the processing of partial strategic documents, which are processed at the level of regions, but their application and coordination of individual plans is closely related to the territory of the agglomeration. ITI deals in more detail with the coordination and partial fulfillment of individual plans. The aforementioned period, for which the concepts are elaborated, is further applied...
to the development documents, for example, territorial plans of municipalities and their local strategic plans. The period 2015, 2016 in strategic documents is currently evaluated based on the evaluation of these documents and further applied in partial updates of the mentioned strategic documents.

An important form of spatial planning is spatial planning itself, which is hierarchically conceived according to the Building Act from the Czech Republic's Territorial Development Policy, through the Principles of Spatial Development to the Land Use Plans. Land-use planning tools, or land-use planning, are site-specific and may include detailed provisions for land-use and real estate, preservation and protection of land and landscape values up to detailed regulations setting out clear rules for construction for certain building plots such as regulatory plans, land-use studies or land-plot agreements). Outlining the principle of spatial planning, both centers are selected to clarify a different approach to development for the urban organism.

Finally, it is necessary to point out the possibility of using methods of building information modeling in the field of sustainable regional development, which over time becomes an increasingly topical problem. In many European countries this has even become part of their legislation [5].

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References
[1] Beran V and Dlask P 2005 Management of sustainable development of regions, settlements and municipalities (Prague: Academia)
[2] Strategic Framework for Sustainable Development of the Czech Republic, Ministry of the Environment 2010 Prague
[3] Regional Development Agency of the Pardubice Region, GAREP, spol. s r.o., ITI Strategy of the Hradec Králové Region, version 4.0, 05/2016.
[4] CEC, Commision of the Euopan Comunities, 1997, The EU Compendium of Spatial Planning Systems and Policies. Regional Development Studies, 28. Luxembourg:CEC
[5] Faltejsek M, Szeligova N and Vojvodikova B 2018 Information modelling of buildings as an instrument of sustainable development of the locality (Albena: STEF92 Technology) pp 243-252.
[6] Kuda F and Berankova E 2014 Appl. Mech. 501-504 2676-2681