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THE ROLE OF PATH-DEPENDENCE IN THE LOCAL ECONOMIC TRANSFORMATION

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Abstract: The examination focuses on the issue of path-dependence, which is considered to be the core concept of evolutionary economic geography emphasizing the importance of historical development. Although the notion of path-dependence is used both in negative and positive contexts, we place the latter in focus leaving room for changes, as we are interested in the question how the local economic base can be reinforced by the development of perspective activities. Our key question involves aspects of regional development, namely how medium-sized settlements can be positioned as hubs in the economic space dominated by large cities in the age of globalization. With regard to the opportunities for establishing localization-type agglomeration advantages, which are important for the generation of positive feedback mechanisms in the broadest sense, the healthcare industry appears to be a perspective research field in the case of our examined city, Debrecen. Not only significant traditions and remarkable weight does the sector represent in the economy of the city, but the development ideas. In our presentation we attempt to delineate the corporate and institutional actors of the local healthcare industry. On the other hand, the companies are examined in three temporal sections after the change of regime, in order to unfold the dynamic segments of the healthcare industry. Business registers and corporate databases of the Hungarian Central Statistical Office are analysed in addition to the evaluation of corporate reports, press releases and documents of economic development reinforcement of healthcare industry constitutes a columnar component of the local

Key words: path-dependence; healthcare industry; medium-sized cities; economic development

Introduction: Economic transformation and path-dependence

Integrating ideas of evolutionary economics into spatial research, as a core concept of evolutionary economic geography the notion of path-dependence emphasizes the importance of long-term historical economic development. The concept refers to the effects and impacts of past events and decisions made in the past on the present and future economies (Martin & Sunley, 2010). The

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definiteness of such spatial development, however, should be interpreted pliantly: it is considered to be a "road map" towards a particular direction (rather than a rigid series of actions excluding various alternatives), in which the "beaten" track or path seems more plausible than other options, which are presumed uncertain (Walker, 2000). Path-dependence can be defined at different examination levels: a company, an industry or a region can function as the medium of the process (Martin & Sunley, 2010). While path-dependence in a higher sense cannot be separated from the determinacy of activities of different actors, some researchers of the topic draw attention to the dichotomy of the individually short-term and irreversible decisions of the companies and the long-term and reversible development processes of economic sectors and regions (Schamp, 2005). Mechanisms of path-dependence are represented in three forms in the literature discussing the economic fundamentals of evolutionary economic geography. Firstly, path-dependence means technological lock-in when a specific trajectory develops as a result of historical series of actions, from which there is no deviation in spite of other arising alternative (and possibly more efficient) technologies. Secondly, path-dependence can be reinforced by agglomeration effects and positive externalities: increasing returns generate positive feedback processes that consolidate the previously established development paths. Thirdly, institutional hysteresis exerts its effects towards path-dependence: the concept refers to the temporal self-reproducing nature of formal and informal institutions, social structure and cultural traits, which sub-serves the stabilization and social embedding of certain activities (Martin & Sunley, 2006).

The interpretation of path-dependence, however, helps to underline different emphases. The canonical, economics-based model of path-dependence associated with the name of Paul David and Brian Arthur focuses on the phenomenon of lock-in as well as the tenor towards an equilibrium-state suggesting stability. However, it is in contradiction with the evolutionary economics approach, which emphasizes change. Furthermore, the model describes the emergence of development paths as results of accidental or random events, and it admits the role and influence of the mechanisms of path-dependence — according to its critics in an inconsistent manner — only in shaping the already existing development trajectory (Martin, 2009). The canonical model does not take into consideration the fact of heterogeneity characterizing the industries, technologies and regional economies, although local economies concentrating diversified economic activities and exposed to constant market competition should be treated as complex systems, in which permanence and change can be observed parallel with each other and more or

less interconnected independent development paths may also emerge (path-dependent co-evolution) (Martin & Sunley, 2006).

Several articles in the field of political science and historical sociological studies examining social and political institutions, and the development of legal systems – turning from stability to continuous evolution – indicate the fact that most of the institutions shall be regarded as complex entities consisting of micro-level elements: systems in which certain components may go through continuous change without necessarily requiring the change of all the remaining constituents (Boas, 2007; Crouch & Farrell, 2004; Schwartz, 2004; Stark & László, 2001; Thelen, 2004). Ongoing changes (adaptation) of the components may result in the long-term (structural, functional, organizational) change of the whole complex entity without causing deviation from the path-dependent development trajectory, reaching lock-in and/or the attainment of a stable state of equilibrium. Similarly, the local economy shall be regarded as a heterogeneous entity, which may show gradual path-dependent development — avoiding the state of lock-in — through the changes in the activities and composition of the constituent companies. The emergence of a new local industry — in this approach — is to be considered not merely a historical accident or an incremental opportunity: the process is influenced by formerly developed resources, competencies and experience inherited from previous local economic development paths (Martin, 2009).

The notion of path-dependence can be placed in both positive and negative contexts. In the first case the concept covers the reinforcing mechanisms (cluster-based economic development) of new/dynamic economic activities by positive feedback processes leaving room for changes, while the second approach constitutes the unchangingness and the lack of capabilities for structural change (lock-in) (Martin, 2009). The latter approach was vivified by the critique of the perspective of modern economic geography unilaterally emphasizing the positive effects of clustering of industries: namely the recognition of the fact that the geographical conglomeration of industries — under certain constellation of factors — may have a negative effect on the innovativeness and the ability of renewal (Hassink, 2010).

In the approach of path-dependence leaving room for changes, concepts of layering, conversion and recombination play a crucial role. Layering involves the change in the composition of the population of firms building up the local industrial environment, which occurs as the cumulative result of the appearance of new actors (emergence of spin-offs seceding from existing companies, new entrepreneurships, new entrants coming from outside of the geographical unit) or

the termination/emigration of the former actors. The process is relevant for the development of the whole local economy as well as for the generating the variety underlying it (different production and innovation profiles) (Martin, 2009). The concept of conversion, however, represents the progressive reorientation of individual economic agents featured by advanced technologies and business solutions as well as newer or more diversified product structure: the process is particularly generated by the spill-over effects of new entrants, which may lead to an entire change in the technology and product orientation of the local economy. As a result of the cumulative effects of layering and conversion the local network externalities underlying the industry (qualifications of local labor availability of specialized suppliers, intermediary organizations and support institutions) may change. Recombination — as the underlying process of the two concepts mentioned above — is the efficient redefinition of resources and competences (combination with new elements) determining the former development trajectories, which enables purposeful entrepreneurial deviations towards new development paths (Martin, 2009).

The restrictive or constraining approach of path-dependence is based on the concept of lock-in. In the case of functional lock-in, close vertical connections between large companies and their suppliers hinder the latter's efforts to establish higher value-added functions (R&D, marketing), while the lack of these activities — especially at the time of structural crisis — reduces the chances of successful opening towards new markets. The cognitive lock-in represents the sector- and district-specific narrative formed in the minds of entrepreneurs and employees: in this case an economic activity which was dominant over a long period of time is still regarded as the economic base of the region, even if it is not corresponding to the realities on the basis of actual trends. Political lock-in means the preserving effect of the institutional structures representing the exceeded economic structures, which restrains the industrial restructuring process. The institutional system includes policy makers, industrial trade unions, umbrella organizations and agencies, large corporations, as well as norms, standards, written and unwritten laws determining the behavior of economic agents (Grabher, 1993; Schamp, 2005).

Since place-specific local factors are predominantly responsible for path-dependence — in terms of modes of action demonstrated above — it is reasonable to interpret path-dependence as "place-dependence" (Martin & Sunley, 2010), that is, path-dependent development is implemented in different ways from place to place. The idea of path-dependent economic development may foster the deeper understanding of mechanisms related to spatially uneven economic growth both in sectoral and spatial aspects. The concept may serve to

explain the fact (1) why certain industries and technologies emerge and evolve in specific spatial units, and why others do not. On the other hand, it can provide answers to the question (2) why some regional economies are able to adapt to market changes, while others are not, that is, what are the underlying factors accountable for their long-term success or structural crisis (Martin & Sunley, 2010; Strambach, 2010).

Research field, main questions, methodology

In the economic space of globalization remarkable appreciation of large cities compressing high value-added activities and agglomeration externalities underpinning them (skilled labor, accessibility of input markets, information and knowledge-flow etc.) can be witnessed. While the power is increasingly concentrated in these cities (Erdősi, 2003), small and medium-sized cities tend towards perceptible lagging due to their less diversified local economies, the increasing weight of services depending on external decisions, the limited local resources and the relatively modest scope of motion of the local governments (G. Nagy & E. Nagy, 2008). The development of the post-socialist East-Central Europe is significantly determined by the medium-sized cities on a European scale — characterized by the lack of critical mass in terms of urbanization advantages, therefore the integration of these settlements in the global economy is a relevant and current task of the economic policy. The reinforcement of the economic base of medium-sized cities requires the dissolution of the contradiction between the size of the city and the critical mass: according to several critical opinions primarily the strengthening of unique, endogenous resource-based, hardly and slowly reproducible, sector- and region-specific (localization type) agglomeration advantages and regional innovation systems appears to be a possible solution. Furthermore, the balance-creating process between regional specialization and diversification may offer the potential for successful adaptation (Lux, 2013).

In Hungary such problems concerning the medium-sized cities are particularly actual, since there is a significant difference in the order of magnitude between the capital city and the major medium-sized cities: the latter cannot become real "counter poles" of Budapest despite developmental tenors encompassing many decades, that is, they are not able to follow the dynamic development of the metropolitan agglomeration of Budapest nowadays. While the economic restructuring process of Budapest was realized on the basis of tertiarization after the change of regime, the development trajectories (paths) of the cities in question are reasonably diverse. Győr is the exemplar of successful reindustrialization on the basis of industrial traditions and the contribution of

large-scale foreign direct investment, but Miskolc — the city which suffered the most from the crisis of the heavy industry — seems to move towards a similar development path. In Pécs, the radical de-industrialization led to a stagnation resting on the service-based cultural economy: nowadays the city can be described with the weakness of real economy, the lack of strong economic profile and skilled labor, and the loose connections between the higher education and the corporate sector (Lux, 2013). While Győr has become the most important economic power due to reindustrialization, the position of Miskolc and Pécs (and Szeged as well) indicates a significant deterioration compared to the period of the change of regime (Csomós, 2013). The research field of our examination is the city of Debrecen, which is the second most populous settlement in Hungary, representing relative economic stability and more balanced development of traditional manufacturing sectors and innovative services among Hungarian medium-sized cities (Rechnitzer, Páthy & Berkes, 2014).

The investigated sector of the study, the healthcare industry is a knowledge-intensive, innovative complex system of activities encompassing the whole economy. The sector includes the services of the healthcare-systems (prevention, healing, rehabilitation) and the suppliers of the healthcare-systems as well: manufacturers/distributors of medical instruments, manufacturers/distributors of pharmaceuticals, manufacturers/distributors of medical materials and equipment, healthcare IT suppliers, furthermore — as non-professional-nature suppliers — the food-, textile-, and stationery manufacturers, laundries, energy supply, transport and waste management and technical suppliers of healthcare management. The healthcare industry also integrates the lifestyle industry: the hygiene industry, the manufacturers/distributors of products and services related to health maintenance, the exploitation of natural healing factors for health promotion purposes, lifestyle counselling and leisure sport activities. The sector is growing on a global scale: the increasing appreciation of healthcare industry is to be sought in the main features of the sector, namely it contributes to the maintenance of human resources decisive in terms of competitiveness, while due to its diverse nature it does not create monoculture (Kincses, 2010).

The development of the healthcare industry — defined as one of the core economic sectors of Hungary — forms the integral part of the objectives of the National Development and Regional Development Concept established until 2030 (Hungarian Official Journal, 2013). The sector plays an important role in four of the seven long-term policy-type specific objectives (Competitive, innovative economy; Healing Hungary, healthy society, health- and sport economy; Viable countryside, healthy food production and supply; Creative

knowledge-based society, marketable skills, R&D&I), while among the seven medium-term economic development priorities it appears as a separate one. The healthcare industry has a central role in the Integrated Urban Development Strategy of Debrecen (2014): the projected developments in the sector constitute the highest order of magnitude in terms of expenses. What also underline the privileged status of the sector in local policy-making are the separately elaborated Healthcare Industry Development Strategy of Debrecen and the dominant position of healthcare industry in the Innovation Economic Development Program of Debrecen as well (Figure 1).

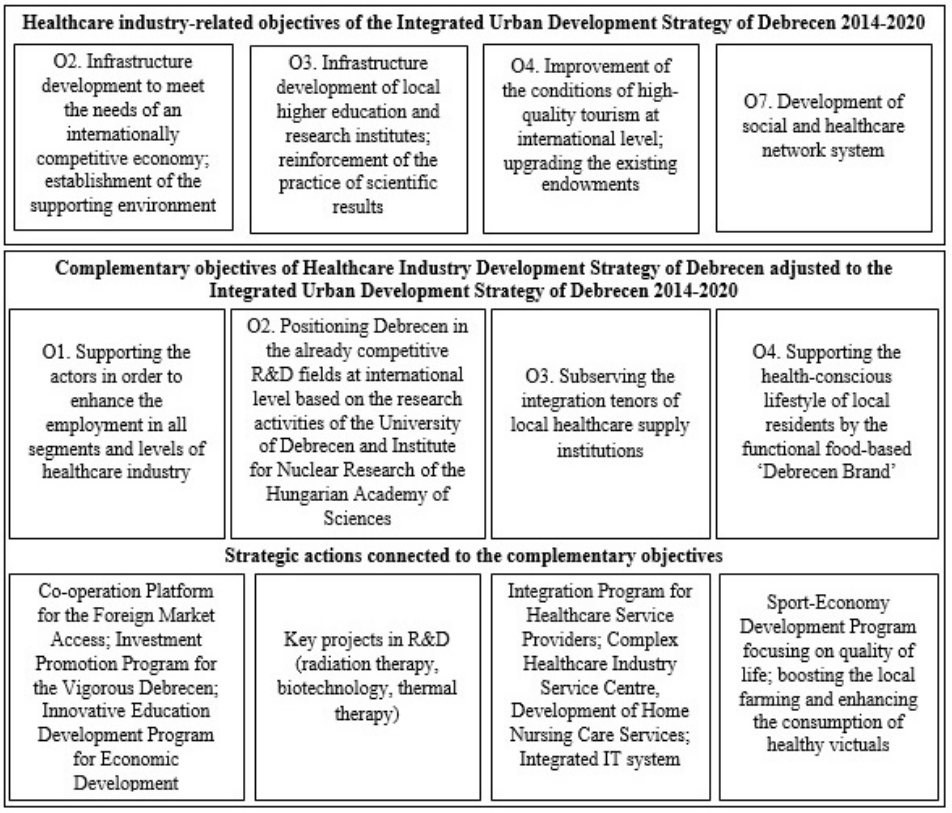


Figure 1. Set of objectives related to the development of healthcare industry in Debrecen between 2014 and 2020 (Source: Healthcare Industry Development Strategy of Debrecen, 2014)

The sector forms one of the independent pillars in the Innovation Economic Development Program of Debrecen with six planned key-projects (Participation in the Knowledge & Innovation Communities (KIC) Network; Interdisciplinary Radiation Technology Research and Therapy Centre in Debrecen; Complex

Economic Recovery Health Programme; Innovative Education-Development Program for Economic Development; Biotechnology Innovation Centre and establishment of a complex healthcare industry service center; Thermal Therapy Institution). However, projects concerning healthcare industry can also be found in the pillar related to the development of local agriculture and food industry (Functional Food Industry Research Centre, Experimental Food Technology and Packaging Plant in the Industrial Park of the Centre for Agricultural Sciences, University of Debrecen; establishment of technological capacity related to Innovative food industry, establishment of a food-production base for products containing desferri-siderophores).

On the basis of these facts the fundamental aim of our examination is the interpretation of tenors aimed at the reinforcement of the economy of Debrecen and the explanation of local economic development (also influenced by these efforts) in the theoretical context of path-dependence. In this manner, we wish to contribute to the further development of the theory of path-dependence; moreover, our aim is to promote the efficiency of local economic development with our empirical experience. This article — as the initial stage of the research — attempts to delineate the actors of the local healthcare industry and tries to examine the dynamics of enterprises related to the sector. The positioning of the examined segment of the city within the Hungarian healthcare industry and within the economy of Debrecen as well as the comparison of the dynamics of relevant fields of the sector are primarily intended to reveal the process of layering. Our study, which is based on statistical data, corporate press releases, documents of urban- and economic development and secondary sources of corporate information, also deals with the historical antecedents of the main actors of the local healthcare industry, putting emphasis on the analysis of the long-term development of the sector.

General characteristics of the healthcare industry in Debrecen

In Debrecen considerable activities take place not only with the synergy of the industrial segment of healthcare industry in a broader sense (pharmaceutical industry, manufacture of medical instruments, functional food industry) and its service background (wholesale and retail of pharmaceuticals and medical goods, services connected to medical practice activities, medical and thermal tourism), but also with the complex cooperation of the related innovative sectors (agricultural and medical biotechnology, healthcare industry-related R&D). The concentrated presence of the actors of healthcare industry — characterized by extensive co-operate relations — and the overrepresented role of the sector are reflected by the establishment and operation of the Pharmapolis Debrecen

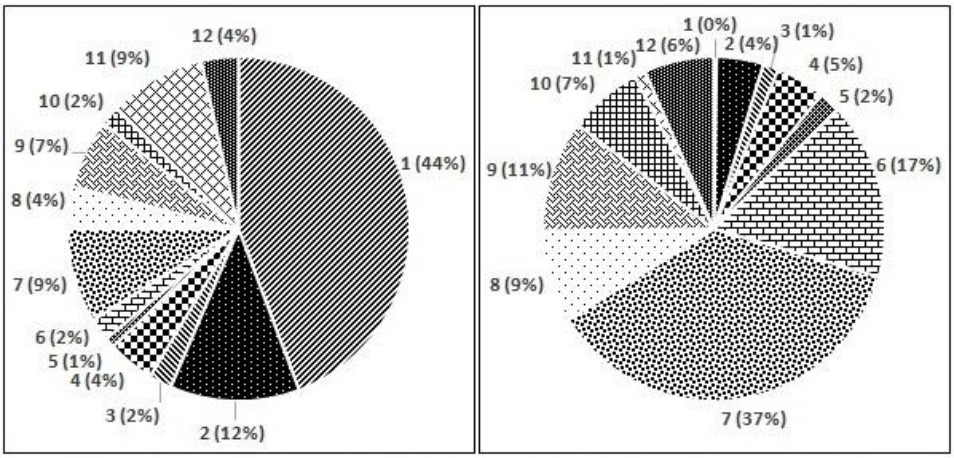
Innovative Pharmaceutical Industry Cluster, the Pharmapolis Innovative Food Industry Cluster, the Thermal Healthcare Industry Cluster Association and the Hungarian Sports and Lifestyle Development Cluster as well.

The healthcare industry has strong traditions in the economic life of Debrecen: the history of the local pharmaceutical industry can be traced back to 1908. Due to the constant development of the sector Debrecen already joined the international pharmaceutical division of labour in the 1970's (Lengyel & Molnár, 2014). Nowadays the Israeli-interested Teva is the most important industrial and labor-market actor of Debrecen — the Central and Eastern European and non-European Manufacturing Unit and the Generic R&D Centre of the company are located in the city. The history of medical instrument manufacturer Medicor Hand Instruments Co. dates back to 1950: the company, which nowadays conducts major export activities (and nevertheless is the domestic market-leader) satisfying the modern human medical and veterinary needs with foreign capacities, was established by only 9 medical technician skilled workers. One of the most traditional industrial sectors of Debrecen is the food-processing (Kozma, 1993; Süli-Zakar, 1996). Debrecen got involved into functional food research activities in the second half of the last decade, which took shape in a cluster-arrangement and came into being in June 2008, specialized in higher value-added food development tasks. The academic background related to medicine and medical practice activity can be traced back to the 1750's to the work of István Hatvani, professor of the Reformed College of Debrecen (chemistry, zoology, biomedicine education). In the field of clinical services, the clinical building complex of the Hungarian Royal University is also notable, which was inaugurated between 1923 and 1927, and which was considered to be one of the most beautiful clinics in Europe at that time.

In the delineation of the actors of the local healthcare industry, the corporate database of the Hungarian Central Statistical Office (Cég-Kód-Tár) and the information collected about the members of healthcare industry-related clusters (headquartered in Debrecen) were applied. Two aspects were taken into consideration in the demarcation of companies belonging to the sector: (1) companies were classified as actors of healthcare industry in a broader sense on the basis of the related main activities (TEÁOR code classification — the Hungarian version of NACE Rev. 2); (2) local members of healthcare industry-related clusters were automatically included in the sample without regard to the main activities. By using this method nearly 1,500 locally-based joint ventures and institutional actors were classified to the sector.

In the second stage of the examination, the compiled database was corrected by collecting actual and more accurate data concerning the number of employees of the joint ventures from an online corporate database (Creditreform, 2015): since institutional data were not included in the corporate database and insufficient information was provided in regard of certain segments of joint ventures, the number of actors with actual and specific data have narrowed to 1,247 enterprises, which together employ 6,732 people. With regard to the missing data of institutions — employing remarkable numbers of employees — this figure does not reflect the actual weight of the sector in the economic life of the city.

The sectoral distribution of joint ventures in the local healthcare industry reveals the dominance of the healthcare-system: the summarized number of actors of hospital activities, general and specialist medical practice activities, dental practice activities, and other human health activities (905 actors) form 72.6% of the total number of local healthcare industry enterprises (Figure 2). In the employment structure of joint ventures of the sector the absolute dominance of the pharmaceutical industry can be observed: with a number of nearly 3,000 employees the pharmaceutical industry concentrates 44% of the employees of the local healthcare industry. Companies engaged in manufacture of irradiation, electro medical and electrotherapeutic equipment, optical instruments and photographic equipment also show a strongly outstanding figure (822 employees): with the share of 12% the medical instrument manufacturing industry is the second most important segment of the local healthcare industry in terms of employment. The relative role of other healthcare industry-related productive activities (agriculture, milling industry, printing, plastic industry) must be highlighted in terms of employment (614 persons, 9% share), which represents an almost equal weight compared to the general and specialist medical practice activities (601 persons) (Figure 2). The examination concluded that in the healthcare industry of Debrecen the service providers are outstanding in terms of the number of companies, while in the aspect of employment the industrial segment dominates concentrating significant workforce. It is important to note as a distorting circumstance that substantial local employer budgetary institutions (e.g. University of Debrecen, institutions of secondary education providing vocational training, Gyula Kenézy Hospital and Clinic, County Health Insurance Fund Administration, regional offices of the National Public Health and Medical Officer Service etc.) were excluded from the examined sample due to the absence of employment data.



Legend: 1. Manufacture of basic pharmaceutical products and pharmaceutical preparations; 2. Manufacture of irradiation, electro medical and electrotherapeutic equipment, optical instruments and photographic equipment; Manufacture of medical and dental instruments and supplies; 3. Wholesale of pharmaceutical goods; 4. Dispensing chemicals in specialised stores; 5. Retail sale of medical and orthopaedic goods in specialised stores; 6. Hospital activities; 7. General and specialist medical practice activities; 8. Dental practice activities; 9. Other human health activities; 10. Research and experimental development of natural sciences and engineering; 11. Other productive activities of healthcare industry 12. Other service activities of healthcare industry.

Figure 2. Sectoral distribution of employees (left) and corporations (right) in the healthcare industry of Debrecen, 2015 (Source: Corporate database of the Hungarian Central Statistical Office (Cég-Kód-Tár), 2013; Creditreform online corporate database, 2015)

The examination of the spatial distribution of the delineated healthcare industry-related activities within the city was based on the postal codes of corporate headquarters. According to the results of the analysis the intense appreciation of the district of the University of Debrecen can be identified: the concentration of actors was 20% or higher in each of the nine observed segments in the surrounding areas of the university, which shows extremely outstanding figures especially in biotechnological R&D (34%), hospital activities (33.5%) and in general, specialist and dental medical practice activities (30%).

After the surroundings of the university, the western part of the city is regarded as the second most important location of the local healthcare industry, concentrating actors of the sector. The overrepresented role of the district equally stands out in the fields of manufacturing medical instruments (13.9%), hospital activities (14.2%), wholesale of pharmaceutical goods (12.2%), biotechnological R&D (11.7%), dental medical practice activities (10.7%) and other human health activities (11.7%). The western part of the city serves as the location of one of the traditional industrial manufacturers (Medicor Hand

Instruments Co.) and service institutions (Gyula Kenézy Hospital and Clinic) of the local healthcare industry; moreover, several major greenfield developments (Biotech Plant of Gedeon Richter, Pharmapolis Science Park) were recently implemented in the industrial park of the district. These experiences show not only the importance of the past heritage, but also highlight the effects of recently realized investments on the spatial structure of the industry.

The dynamic analysis was based on the corporate database of Hungarian Central Statistical Office (Cég-Kód-Tár): the comparative analysis was performed in three different points of time in terms of segments compacting the largest numbers of healthcare industry-related local actors (for the list of the examined segments and the associated TEÁOR (NACE) codes see Table 1; for the number of locally registered corporations see Table 2).

Table 1. TEÁOR (NACE) codes of the examined sectors in 1998, 2006 and 2013

	1998	2006	2013
Manufacture of basic pharmaceutical products and pharmaceutical preparations	2441, 2442	2441, 2442	2110, 2120
Manufacture of irradiation, electro medical and electrotherapeutic equipment, optical instruments and photographic equipment; Manufacture of medical and dental instruments and supplies	3310, 3340	3310, 3340	2660, 2670, 3250
Wholesale of pharmaceutical goods	5146	5146	4646
Dispensing chemicals in specialized stores	5231	5231	4773
Retail sale of medical and orthopaedic goods in specialized stores	5232	5232	4774
Hospital activities	8511	8511	8610
General and specialist medical practice activities	8512	8512	8621, 8622
Dental practice activities	8513	8513	8623
Other human health activities	8514	8514	8690
Research and experimental development of natural sciences and engineering	7310	7310	7211, 7219

Source: Corporate database of the Hungarian Central Statistical Office - Cég-Kód-Tár (Data from 1998; 2006; and 2013)

In terms of the absolute number of joint ventures expansion can be witnessed in all segments of the local healthcare industry, but in the long run shifting from productive activities towards service activities is regarded as typical (Table 2). The latter may be the evidence of the economic restructuring process and the more fragmented firm-size of the service sector as well (the latter was also confirmed by the previously described statements).

Table 2. Number of joint ventures in the examined sectors of Debrecen in 1998, 2006 and 2013

	1998	2006	2013
Manufacture of basic pharmaceutical products and pharmaceutical preparations	3	3	4
Manufacture of irradiation, electro medical and electrotherapeutic equipment, optical instruments and photographic equipment; Manufacture of medical and dental instruments and supplies	49	67	79
Wholesale of pharmaceutical goods	13	15	41
Dispensing chemicals in specialised stores	43	48	73
Retail sale of medical and orthopaedic goods in specialised stores	17	25	40
Hospital activities	2	221	237
General and specialist medical practice activities	119	356	514
Dental practice activities	18	75	122
Other human health activities	45	111	169
Research and experimental development of natural sciences and engineering	32	78	187

Source: Corporate database of the Hungarian Central Statistical Office - Cég-Kód-Tár (Data from 1998; 2006; and 2013)

The pace of growth lags behind the national average in the case of industrial and trade companies, which is also indicated by the declining national weight of the city; while the growth in the number of healthcare-service and R&D companies is more dynamic: the national share of the latter increased both in relation to 1998 and 2006, and between 2006 and 2013 (Figure 3).

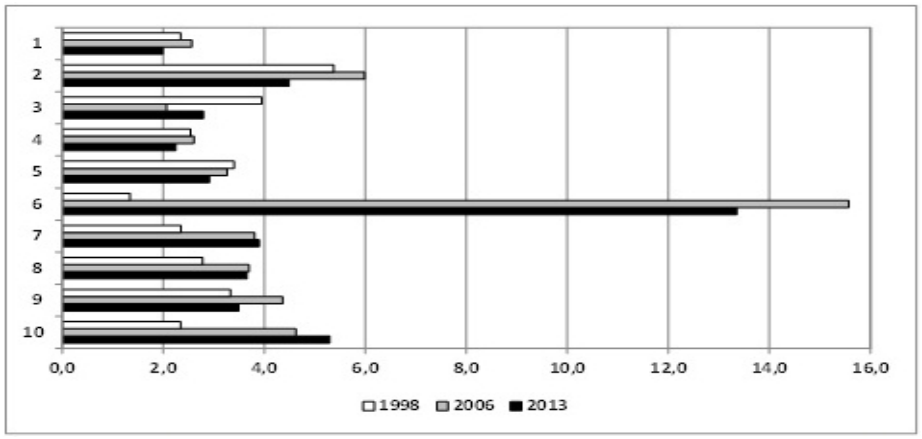


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Figure 3. Weight of Debrecen (%) in the number of joint ventures registered in Hungary in context of the examined sectors (Source: Corporate database of the Hungarian Central Statistical Office - Cég-Kód-Tár, data from 1998; 2006; and 2013)

In 2013 Debrecen's highest national weight was connected to the segments of hospital activities, R&D (biotechnology), and the manufacture of medical instruments (exceeded at least twice Debrecen's share of population in Hungary). The number of enterprises in hospital activities almost reached the figure of Budapest (14% and 13% of share), while in the field of biotechnological R&D — after the dominant capital city (45%) — Debrecen (10%) represented a similar magnitude as Szeged (11%). Most of the medical instrument manufacturer companies were registered in Debrecen (5%) after the capital city (41%) on a national scale. It can be primarily stated in the case of the representatives of healthcare-service and R&D that the dynamics of their growth exceeded the expansion of the city's enterprise stock, although the latter showed a clear increase of share in the whole examined period (Figure 4).

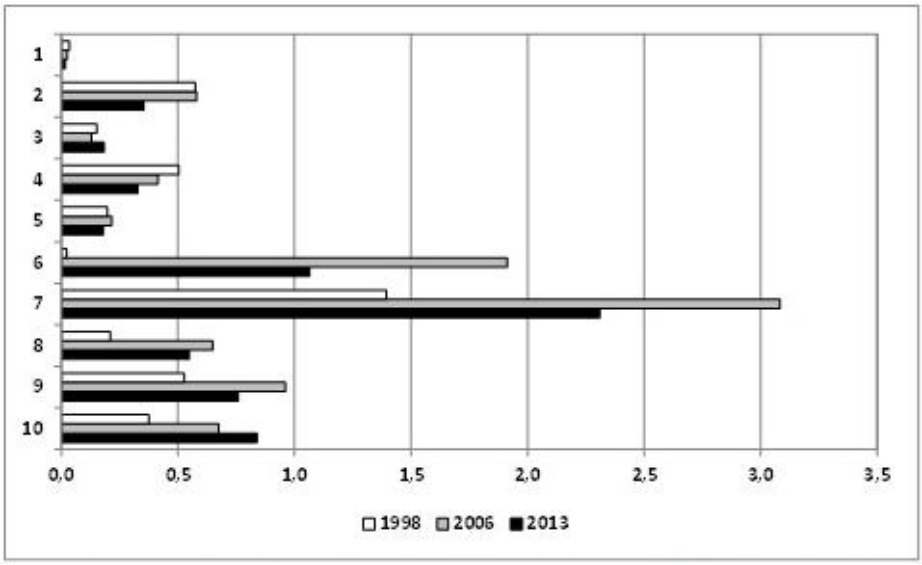

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Figure 4. Weight of the examined sectors (%) in the number of joint ventures registered in Debrecen (Source: Corporate database of the Hungarian Central Statistical Office - Cég-Kód-Tár, data from 1998; 2006; and 2013)

It is important to emphasize that the examined data — based on the raw number of enterprises — show the relative weight of Debrecen within the national economy and those of the healthcare industry within the local economy: a decreasing share of some segments does not necessarily mean absolute shrinking. The national significance of Debrecen can be outlined on the basis of the presented series of data as well as the considerable structural changes within the healthcare industry of the city, but additional examinations focusing on the company sizes and growth characteristics of enterprises are required in order to elaborate the processes of layering more precisely.

Conclusion

Path-dependence as a core concept of evolutionary economic geography can contribute to the explanation of economic success/failure in a specified region. We intended to unfold the issue of path-dependent economic development

through the case study of the healthcare industry of a Hungarian medium-sized city ("minor city"): in addition to the theoretical framework, the issues related to healthcare industry and problems concerning medium-sized cities are considered to be exciting and positional topics at an international level. Besides the theoretical introduction of the topic, our particular goal was the identification of actors of local healthcare industry and the examination of the dynamics of the sector. We ascertained the remarkable weight and diversification of healthcare industry in Debrecen, the traditional roots of which date back to a long history. The considerable change in the distribution of enterprises within the sector refers to important transformation processes. Our essential purpose is to move on from the underlying stage of primary research. We aim to interpret the development of the healthcare industry of Debrecen in the context of path-dependence leaving room for changes (inter alia to examine and analyze the local presence of the phenomena described by the notion of layering, conversion and recombination), that is to evaluate and foster the efficiency of local economic development efforts.

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