

CENTRAL EUROPE’S INDUSTRIAL SPACES: PATH-DEPENDENT UPGRADING OR RADICAL RESTRUCTURING?

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Introduction

Path-dependence in the restructuring of economic spaces, especially Old Industrial regions affected by structural and network–agglomeration-related decline, is most often associated with the accumulation of negative phenomena. Programmes to break regions and their networks out of these trajectories are often focused on looking for new forms of economic growth while rejecting previous industrial legacies as redundant or barriers before growth. However, the ideal type of restructuring masks an arguably much more ambiguous reality. Not only are radical restructuring scenarios over-optimistic about the potential of new branches to provide competitive alternatives in place of old structures, the knowledge, institutions and human potential of former industry – heavily path-dependent factors – can often remain competitive through a more gradual upgrading process.

This paper examines how notions of path-dependence and radical restructuring shape the industrial restructuring process, and how this process has resulted in a spatial dichotomy between industrial and tertiary forms of competitiveness in post-socialist Central Europe. Sub-national data is used in a correlation analysis to highlight both the sub-national (metropolitan vs. non-metropolitan) and national (North-Western vs. South-Eastern) directions of the ongoing differentiation process. Finally, it is argued that tertiarisation in employment structure does not automatically coincide with the emergence of a powerful “post-industrial economy”; on the contrary, outside central agglomerations, spaces which could build on previous manufacturing traditions and rejuvenate the social and institutional networks that underlie them, have been the more successful.

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The transformation of traditional industrial spaces

As a consequence of the major shifts taking place in the world economy, traditional industrial spaces across Europe had to confront a slew of challenges in the second half of the 20th century. Technological change towards less resource- and energy-intensive forms of production coupled with rising input costs; the entry of East Asian and South American producers on the markets of mass consumption products; the growing employment and value creation relevance of services (*Montresor–Marchetti 2007*); and the opening up of previously closed markets have all contributed to increasing competition and the reorganisation of production networks. The changes had affected all industrial spaces, but while some had been able to successfully adapt themselves, others, previously characterised by economic prosperity and stable growth, faced multi-decade decline and often protracted restructuring.

The problem of Old Industrial Regions, champions of earlier industrialisations who had become the losers of this process, has been the subject of much attention in regional studies since the 1970s. From the role of external circumstances such as business cycles, the contested export markets of mature products and their product life cycles (*Steiner 1985, Storper 1992*), attention has gradually turned to the significance of endogenous factors, and resulted in the emergence of two dominant, if interrelated sets of theories for the decline of Old Industrial Regions. One group, advanced by *Steiner (1985)*, *Krugman (1993, in Boschma–Lambooy 1999)*, as well as *Grabher–Stark (1997)*, deals with the consequences of regional overspecialisation, which produces a growth surplus, but in the long term, exposes industry to external shocks as the regional economy only has a diminished ability to seek out new growth opportunities. A different, if linked explanation, heavily rooted in evolutionary economics and proposed by *Storper, Grabher (1993, 1997)*, *Boschma–Lambooy (1999)* and *Hassink (2005)*, examines the relevance of networks and agglomerative processes on the regional scale. It is suggested that deficiencies of institutions and collective learning processes, coupled by the phenomenon of path-dependence, lead to a threefold (functional/institutional, cognitive/technological and political) “lock-in” of the regional economy, which hinders the processes of continuous learning and relearning to such an extent that productive structures can become trapped in a vicious circle of decline and low innovation.

Strategies aiming at breaking regions out of industrial decline processes have evolved in a variety of directions: rejuvenating traditional industries via process innovation and product-based technological learning; transforming into modern spaces of a service-based economy; or most commonly, through the diversification of the industrial structure (for a more detailed examination, see *Lux* 2009). In development rhetoric, especially in the justification for large regeneration projects, notions of radical restructuring have become especially popular: a break is suggested with the impeding industrial legacies and continuities of the crisis areas under treatment. Path-dependence, in this sense, is interpreted as a predominantly negative phenomenon, and in the sense that it tends to play a role in the emergence of the crisis, this view is not entirely incorrect. However, in contrasting images of decline (“rustbelts”) with those of a clean, spacious and above all highly tertiarised (white-collar) modernity, the potential of post-industrial growth in reviving lagging regions is probably over-idealised. In seminal works, the champions of post-industrialism (*Bell* 1973) and “the creative class” (*Florida* 2002) have inscribed a simplified understanding of the primary–secondary–tertiary shift proposed in the Clark–Fischer-hypothesis on the real economy.

There are many problems with the ideal of transiting from industrial to post-industrial regions. One (and perhaps the most relevant) is the strong concentration of the higher advanced tertiary functions – knowledge-intensive business services – on the top tiers of the urban hierarchy, especially world cities and lesser metropolitan regions (*Taylor–Walker* 2001, *Derudder–Taylor–Witlox–Catalano* 2003, *Sassen* 2006), and although there has been an ongoing spreading process where some Old Industrial Regions have performed comparatively well (*Birch–Danny–Andrew* 2010), the results are typically still strongly hierarchical. Secondly, many regeneration projects tend to emphasise physical spaces and urban image with low, even negligible job creation effects. At high public costs and strong international competition for the creative city niche, the returns have often been dubious – more so in light of the speculation-fuelled real estate bust – and the entire approach has been cast into much doubt by a plethora of human geographers (e.g. *Loftman–Nevin* 1995, *Jones* 1998, *Greenhalgh–Shaw* 2003, *Miles* 2005 and *Miles–Paddison* 2005). Most aptly, *Hudson* (1994, 206) has called such consumptionist solutions “a sort of politics of despair, of a lack of alternatives in terms of manufacturing industry or other types of service-sector activity”. Thirdly, there are potential issues with the mismatch between the existing and the imagined (desired) workforce: absent significant and costly retraining programmes to transition employees for the new economy, both social and spatial marginalisation may result. In such a

case, results may present a good outwards image but hardly solve, or even obscure the underlying human problems. Finally, there is much to be said for the growth potential of factors which, while path-dependent and rooted in the traditional economy, can be beneficial for the region. The skills, knowledge base, institutional networks and industrial legacies in a given space represent not only impediments, but assets, and can be turned into new forms with the appropriate upgrading policies.

The directions of the restructuring process in Central Europe

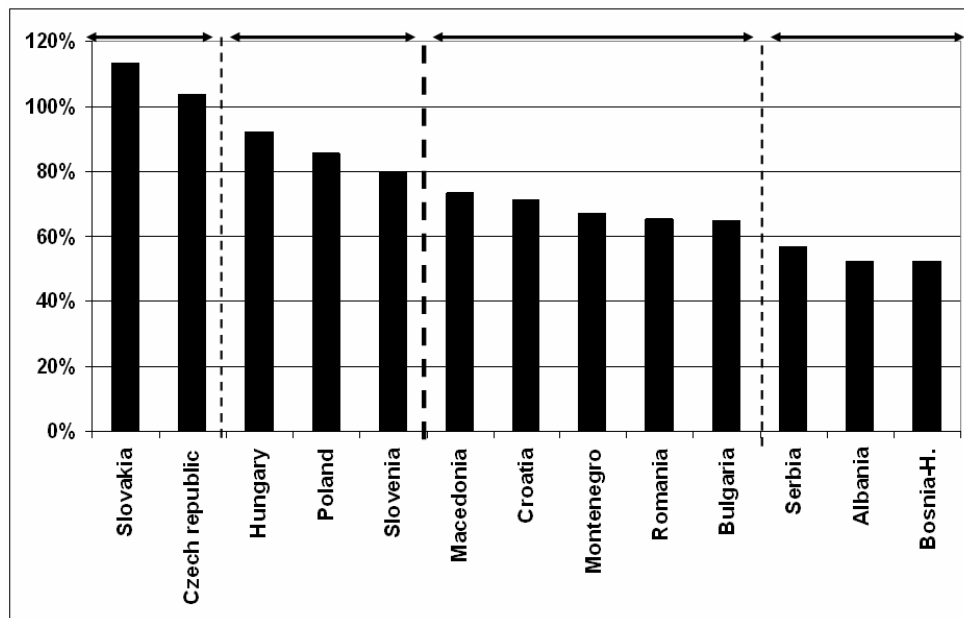
In the post-socialist states of Central Europe, the major crisis of industry had unfolded in the years following systematic change. Similar underlying causes were present in post-socialist Old Industrial Regions as those in old market economies; both the overspecialisation and network–agglomeration group of theories have valid and relevant contributions to make about their decline. The width and severity of postponed/untreated structural crises inherited from the socialist system, the institutional instability of transition, coupled with the inadequacy of financial and political capital for effective restructuring, had placed limits on the capacity of public policy to undertake effective restructuring programmes across several crisis region. Consequently, restructuring was mainly market-driven instead of managed, with only limited interventions in attempts to prevent complete social and economic breakdowns in some prioritised areas. This has led to both a strong, spatially uneven tertiarisation process, and the dominant role of Foreign Direct Investment as a driving force of restructuring. The resulting geographies of industry and services show both national and sub-national differences to a significant extent.

The process of tertiarisation should be understood as not only ubiquitous, but divergent in its effects on spatial differentiation. In general, it can be seen as a vital process of structural correction, bringing formerly over-industrialised economies in line with European trends, and also allowing the rise of consumption and business services, which were kept artificially depressed by the bureaucratic coordination of socialism. Tertiarisation also serves as a modernisation process – transition towards post-industrial economies as it had been seen first in Western, then Southern Europe. However, this modernisation, like elsewhere, follows a hierarchical spreading process, affecting large cities first, and lesser urban centres only gradually and – what is more remarkable – much more modestly (see *Gál* 2005 for the example on banking, *Horváth* 2009 for R&D and this paper for advanced

business services). Finally, some outcomes of tertiarisation are best seen as not at all beneficial: in marginalised areas, a high share of service employment can be considered to conceal a lack, or destruction of other economic opportunities; instead of modernisation via entrepreneurship, the driving force is personal and collective survival. While structural correction should be understood as a universal and ultimately beneficial result of market transformation, the modernising and destructive manifestation of tertiarisation are meanwhile unevenly distributed.

The unevenness of this restructuring can be seen on a state-by-state level. As seen on *Figure 1*, the degree of tertiarisation among the national economies of Central Europe does not correspond to development level – in fact, the reverse appears to be true, and differences emerge between a North-Western and a South-Eastern group. In this respect, the countries that have been most successful at retaining a high level of industrial employment – via the successful adaptation of indigenous industry, but mostly reindustrialisation through the attraction of FDI (c.f. *Barta–Kukely 2008*) and advantageous institutional milieus (*Póla 2009*) – have benefited more from transformation than the ones that have not.

Figure 1: Change in industrial employment in Central European post-socialist economies, 1990–2008 (%)

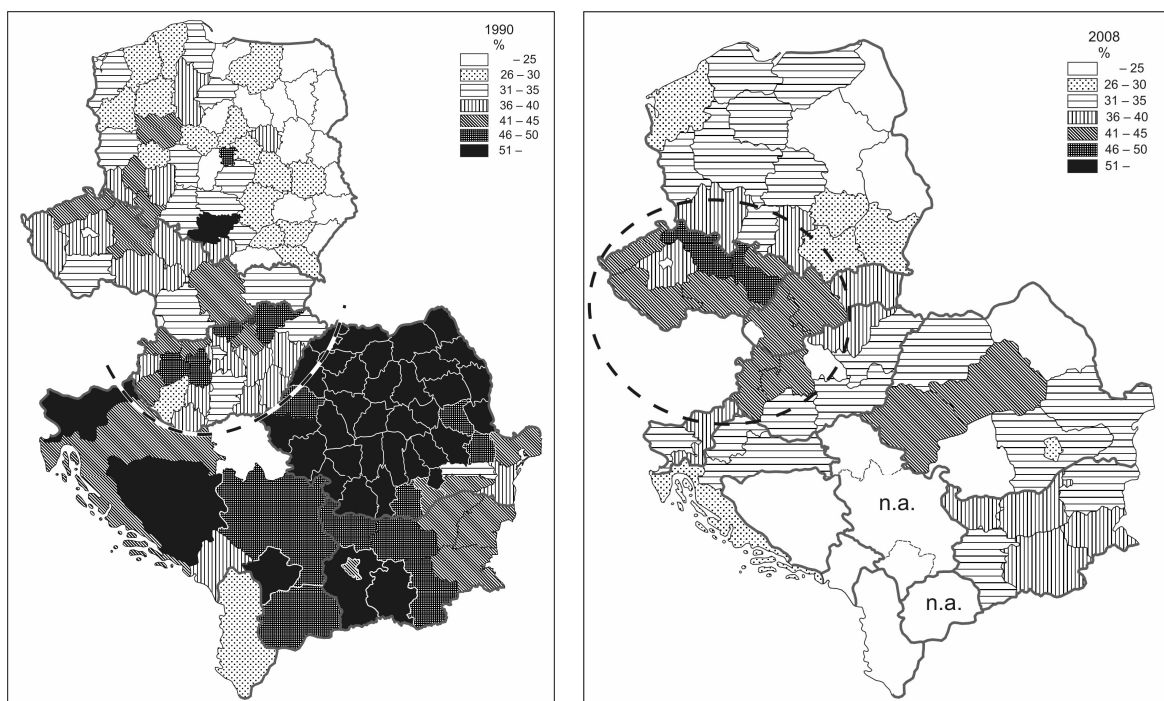


Source: Author’s construction based on national statistical yearbooks and EUROSTAT

A similar conclusion can be drawn from sub-national data (*Figure 2*): on the regional level, there has been a change in the relationship between industrial employment and eco-

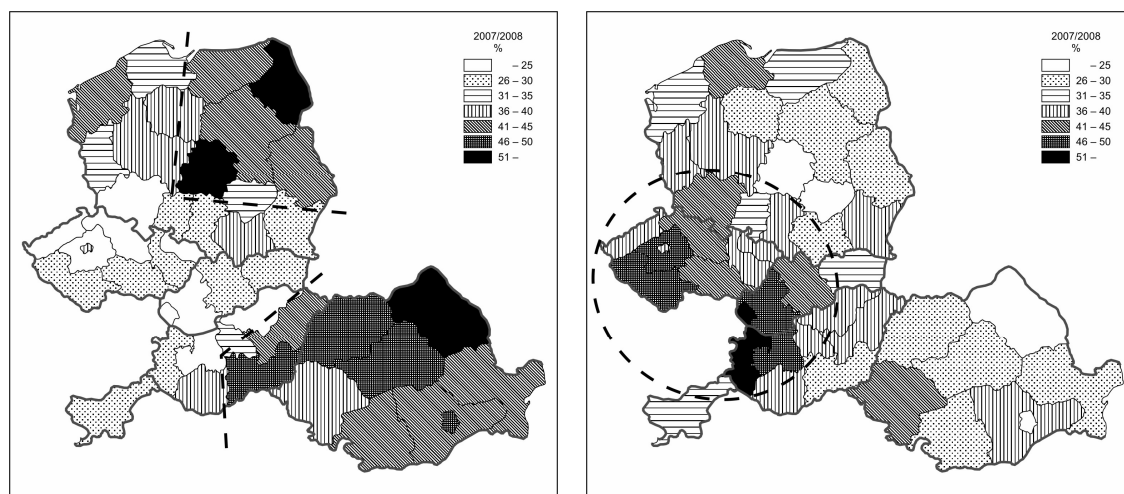
nomic development: in 1990, it was the regions of the South-Eastern states that had the highest share of employment in industry due to extensive catch-up efforts, but this development masked severe qualitative deficiencies. The situation strongly altered by 2008: what becomes visible is a *recreation* of traditional (historical) industrial heartlands, with the new manufacturing core of Central Europe occupying a position eerily similar to the Łódź–Erfurt–Budapest triangle – a macro-concentration of industrialisation and the most competitive enterprises that could be observed going back to the pre-WW I period (*Enyedi 1978*). Structural corrections – at very high social costs – had been the strongest in already disadvantaged areas. If we break down the picture into industrial branches (*Figure 3*), the picture is similar – light and food industries (groups DA–DE under NACE classification) are primarily located in South-Eastern states and Eastern peripheral regions (especially in Poland); meanwhile, the most developed branches of machine industry (NACE DK–DN) are concentrated in the core industrial area (for the specific example of automotive industry, see *Lefilleur 2008* and *Pavlínek–Domański–Guzik 2009*). This area also encompasses 17 of the 25 most developed regions of Central Europe based on nominal GDP per capita: altogether, in this “top list”, seven positions are taken by national capitals with predominantly service-based economies, but elsewhere, the contenders are mainly industrial with a high ration of Foreign Direct Investment.

Figure 2: The spatial structure of industrial employment, 1990 and 2008 (%)



Source: Author's construction based on national statistical yearbooks and EUROSTAT

Figure 3: Location patterns of light and food industry (NACE DA–DE) and machine industry (NACE DK–DN), 2007/2008.



Source: Author's construction based on national statistical yearbooks and EUROSTAT

With respect to the location of advanced business services, (financial intermediation, real estate, renting and business activities; NACE J–K), they correspond closely to the urban hierarchy and are disproportionately located in central regions²: the degree is 61% in Slovenia and Slovakia, 57% in Bulgaria, 56% in Hungary, 51% in Croatia, 42% in the Czech Republic, 39% in Romania and only 23% in Poland. The proportion is higher in states with a more monocentric urban network, less in the Czech Republic with Brno as a weak secondary pole, and somewhat more evenly distributed in relatively polycentric Romania and Poland. The uneven distribution of business services also has implications for the economic benefits of industry: even when manufacturing activities are distributed in a somewhat decentralised manner, the services tied to them – management, research, financial services etc. – are often located off-site in large urban centres, if not out of the country altogether. The ongoing process of business service relocation has resulted in the emergence of business service centres in Central Europe, but results have so far been modest compared to Western Europe, and still show stronger spatial concentration than manufacturing.³

² From here on, for the sake of comparability, the term is used to refer to national capitals as well as their immediate surroundings – i.e. Mazowieckie and Central Hungary, but Prague *plus* Central Bohemia and Bratislava *plus* Western Slovakia etc.

³ Sass (2008) lists 36 business service centres in Hungary that have received investment support; of them, only 8 are located outside the Budapest agglomeration and a further 4 have staff split between Budapest and one of Hungary's large cities.

Sectoral and spatial components in economic differentiation

Using cross-sectional data, this part of the paper aims to examine the patterns of industrial and service-based competitiveness across Central Europe in both the sectoral and spatial dimension. A correlation analysis of sectoral employment with per capita nominal GDP as a % of the EU-27 average was undertaken across post-socialist Central Europe with a database of 55 regions (for lack of up-to-date sub-national data, Serbia, Montenegro, Albania and Bosnia-Herzegovina were excluded from the analysis). Data for employment was available for 2007–2008, while for GDP, 2006 figures were used. To examine whether there would be identifiable centre-periphery relationships in the spatial structure of industry, separate calculations were made for different categories. First, a distinction was made between a North-Western and South-Eastern group of countries to see if relevant North-West–South-East differences existed. The classification was based on geographical position, but it is also reinforced by data from *Figure 1*. Second, sub-national differences were also incorporated into the analysis with a difference made between central regions (as defined in Footnote 1) and non-central regions. The main results are summarised in *Table 1*.

Table 1: Correlation between the share of sectoral employment (2007–2008) and per capita nominal GDP (2006)

Region	Agriculture, Forestry and Fisheries (NACE A–B)	Industry and Construction (NACE C–F)	Services (NACE G–Q)
All regions	-0.48	-0.16	0.64
North-Western group	-0.48	-0.22	0.70
South-Eastern group	-0.31	-0.26	0.46
Non-central regions	-0.47	0.42	0.30
North-Western group	-0.49	0.71	-0.10
South-Eastern group	-0.10	-0.14	0.21
Central regions	-0.62	-0.58	0.76

Source: Author’s construction based on national statistical yearbooks and EUROSTAT

Looking at the final results, it is visible that both centre-periphery relationships exist, but sub-national differences are more relevant than a North-West–South-East split. Globally, employment in services has a moderate positive correlation with the level of economic development (more so in the North-West), the role of industry and construction is

ambiguous with a weak negative correlation, while agriculture is still tied to traditional underdevelopment. If we remove central regions from our calculations, however, the perspective changes: industry becomes the main contributor to development in the North-Western group, and the modernisation effect of services seems to be very modest, or even exhausted. The difference between North-West and South-East is a difference in growth potential: the FDI-transformed industrial landscape of the North-West is already a strong engine of growth (and it is the author’s considered opinion that this has not been fundamentally altered by the 2008 crisis – not in the long term), while that of the South-East is still before important structural changes and an inflow of investments that would turn it into the same. Finally, the previously discussed concentration of the most advanced services contributes to the growth of central regions: they have moved strongly towards the competitive service-based post-industrial economy, although the positive effects of a select few industries – publishing, fine mechanics and various knowledge-intensive groups – can be measured in their case as well.

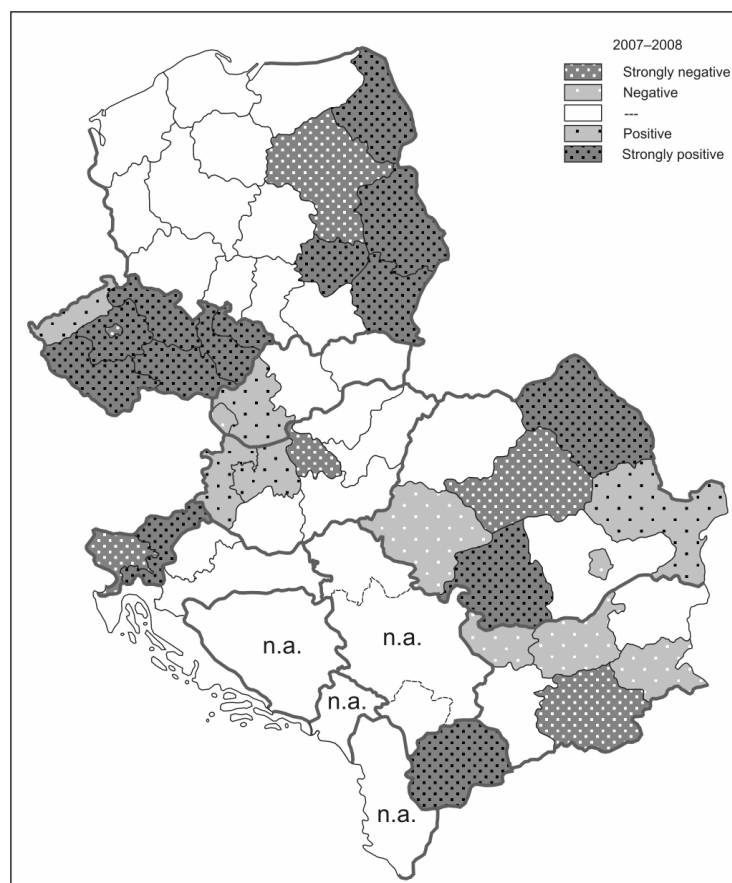
Table 2: Sub-sectoral components (processing industry) and per capita nominal GDP in the North-Western group (2006)

Region	Food and Light (NACE DA–DE)	Chemical (NACE DF–DH)	Metal (NACE DI–DJ)	Machine (NACE DK–DN)
All regions	-0.2	0.1	-0.1	0.3
Non-central regions	-0.6	-0.1	0.2	0.6
Central regions	0.3	-0.4	-0.2	-0.1

Source: Author’s construction based on national statistical yearbooks and EUROSTAT

A further analysis of results was possible via the finer break-down of employment data for industry in *Table 2*. Here, due to the availability of sub-national data, only the 37 regions of the North-Western group could be included. Confirming previous hypotheses, employment in machine industry (NACE DK–DN, especially electrical, optical and transport equipment) showed a moderate positive correlation (0.6) in non-central regions and a very weak negative one (-0.1) in central ones. Conversely, the values for food and light industry (NACE DA–DE) were -0.6 and 0.3, respectively (although DE, paper, printing and publishing, which has strong ties to creative industries, were at 0.8 in the central group). FDI-driven manufacturing, therefore, can be seen as the strongest component of territorial competitiveness outside central regions.

Figure 3: Regional correlation between the share of sectoral employment (2007–2008) and per capita nominal GDP (2006)



Source: Author’s construction based on national statistical yearbooks and EUROSTAT

In an attempt to draw further conclusions, the degree of correlation was also examined on the regional level (*Figure 3*). Since correlation analysis is not directly possible for individual regions, values were instead determined by testing how the removal of data points would affect the correlation coefficient for the remaining dataset. These were then placed on a five-step scale indicating the direction and degree of correlation. Again, results showed a confirmation of previous hypotheses: in the North-Western group, regions in Central Europe’s industrial heartland showed positive, often strongly positive correlation while the case was opposite in central regions; to the southwest, the picture was more varied. However, there is also something that may be a glimmer of hope to some peripheral regions – in Eastern Poland and Romania’s less developed regions, positive correlation can be seen between industrial employment and economic development. It may be assumed, although currently without strong statistical evidence, that food industry and some light industrial traditions are the reasons for this competitiveness.

Discussion: Path-dependent industrial upgrading as a virtuous legacy

As the previous section of the paper has demonstrated, notions of radical industrial restructuring, or progression from industrial to post-industrial economies as a self-evident consequence of post-socialist industrial restructuring seem far-fetched: the tertiary economies of central regions are in contrast with non-central spaces where economic development is still largely tied to industry, primarily manufacturing. While services play a vital role in employment, they usually do not represent high value added sectors and where they do, they have so far failed to develop strong regional specialisations.

The more and less concentrated nature of competitiveness based on the tertiary and secondary sector has wide-ranging implications. As argued previously (*Lux* 2008, 2009), there is a case for a differentiated understanding of territorial competitiveness in post-socialist Central Europe. In central regions, the advantages of service-based growth have been realised to their fullest, and with the split between industrial production and related services, some of the indirect benefits of the secondary sector also manifest there. A select number of knowledge-intensive industries have similarly strong positions. In intermediate regions – non-metropolitan regions which had benefited from mainly FDI-based industries – competitiveness is largely industrial, and the beneficial effects of industrial upgrading and, more recently, modest cluster development, are apparent. Finally, in peripheral regions (both traditional peripheries and de-industrialised Old Industrial Regions), this beneficial effect is much less present, although traditional food and light industry, somewhat less integrated into transnational production networks, maintain footholds.

It is a question worth asking whether this threefold classification is a consequence of a development lag between Western and Central European economies, as the late arrival of the industrial crisis also suggests, or the strong role played by industry is a product of a region-specific development model. Analysis by *Czirfusz* (2007) has shown that economic specialisation in industry is found in the Central European heartland, Southern Germany, Southern Ireland and Transylvania; in this respect, it may be possible to speak of a more or less continuous space of industry-based integration from Bavaria to Budapest and Ljubljana. The re-emergence of historical spatial patterns in competitiveness and economic specialisation offer suggestions for the latter. Underlying “soft” location factors that have contributed to them can be seen as path-dependent, with roots in long development processes and industrial legacies. Manufacturing traditions, the availability of skilled labour force, institutional learning ability, reconstructed social and institutional networks including

training and higher education belong to this category, and have become more and more influential in development over the last decade. Certain continuities in this sense have a strongly beneficial role, and are more close to a gradual understanding of industrial restructuring than radical renewal – closest to the productionist model in *Hudson's* (1994) typology. Until the more recent phases of transition, mainly larger-scale, branch-plant style industrial investments have been the most widespread, with a strong duality between domestically and internationally owned entities (*Barta 2005, Havlik 2005, Kiss 2007*). However, both with the evolution of industrial integration processes and the adaptation necessitated by the crisis, SMEs, their networks and the increasing involvement of domestic or other Central European suppliers have become increasingly relevant in further progress. Several authors (e.g. *Guerrieri 1998, Lemoine 1998, Soós 2002 and Havlik 2005*) have shown the strong role played by labour- and scale-intensive production types in the industrial structure of post-socialist states in the first decade of transition; however, looking at the subsequent development process (*Lefilleur 2008, Jürgens–Krzywdzinski 2009*), it becomes apparent that the upgrading process has led to the increasing share of higher value added production types (specialised supplier and knowledge-intensive industry) and a new European division of labour.

In sum, it can be suggested that in the industrial transformation of Central Europe, path-dependence has not been an exclusively disadvantageous phenomenon, just like it hasn't been in Western European industrial spaces. Outside central agglomerations, the advantages of post-industrial economy have been rather limited, and all of the reservations outlined in the second part of the paper apply. The corrections of the economic branch structure have largely run their course; in fact, it is more the possibility of further de-industrialisation and de-specialisation in non-metropolitan areas, not over-industrialisation, which can be seen as more problematic. If the upgrading process in the industry has not made Central European industrial spaces prosperous overnight, it has at least led to their gradual and significant improvement, and can be expected to continue beyond the crisis. It remains to be seen if, and how their lessons may be applied to spaces that have so far been unable to integrate into this process, or if other (possibly also path-dependent) sources of competitiveness can become relevant in the unfolding post-transition period.

References

- Barta, Györgyi (2005): The role of Foreign Direct Investment in the spatial restructuring of Hungarian industry. Barta, Györgyi – G. Fekete, Éva – Kukorelli Szörényiné, Irén – Timár, Judit (eds.): *Hungarian spaces and places: patterns of transition*. Centre for Regional Studies, Pécs, pp. 143–160.
- Barta, Györgyi – Kukely, György (2008): Re-industrialisation in the world and in Hungary. *European Spatial Research and Policy* 2, pp. 5–26.
- Bell, Daniel (1973): *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. 1999 Special Anniversary Edition. Basic Books, New York.
- Birch, Ken – Danny, MacKinnon – Andrew, Cumbers (2010): Old Industrial Regions in Europe: A comparative assessment of economic performance. *Regional Studies* 1, pp. 35–53.
- Boschma, Ron – Lambooy, Jan (1999): The prospects of an adjustment policy based on collective learning in Old Industrial Regions. *Geojournal* 49, pp. 391–399.
- Czirfusz, Márton (2007): Struktúrák regionális egyenlőtlenségei. [Regional Structural Inequalities] *Tér és Társadalom* 1, pp. 69–83.
- Derudder, B. – Taylor, P. J. – Witlox, F. – Catalano, G. (2003): Hierarchical tendencies and regional patterns in the world city network: A global urban analysis of 234 cities.
- Enyedi, György (1978): *Kelet-Közép-Európa gazdaságföldrajza*. [The economic geography of Eastern Central Europe]. Közgazdasági és Jogi Könyvkiadó, Budapest.
- Florida, Richard (2003): *The Rise of the Creative Class: And How It's Transforming Work, Leisure and Everyday Life*. Basic Books, New York.
- Gál, Zoltán (2005): The development and the polarised spatial structure of the Hungarian banking system in a transforming economy. Barta, Györgyi – G. Fekete, Éva – Kukorelli Szörényiné, Irén – Timár, Judit (eds.): *Hungarian spaces and places: Patterns of transition*. Centre for Regional Studies, Pécs, pp. 197–219.
- Grabher, Gernot (1993): The weakness of strong ties. The lock-in of regional development in the Ruhr area. Grabher, Gernot (ed.): *The embedded firm. On the socioeconomics of industrial networks*. Routledge, London, pp. 255–277.
- Grabher, Gernot (1997): Adaptation at the cost of adaptability? Restructuring the Eastern German regional economy. Grabher, Gernot – Stark, David (eds.): *Restructuring networks in post-socialism. Legacies, linkages and localities*. Oxford University Press, Oxford, pp. 107–134.
- Grabher, Gernot – Stark, David (1997): Organizing diversity: Evolutionary theory, network analysis, and post-socialism. Grabher, Gernot – Stark, David (eds.): *Restructuring networks in post-socialism. Legacies, linkages and localities*. Oxford University Press, Oxford, pp. 1–32.

- Greenhalgh, Paul – Shaw, Keith (2003): Regional Development Agencies and physical regeneration in England: Can RDAs deliver the urban renaissance? *Planning Practice & Research* 2–3, pp. 161–178.
- Guerrieri, Paolo (1998): Trade patterns, Foreign Direct Investment, and industrial restructuring of Central and Eastern Europe. Zysman, John – Schwartz, Andrew (eds.): *Enlarging Europe: The industrial foundations of a new political reality*. University of California at Berkeley, Berkeley, pp. 130–156.
- Hassink, Robert (2005): How to unlock regional economies from path dependency? From learning region to learning cluster. *European Planning Studies* 4, pp. 521–535.
- Havlik, Peter (2005): Central and East European industry in an enlarged European Union: Restructuring, specialisation and catching-up. *Économie Internationale* 102, pp. 107–132.
- Horváth, Gyula (2009): *Cohesion deficiencies in Eastern and Central Europe – Inequalities of regional research area*. Discussion Papers No. 72. Centre for Regional Studies, Pécs.
- Hudson, Ray (1994): Institutional change, cultural transformation and economic regeneration: Myths and realities from Europe's Old Industrial Areas. Amin, Ash – Thrift, Nigel (eds.): *Globalization, institutions, and regional development in Europe*. Oxford University Press, Oxford, pp. 198–216.
- Jones, Andrew (1998): Issues in waterfront regeneration: More sobering thoughts – a UK perspective. *Planning Practice & Research* 4, pp. 433–442.
- Jürgens, Ulrich – Krzywdzinski, Martin (2009): Changing east-west division of labour in the European automotive industry. *European Urban and Regional Studies* 1, pp. 27–42.
- Kiss, Éva (2007): Foreign Direct Investment in Hungary. Industry and its spatial effects. *Eastern European Economics* 1, pp. 6–28.
- Lefilleur, Julien (2008): Geographic reorganisation of the European automobile sector. What role for the Central and East European countries in an enlarged European Union? An empirical approach. *Eastern European Economics* 5, pp. 69–91.
- Lemoine, Françoise (1998): Integrating Central and Eastern Europe in the regional trade and production network. Zysman, John – Schwartz, Andrew (eds.): *Enlarging Europe: The industrial foundations of a new political reality*. University of California at Berkeley, Berkeley, pp. 130–156.
- Loftman, Patrick – Nevin, Brendan (1995): Prestige projects and urban regeneration in the 1980s and 1990s: A review of benefits and limitations. *Planning Practice & Research* 3–4, pp. 299–315.
- Lux, Gabor (2008): *Industrial development, public policy and spatial differentiation in Central Europe: Continuities and change*. Discussion Papers No. 62. Centre for Regional Studies of Hungarian Academy of Sciences, Pécs.
<http://www.dti.rkk.hu/kiadv/discussion/discussion62.pdf>

- Lux, Gabor (2009): Divergent patterns of adaptation among Central European Old Industrial Regions. *European Spatial Research and Policy* 1, pp. 145–157.
- Miles, Malcolm (2005): Interruptions: Testing the rhetoric of culturally led urban regeneration. *Urban Studies* 5–6, pp. 889–911.
- Miles, Steven – Paddison, Ronan (2005): Introduction: The rise and rise of culture-led urban regeneration. *Urban Studies* 5–6, pp. 833–839.
- Montresor, Sandro – Marzetti, Giuseppe Vittucci (2007): *The deindustrialisation/tertiarisation hypothesis reconsidered: A subsystem application to the OECD7. Working Papers 622*. Dipartimento Scienze Economiche, Universita' di Bologna, Bologna. 25 p. <http://www2.dse.unibo.it/wp/622.pdf>
- Pavlínek, Petr – Domański, Bolesław – Guzik, Robert (2009): Industrial upgrading through Foreign Direct Investment in Central European automotive manufacturing. *European Urban and Regional Studies* 1, 43–63.
- Póla, Péter (2009): Az újraiparosítás intézményi feltételei. [The institutional conditions of reindustrialisation]. Fodor, István (ed.): *A régiók újraiparosítása. A Dél-Dunántúl esélyei*. MTA Regionális Kutatások Központja, Pécs, pp. 69–78.
- Prisching, Manfred (1985): Die Stagnation von Regionen und Branchen. Eine Theorie sozioökonomischer Anpassungsprozesse. *Wirtschaft und Gesellschaft* 2, pp. 175–194.
- Sass, Magdolna (2008): A szolgáltatások relokációja – európai folyamatok [The relocation of services – European processes. *Európai Tükör* 7–8, pp. 85–100.
- Sassen, Saskia (2006): *Cities in a world economy. Third edition*. Pine Forge Press, Thousand Oaks – London – Delhi.
- Soós, Károly Attila (2002): Az átmeneti gazdaságok EU-exportja nemzetközi összehasonlításban, 1993–2000. [The EU export of transition economies in international comparison, 1993–2000]. *Közgazdasági Szemle* 12, pp. 1063–1080.
- Steiner, Michael (1985): Old Industrial Areas: A theoretical approach. *Urban Studies* 5, pp. 387–398.
- Storper, Michael (1992): The limits to globalization: Technology districts and international trade. *Economic Geography* 1, pp. 60–93.
- Taylor, Peter J. – Walker, D. R. F. (2001): World cities: A first multivariate analysis of their service complexes. *Urban Studies* 1, pp. 23–47.