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SOFT FACTORS OF REGIONAL DEVELOPMENT

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Abstract:

This paper deals with immaterial factors of regional development. As it is shown in two case studies, intangible items, such as image, stereotypes or overall atmosphere of the place can hamper the development in many territories. From this point of view, old industrial areas represent particularly sensitive entities. As suggested, it is useful to examine the sources of formation of mental maps on the one hand and actively influence them on the other hand.

Key words: regional development, soft factors, old industrial regions, Ostrava agglomeration, Katowice conurbation

Introduction

Theories on regional and local economic growth and development increasingly reckon with so-called soft factors. Albeit they do not have primarily economic character they bear ample economic implications and contribute to the formation of 'aggregate competitiveness' of states, regions and localities. The fact that soft factors of local and regional growth and development usually cannot be quantified directly and exactly, leads frequently to their omission. However, numerous institutional economists, economic geographers and regionalists rightly claim that inclusion of these institutional factors in the thoughts about economic growth and development enables us to use holistic approach against one-sided success of reductionism. It becomes apparent that realistic approaches towards territorial economic growth and development should take these institutional factors into consideration.

The main aim of the paper is to show the role of chosen immaterial factors of regional development in old industrial areas. There are no doubts about the growth of importance of hardly measurable, less tangible, nevertheless still existing soft factors of regional development. In this context, the influence of media and school textbooks on the formation of regional image will be discussed. While media can be grasped as short-term co-determinants of regional image, school textbooks influence the reputation of regions mainly in the long run. Two case studies that focus on the immaterial dimension of restructuring in two traditional industrial regions, Ostrava agglomeration and Katowice conurbation, prove the relevance of the psychosocial components of regional development.

Process of economic revitalisation requires an appropriate socio-economic regional milieu. Economic motivation has to be supplemented by additional forces in the form of regional patriotism, identification with the region and ethics. The new role of the old region should be sought and found mainly by its inhabitants. They are living in the region but they should perceive the coexistence with the given territory as an intrinsic value. Regional identity and regional consciousness should therefore form an inseparable part of every developmental territorial strategy. Both external and internal regional images play a crucial role in this context.

1. Transformation of Old Industrial Regions from Material and Immaterial Perspectives

Traditional industrial regions are currently compelled to cope with numerous problems. Industrial monostructure, lack of innovative milieu, culture of dependency, rigid institutions, shrinking traditional industries as well as limited social and environmental attractiveness to new investors constitute a real bane for their development (see for instance Sadler, 1992, Hudson, 1994 or Sucháček, 2005c). Economic decline, unemployment or social tension represent just a sample of issues, which are closely interconnected with aforementioned unfavourable characteristics.

In the long run, regions of 'smoking chimneys' enjoyed an economic growth. However, 1960-ies and 1970-ies can be perceived as turning points in the history of these regions. Technological changes and subsequent process of globalisation uncovered the vulnerability of the monostructure of their economies. Sharpened competition in the world markets connected with the move from Fordist 'industrial economy' towards Post-fordist 'informational economy' induced the necessity of the restructuring of traditional industrial regions. Not surprisingly, numerous theories are devoted to the problems of old industrial regions.

Massey (1984) focuses on so-called new spatial divisions of labour. She asserts that management and R&D functions tend to concentrate mostly into metropolitan territories while the other – mainly old industrial or underdeveloped regions – are 'sentenced' to manufacturing functions. It is claimed that spatial distribution of new investments is rather a selective one. Theories of flexible specialisation and flexible accumulation (Piore and Sabel, 1984), Californian school (Storper and Walker, 1989) or conception of learning regions (Lundwall, 1992), prove that new, innovative types of production are located out of traditional industrial regions.

These theories represent a natural continuation of traditional approaches, such as Kondratieff's long-wave theory (Kondratieff, 1935) or Berry's three-sector theory (Berry, 1974). Kondratieff shows that territories that acted as propulsive regions of one wave of economic development can lose their positions in the course of the next wave of economic development. Berry concentrates on decreasing employment in primary and secondary economic sectors.

In contrast to advanced countries, traditional industrial regions in post-communist states underwent the economic decline after 1990. However, transformational¹ experiences of their western predecessors were applicable only partly, just for the sake of origin and character of their troubles. Unfavourable heritage of centrally planned economy manifested itself in the form of vulnerability of Central East European industrial regions vis-a-vis new international competition (Gorzalak, 1998). In that sense, the transformation of industrial regions in transitional countries can be perceived as a return to their natural developmental track (Domanski, 2002).

Last decade witnessed the endeavour for rehabilitation of non-economic factors of economic growth. Thus, the notions of social, cultural and political capital are discussed extensively.

¹ The transformation of the old industrial regions should be generally perceived as a long-term process of alteration of economic, social, institutional and environmental settings of the region, which aims at reaching the goals, such as regional economic development, augmentation of its competitiveness, improvement of its environmental and socio-cultural qualities, cultivation of life-style and many others (Tkocz, 2001 or Sucháček, 2005a). These aims are usually further specified by particular regional developmental strategies.

From economic-institutional point of view, any territory, any region should include the institutions that are attractive for capital investments and innovations. In wider perspective, institutions play a relevant role in the processes of transformation of industrial regions (see for instance Jurečka, 2002 or Sucháček, 2004a).

As already indicated, old industrial regions can be characterised also by specific informal institutions of their inhabitants. It is apparent that there is strong tie between the phenomenon of 'path dependency' and structural adaptation of given region. While formal institutions can be altered once and let us say revolutionary, informal ones can often be changed only evolutionary, slowly and tend to survive despite the radical changes in formal rules. The structure of old institutions often 'locks' the development in particular sphere. Phenomenon of 'path dependency' contributes to the inertia of the model of regional development that was formed long time ago.

There is abundant evidence from virtually all advanced countries that in the regional milieu, which is dominated by industrial giants, new spheres of industry are developing rather slowly and with big difficulties. Put succinctly, excessive dominance of traditional industrial branches leaves only a small economic and social room for the rise and development of new industries. Transition of old productions into the new ones is braked also by the fact that traditional lines of industry possess higher political power and this power is subsequently transformed into economic support of traditional heavy industries.

What are then the psychosocial factors of the retardation of regional economic revitalisation in old industrial areas? Apparently, regional environment penetrated by the feelings of vanity, helplessness, apathy and resignation can be transformed only in a considerably complicated way. On the other hand, regions with atmosphere of optimism and hope can revitalise and transform themselves much more quickly and smoothly (see for instance Jurečka, 2002 or Sucháček, 2005a).

Unfortunately, the importance of spatial psychological characteristics in old industrial regions is still heavily underestimated. Entrepreneurs and investors, but also tourists or the wide public create the mental maps, which usually considerably differ from the reality. The key issue is that mental maps are not formed merely as a result of direct experience but their creation is substantially influenced by information or disinformation gathered from media or by official promotional activities of regions.

The creation of stereotypes embodies one-sided information about industrial and other problem regions. At the same time, mental maps that exist in investors' and entrepreneurs' minds substantially direct the flow of the capital. Briefly speaking, spatial allocation of the capital is dependent upon intangible characteristics of the territories. The influence of mental maps on location analyses of potential investors is apparent also in case of so-called 'imitation effect' (Maier and Todtling, 1997 or Vanhove and Klaasen, 1987).

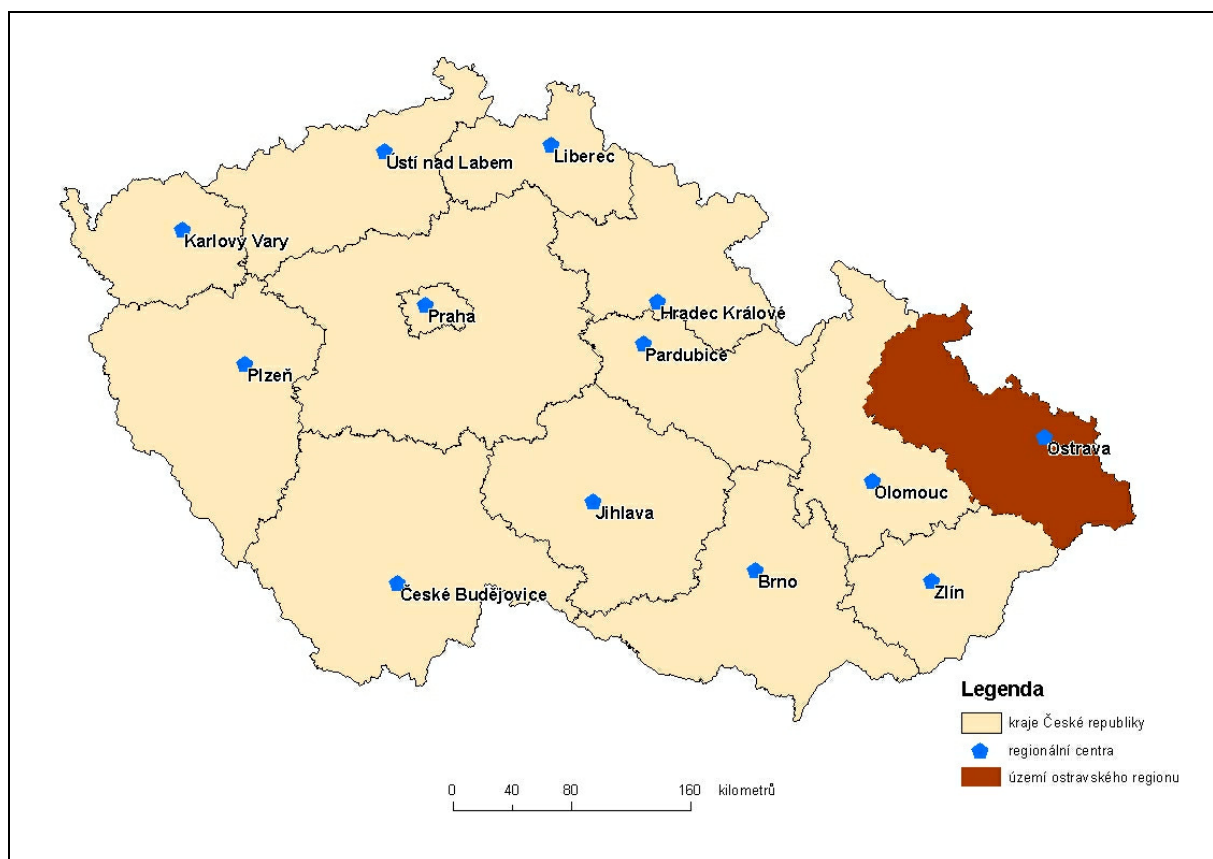
2. Immaterial Dimension of the Transformation of Old Industrial Regions in the Short Run: The Case of Moravian-Silesian Region

It is not necessary to underline that formation of positive regional reputation becomes increasingly demanding task mainly in view of contemporary informational 'floods'. Media news represents one of the most important factors that influence regional image in the short

run. As already indicated, old industrial regions constitute one of the most sensitive entities in terms of media references.

Our case study focuses on Moravian-Silesian region, which is situated in the northeast part of the Czech Republic. It borders with Poland and Slovakia. This region covers an area of 5 555 sq. km. With the population of 1.2 million it is currently the most intensely populated region in the Czech Republic. The core of Moravian-Silesian region lies in Ostrava agglomeration. The overall economic character of the region is determined by the gravity into Ostrava, which is industrial heart of the whole region. The complementary character of Moravian-Silesian region (industrial areas versus recreational or rural agricultural places) ensures an intense integration of socio-economic relations in the framework of the whole territory. Figure 1 shows the geographical position of this region.

Figure 1: Location of Moravian-Silesian region within the Czech Republic



Source: Sucháček (2005a)

Ostrava agglomeration constitutes a typical old industrial region. Its trajectory started to ascend concurrently with the growth of coal mining and steel production. In contrast to the industrial regions in Western Europe, Moravian-Silesian region had not undergone relevant changes after World War II, since its economic and spatial structure had been petrified by the socialist economic policy. In the course of last 15 years, the whole region underwent profound transformation that principally changed its character. In spite of numerous problems connected with afore-mentioned transformation, some positive processes commenced (see for

instance Eckart, 2002 or Sucháček, 2004a). However, it does not seem that it found an adequate and objective reflection in media² (see also Jurečka 2002 or Sucháček, 2004b).

In the Czech Republic, spatial distribution of national media is rather centralized. This fact corresponds with the administrative structure and socio-economic disparities in the framework of the country. All pivotal national media are concentrated into the capital city. At the same time, one has to consider that Prague also acts as administrative, political and socio-cultural center of the country. This is the factor that endangers territorial objectivity of the news (Sucháček, 2004b).

Strongly heterogeneous location of Czech national media manifests itself in the fact that practically one fourth of all news is connected with the capital city. At the same time, Prague's share on total Czech population reaches approximately 11%. Regions that surround the capital city in Bohemian part of the country have more or less proportional share of news and population on the total national statistics. On the contrary, Zlínský region or Moravian-Silesian region represent the most distant areas in relation to the capital city not only from geographical, but also from psychological standpoint. While Zlínský region's share on the Czech population is roughly 5.8 %, its share on the Czech news reaches mere 2%. The same applies to Moravian-Silesian region, where respective numbers amounted to 12.4% for the population but only 5% for the coverage (for more details see Sucháček, 2004b).

As already mentioned, geographically distant or functionally different regions represent probably the most sensitive entities in terms of territorial imbalance of national news. In the Czech Republic, Moravian-Silesian region can be perceived as a territory, which is beset by the news in national media (see for instance Jurečka, 2002 or Sucháček, 2005a). The bad reputation acts as a true bane for traditional industrial regions, since it discourages potential visitors, investors and reduces the number of interactions with the outer world in general. Unfortunately, national media very often ignore positive events in these regions and on the contrary, hunt down for negative phenomena, such as criminality or unemployment. The following tables show the composition of media (i.e. radio, TV and newspaper) news concerning the capital town of Moravian-Silesian region.

It has to be underlined that in spite of myriads of transformational problems in recent years a few towns in the Czech Republic have undergone such an enormous transformation as Ostrava. Work in many industrial plants has been stopped; the last coal was mined on 30 June 1994 and all the town's collieries are closed. Thousands of miners and steelworkers have re-qualified and found a new work in other branches of industry. Dynamic growth of services helped to mitigate the negative impacts of transformation (see also Sucháček, 2005b).

Tables 1 and 2 give us ample evidence that media news related to Ostrava remain befallen by old stereotypes. The theme 'safety' occupies the most important position in media references; moreover, this topic has been evaluated in more than 70% as a negative one. So, the media present Ostrava primarily as dangerous town and are omitting other aspects of urban life. The

² We can distinguish local, regional and national media. Basically, it is rank-territorial differentiation of media. Obviously, national media are the most influential ones. For the purposes of our article, we will focus on national media, since they refer not only to national or foreign issues but also to particular regions. And just the news concerning regions that are mentioned at the national level, considerably co-determine the creation of mental maps.

same applies to the topic ‘economy’, which focuses mostly on unemployment and its negative consequences.

Table 1: Ostrava in media in 3Q/2000

Theme	Share of news in %
Safety	21.3
Economy	18.1
Society	10.6
Culture	8.2
Communal Affairs	4.9
Politicians	4.2
Transport	4.1
Accidents	3.2
Miscellaneous	25.4

Source: Sucháček (2004b)

Table 2: Ostrava in media in 3Q/2001

Theme	Share of news in %
Safety	28.9
Society	12.7
Economy	11.9
Culture	10.2
Communal Affairs	5.9
Health Services	5.9
Justice	5.1
Public Relations	4.2
Miscellaneous	15.2

Source: Sucháček (2004b)

With the exception of culture, national media do not find many positive aspects of life in Ostrava. Numerous people that have not visited this town or region rely mostly on media and create gloomy and highly negative opinion about the situation in this region. Jurečka (2001, 2002 and 2003) rightly claims that one gets the feeling that Ostrava and Moravian-Silesian region as a whole do not live in a ‘normal’ way³.

Reputations of these territories consequently remain hibernated or even worsen in the course of time. Numerous people that did not visit such kind of regions adopt the negative attitude towards these regions just under the influence of national media. Old industrial regions consequently find themselves in certain isolation. Obviously, it affects the activities of regional population. People living in the region realize that they are ‘sentenced’ to the setbacks. They are exposed to underestimation and distrust of other regions, which culminates in the form of brain drain and subsequently, the territory finds itself in vicious circle of institutional rigidity. Unfortunately, there is sufficient evidence that principles of aforementioned cumulative causation are working (see Jurečka, 2001 or Sucháček, 2005a). Subsequently, rather than about mere territorial development, we are currently entitled to

³ It has to be underlined that composition of media news is currently changing just in view of recent positive economic developments in Moravian-Silesian region. However, this holds true rather for regional media than their national counterparts.

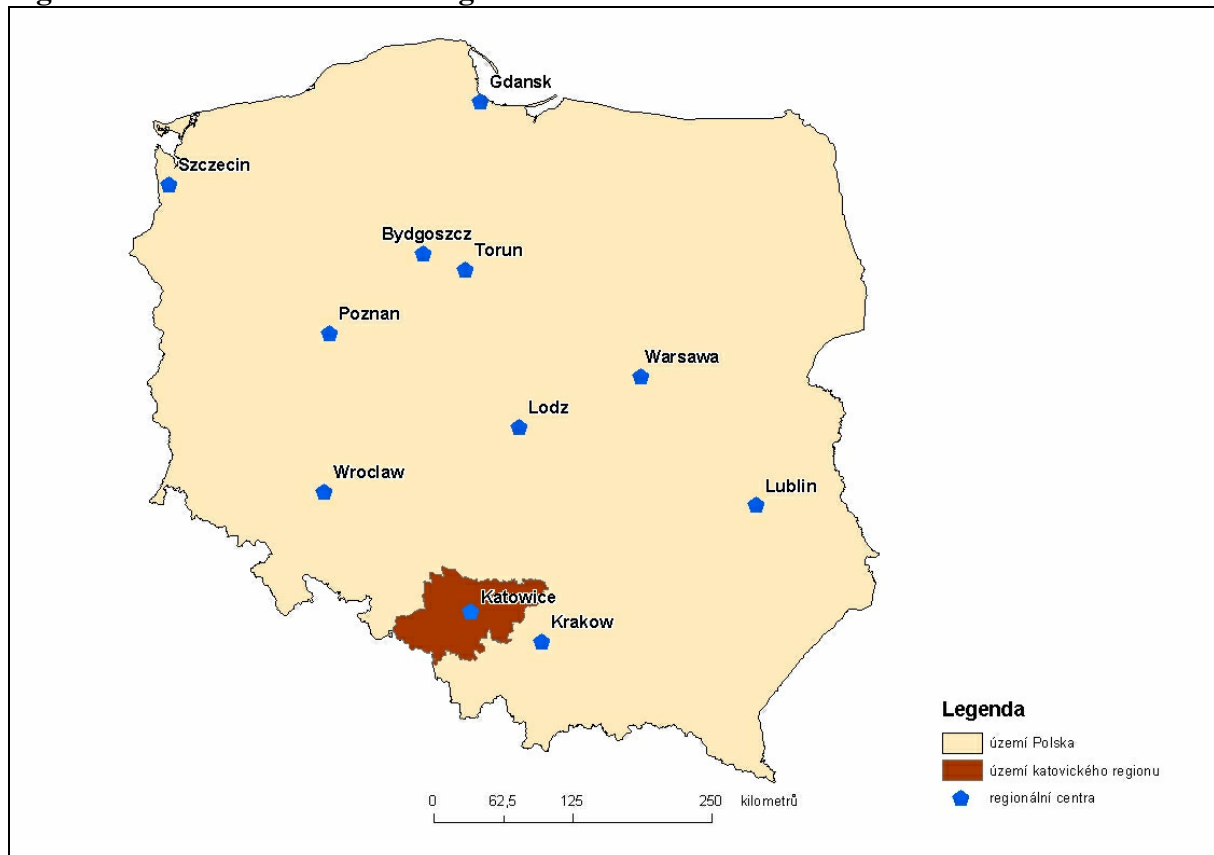
speak about media-territorial or directly meditorial development (see Sucháček, 2004b or Sucháček, 2005a).

3. Immaterial Dimension of the Transformation of Old Industrial Regions in the Long Run: The Case of Upper Silesia

School as the main source of knowledge, skills and behavioural patterns, apart from the family and the media, greatly contributes to the shaping of attitudes, images and stereotypes (Pocock, Hudson, 1978). From this point of view, it is worth to mention the importance of school textbooks in the process of the formation of informal institutions towards countries, regions and cities. The formation of mental maps actually commences already in the heads of pupils just by means of school textbooks that are one of the most important didactic tools. More importantly, these informal institutions gained in the youth accompany the individuals essentially the whole life and tend to be inertial in the adulthood (see also Gwosdz, 2002).

School textbooks can be thus perceived as one of fundamental sources of geographical knowledge as well as an instrument that form space-related stereotypes and attitudes. While media influence the formation of mental maps in the short run, textbooks at elementary and secondary schools do the same in the long run. School curriculum of the given era is not mere reflection of knowledge, but also of dominant value system. At the same time, it forms future knowledge as well as future value system.

Figure 2: Position of Katowice region in the framework of Poland



Source: Sucháček (2005a)

The attention paid to the composition of texts and figures in the school textbooks is far from optimal. Gwosdz (2002) accomplished an interesting analysis that concerned the image of Polish Upper Silesian region in school geographical textbooks. This region is further representative of old industrial areas that underwent a deep transformation after 1990.

Table 3: Distribution of main subjects concerning Upper Silesia in socialist geographical textbooks (numbers indicate the relative frequency of lines devoted to a subject).

Sample n=10	Mean	Median	Minimum	Maximum	Standard deviation
Physical environment	9.3	8.0	0.0	28.6	9.4
Industrial landscape	5.2	1.2	0.0	15.9	6.5
Coal mining	41.0	38.4	18.6	65.9	16.8
Steel industry	14.2	11.9	0.0	31.1	10.6
Industry	11.0	9.8	0.0	31.4	9.5
Degradation and nature protection	4.4	0.0	0.0	12.9	4.0
Population, towns	10.0	10.2	0.0	17.8	6.1
Other	4.9	0.0	0.0	30.4	10.2

Source: Gwosdz (2002)

Table 4: Distribution of main subjects concerning Upper Silesia in post-socialist geographical textbooks (numbers indicate the relative frequency of lines devoted to a subject).

Sample n=15	Mean	Median	Minimum	Maximum	Standard deviation
Physical environment	7.6	2.6	0.0	31.5	10.0
Industrial landscape	6.2	4.1	0.0	19.3	6.7
Coal mining	17.6	13.5	1.3	40.5	14.5
Steel and other industry	14.5	13.5	0.0	27.0	7.4
Degradation and nature protection	35.3	25.1	11.8	72.0	21.2
Population, towns	11.7	12.4	0.0	21.5	5.9
Economic restructuring	1.2	0.0	0.0	8.0	2.6
Other	6.0	3.3	0.0	33.0	9.0

Source: Gwosdz (2002)

Upper Silesian industrial region is most frequently described as conurbation, i.e. polycentric and highly urbanised and industrialised entity. However, one can contemplate a certain dominance of the town of Katowice that acts as administrative centre of this conurbation. From 1999, former Katowice, Bialsko-Biala and Czestochowa voivodships merged into Silesian voivodship. This newly created region has administrative seat in Katowice and covers 12 294 sq. kilometers, which is some 3.9% of the total Polish territory. At the same

time, the number of inhabitants of Silesian voivodship is 4.9 million people or 12.7% of Polish population.

Domanski (2002) states that 'hard core' of Upper Silesian region should be perceived as a group of 27 powiats (districts), which covers 6 650 sq. kilometers or mere 2% of total Polish territory. At the same time, the conurbation concentrates 3.9 million people, which is 10% of Polish population! Strong urbanisation of the territory manifests itself in the fact that 87% of the population lives in 53 towns and remaining people in 43 rural municipalities. The density of the population reaches 590 inhabitants/km², which is four times higher than Polish national average.

Outcomes of social and economic transformation in Upper Silesia are generally evaluated as relatively positive ones (see for instance Eckart, 2002, Tkocz, 2001 or Sucháček, 2005a). The relative success of transformation in Upper Silesia is visible mainly in Poland itself but also in comparison with region's transitional counterparts.

Gwosdz (2002) however found out that image of Upper Silesian region in school geographical textbooks remained more or less stereotypical after 1989. These textbooks reflected the depth of the transformation within the region only partially and moreover with rather great delay. Upper Silesia is continuously presented as an example of industrial entity, while other, non-industrial themes are still represented in minor position (see also Tables 3 and 4).

Tendencies of recent years can be depicted as follows: texts concerning industry are shrinking and those on environmental deterioration and protection are swelling. While the textbooks of socialist period indicated the 'importance' of Upper Silesia, contemporary textbooks seem to present mainly 'the degeneration of the area'. The latest changes are reflected in the textbooks only marginally. As Gwosdz (2002) wisely points out, the fundamental question arises whether the face of Upper Silesia can be described in terms of the industrial landscape alone. The image of Upper Silesian region in school textbooks unfortunately remains rather simplified, stereotypical and largely omits other, i.e. non-industrial or non-environmental aspects of life in Upper Silesia.

The importance of the school textbooks for the formation of mental maps is undeniable mainly in the long run. School textbooks reach such a high degree of importance because they essentially predestinate the general perception of regions in the eyes of the whole generation of people. The image of the region can be thus improved only through the systematic marketing work that cannot ignore the long-term perspective.

Conclusion

In spite of its uneasy quantification, immaterial dimension of regional development becomes the subject of an increasing attention. As it is shown, media references and the contents of school textbooks substantially co-form the informal institutions. Two case studies proved that traditional industrial regions represent particularly sensitive spatial specimen in terms of the influence of media and textbooks on regional development. Stereotypical and inertial perception of these rather specific areas becomes one of principal braking factors of their contemporary and future development. Examination of media news and the contents of school textbooks constitutes an unquestionable challenge for state or European institutions dealing with regional development as well as for local and regional managements. Journalists and

authors of textbooks should become much more important target groups of territorial marketing and management in the future.

References:

1. BERRY, B.L.J. - CONKLING, E.C - RAY, D.M. (1974): *The Geography of Economic Systems*, Englewood Cliffs: Prentice-Hall.
2. DOMANSKI, B. (2002): *Economic Trajectory, Path Dependency and Strategic Intervention in an Old Industrial Region: the case of Upper Silesia*. Paper presented at the Fourth European Urban and Regional Studies Conference (Re)placing Europe: economies, territories and identities in Barcelona, 4-7 July, 2002.
3. ECKART, D. (2002): *Comparative description on reconversion made in Ruhr district, Upper Silesia and Ostrava-Karviná region*, Duisburg: Gerhard Mercator University of Duisburg, mimeo.
4. GORZELAK, G. (1998): *Regional Development and Planning in East Central Europe*, In: Kean, M. (ed.), *Regional Development and Employment Policy. Lessons from Central and Eastern Europe*, pp. 62-76, Geneva: ILO.
5. GWOSDZ, K. (2002): *The Image of Upper Silesia in Geography textbooks 1921-1998*. *Prace geograficzne, zeszyt 106*, pp. 55-72, Kraków: Instytut Geografii UJ.
6. HUDSON, R. (1994): *Institutional change, cultural transformation, and economic regeneration: myths and realities from Europe's old industrial areas*, In: Amin, A, Thrift, N. (eds.): *Globalization, institutions and regional development in Europe*, pp. 331-345, Oxford: Oxford University Press.
7. JEŽEK, J. – JEŽKOVÁ, R. (2008): *Practical application of the town marketing theory and its use as the municipal policy strategy: Case study from the Czech Republic*. In: ERSA conference papers 2007, 48th Congress of European Regional Science Association, Liverpool.
8. JUREČKA, V. (2001): *K některým nedoceneným faktorům rozvoje regionu*. In: *Rozvoj regionů v integrující se Evropě*, pp.254-259, Karviná: Obchodně podnikatelská fakulta Slezské univerzity.
9. JUREČKA, V. (2002): *O některých institucionálních faktorech ekonomické revitalizace ostravského regionu*. In: *Regionální politika kandidátských zemí před vstupem do Evropské unie*, pp.68-76, Ostrava: VŠB-Technical University.
10. JUREČKA, V. (2003): *Přeměna „D47“ v politicko-ekonomický fenomén*. In: VI. *Mezinárodní kolokvium o regionálních vědách*, pp.79-85, Brno: Masarykova universita.
11. KONDRATIEFF, N.D. (1935): *The Long Waves in Economic Life*. *The Review of Economic Statistics*, Vol. 17 (6), pp. 105-115, Harvard: Harvard University Press.
12. LEE, R. – WILLS, J. (eds.) (1997): *Geographies of Economies*, London: Arnold Co.
13. LUNDEVALL, B.A. (ed.) (1992): *National Systems of Innovation: Toward a Theory of Innovation and Interactive Learning*, London: Pinter.
14. MAIER, G. - TÖDTLING, F. (1998): *Regionálna a urbanistická ekonomika II*, Bratislava: Elita.
15. MASSEY, D. (1984): *Spatial Divisions of Labour: Social Structures and the Geography of Production*, London: Macmillan.
16. PIORE, M. – SABEL, CH. (1984): *The Second Industrial Divide: Possibilities for Prosperity*, New York: Basic Books.
17. POCOCK, D. – HUDSON, R. (1978): *Images of the Urban Environment*, London: The Macmillan Press.
18. SADLER, D. (1992): *The Global Region: Production, State Policies and Uneven Development*, Oxford: Pergamon.

19. SKOKAN, K. (2004): Konkurenceschopnost, inovace a klastry v regionálním rozvoji, Ostrava: Repronis, 2004.
20. STORPER, M. – WALKER, R. (1989): The Capitalist Imperative: Territory, Technology and Industrial Growth, Oxford: Basil Blackwell.
21. SUCHÁČEK, J. (2004a): Komparace institucionálně-programové složky restrukturalizace ostravské aglomerace a katovické konurbace v letech 1989-1999. In: Smolík, D. (ed.): Ekonomické, ekologické a sociální aspekty transformačních procesů průmyslových regionů v integrující Evropě, pp. 59-89, Ostrava: VŠB-Technical University.
22. SUCHÁČEK, J. (2004b): K roli médií v regionálním rozvoji. In: Malinovský, J., Milerski, O. (eds.): Posilování regionální konkurenceschopnosti, pp.74-81, Ostrava: VŠB-Technical University.
23. SUCHÁČEK, J. (2005a): Restrukturalizace tradičních průmyslových regionů v tranzitivních ekonomikách, Ostrava: VŠB-Technical University.
24. SUCHÁČEK, J. (2005b): Institutional Dimension of Urban Decline and Transformation in Tilburg (the Netherlands) and Ostrava (Czech Republic). In: Barczyk, S., Ochojski, A. (eds.): Entrepreneurship, Governance, Local and Regional Development, pp. 159-179, Katowice: University of Economics.
25. SUCHÁČEK, J. (2005c): Regional Decline and Restructuring in Ostrava Agglomeration and Katowice Conurbation, 45th Congress of the European Regional Science Association, Vrije Universiteit Amsterdam, CD-ROM.
26. TKOCZ, M. (2001): Restrukturyzacja Przemysłu Regionu Tradycyjnego, Katowice: Wydawnictwo Uniwersytetu Śląskiego.
27. VANHOVE, N. - KLAASEN, L.H. (1987): Regional Policy: A European Approach, Avebury: Aldershot.