

Policy paper

Aiming the EU structural aid to further modernization of NUTS II Moravia-Silesia in the upcoming period of 2014 - 2020

Further enhancement of the quality of life and education of people living
in the region of Moravia-Silesia following a completed and demanding
restructuring

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1 INTRODUCTION

A team of members of the Regional and Environmental Economics Department at the Faculty of Economics of VŠB – TU Ostrava hereby submits for discussion the development priorities of the Region of Moravia-Silesia – NUTS II Moravia-Silesia (*Moravskoslezsko*) (hereinafter referred to as “RMS”) for the upcoming structural period of 2014-2020. The aim of this document is to introduce and discuss priorities of the structural modernization of MSK for the new fiscal period prepared by the research team on the basis of a given approach from a diagnostic analysis, defined issues and barriers of the MSK development.

In addition to a variety of internationally acknowledged positive sides, the Region of Moravia-Silesia (“RMS”) shows a number of considerable and cumulated negative features, structural trends and processes, which represent the results of a long-term concentrated industrial development. The dominance of industry, which was also rather unilaterally oriented in structure, is strongly reflected in a typical development of the economical, social and environmental structures and life conditions of the RMS’s inhabitants.

- 1.1 Since the 1990s, and particularly since the accession of the Czech Republic to the EU and with the support thereof, changes initiated in the restructuring of the region’s economics have penetrated into changes of social structures, life processes in behavior of inhabitants, as well as into the protection or renewal of values of nature. Some prominent delinquent parts of inhabitants’ life and the course of economics have improved. *However, some negative structural trends and processes still exist and it is expected that they will continue existing within the CR and the RMS further on.* Therefore, some analytic steps have been carried out as to evaluate the key factors and to determine the priority issues and barriers of the RMS development, which will be subject to further structural aid from the EU within the period terminating in 2020.

- 1.2 In the latest period of pending transformation, there is an obvious deceleration, or even stagnation, of the region’s modernization, which may be also influenced by the global economic crisis but more importantly by the exhaustion of the endogenous potential of the RMS. In other words, *a gradual loss of resources mainly in the form of outflow of qualified work force* strongly affects the stagnation of modernization¹. It seems today that the RMS lacks the adequate endogenous potential and extra-regional contacts in order to further reach a modern level of regional economics. *Another positive development of modernization cannot get by without some external impulses, which would make the living environment and conditions more attractive for inhabitants and would create and maintain a highly qualified potential work force within the region.*

¹ As it follows from the applied direct and indirect indicators and studies already made. The development of selected indicators is showed in a chart attached hereto.

- 1.3 In order to create and sustain a highly qualified potential work force within the region and to achieve consecutive synergies for the successful transformation of the RMS, *an adequate level of quality of life within the RMS must be achieved first*. As it follows from a number of direct and indirect indicators and studies², *the quality of life today, in particular in industrial cities of the RMS and throughout the region alone, is very low* (one of the worst ones in the CR). Moreover, the latest development does not show any signs of an upcoming significant change and improvement – quite the opposite. Long-term migration losses in the region, in particular the outflow of the most educated inhabitants, which represent a prospective “engine” of modernization in the region, indicate the gravity of the current situation and development trends. *Improvement in the quality of life of inhabitants, which is an area where the value of economic development is being increased the most, is of key importance for the successful transformation, modernization and competitiveness of the region*. All this substantiates the legitimacy of application of the approach based on the quality of life of inhabitants for the purpose of defining strategic priorities of the regional development. Following a long period in the course of which the priorities of the regional development were defined particularly by the needs of heavy industry, the shift towards the quality of life of inhabitants as a priority represents the necessary condition for sustaining the dynamics comparable with other regions in the CR but also a prerequisite for the economic competitiveness of the RMS, overcoming structural burdens and achieving modern structural and performance-related parameters comparable with standards applicable to the entire CR.
- 1.4 The principal factors of the quality of life in the RMS include a poor level of economics and environment. An unfavorable situation caused by a long-term sovereignty and unilateral structurally-oriented heavy industry with low representation of the public service segment is reflected in the *duality of health or healthy environment and/versus employment or economic and production need of one segment of the regional economics*. This duality may be deemed to be a *classic paradigm of a modernized, particularly industrial regions struggling with a technologically obsolete industry, deteriorated environment and low quality of life of people*. The issues relating specifically to (un)employment and short-term or medium-term measures related thereto may be at the forefront of political interest; however, from the long-term point of view, and with consideration of the current trend of globalized economics, moreover in Central Europe, *the prosperity and regional development while preserving the poor environment compared to the Czech and EU standards, is unsustainable*. Therefore, it may be anticipated that it will be necessary to increase both internal and external pressure to “cleanse” the environment and further upgrade and innovate processes in transformation of the regional economics. And it will only be logical to accept these trends of structural modernization and support them through EU structural aid in favor of the quality of life in the RMS. For example, in the Ruhr region in Germany, as well

² For example a study by MasterCard, Quality of Life in Czech Cities, 2010.

as in some other places, this principal duality would last approximately forty years before it was entirely overcome and “abolished” along with a “cleansed” environment, particularly the climate. If a region lacks a clear vision of modernization and fails to implement gradual steps in order to do so, regardless of changes in changing governments, it is unable to proceed with a sufficiently fast transformation and, given the dynamics of today’s world, it lacks its competitiveness. When assessing the development priorities, there is no doubt that it is much more beneficial for the RMS and its inhabitants to accept modernization perspectives of development of the next decade or two, rather than a perspective, which form an actual time horizon, and priorities of past decades or ad hoc improvisation, unless the structural handicap of the RMS compared to other Czech regions and particularly to other EU regions should deepen even more.

- 1.5 The approach to the process of defining the priority strategic areas of modernization based on the *quality of life brings a “life dimension” into the issue of structural development*, and it is not just unilaterally oriented, for example with respect to economics. Quite the opposite – at the very beginning, key issues and barriers of the RMS development are diagnosed in all relevant areas. Then, based on their significance, importance and strength of relationships, *priority strategic areas of modernizations are selected, which are aimed at the closest medium-term time horizon (the following period of structural aid)*; however, with the outlook to the next two decades with respect to its significance for the gradual transformation, which is a long-term process. Selection of strategic areas of development is subject to discussion and topics regarding the directions of modernization in the individual areas are outlined along with a description of the implementation mechanism, including the option of participation of various institutions and players. Through this document and by the selected approach, we would like to contribute to the discussion over the structural priorities, extend already prepared and negotiated development plans of the RMS, and to point to the necessity of a broader consensus as well as a solution and overcoming the duality between “environment and/versus economical environment” within the RMS.

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arranged into this form. The general type of this political message (Policy Paper) has been also specified by adding the word “University” (UPP), which better expresses and stresses the academic nature of this paper.

2 DIAGNOSIS OF THE BARRIERS PREVENTING THE DEVELOPMENT OF THE REGION

Section SOURCE REGIONAL CHARACTERISTICS

2.1 Perception and attractiveness of the Region of Moravia-Silesia

2.1.1 *Ever since the political and economic changes in 1989, the attractiveness of the Region of Moravia-Silesia as the "place to live" has been rather low.* It is documented, *i.a.*, by the highest and continuous negative balance of migration compared to other regions. Among the places attractive for living (Kadeřábková, 2008) "...are those regions which offer sufficient business opportunities with higher salaries, a favorable environment but also a diversified offer of leisure time opportunities". Therefore, what appears to be a significant barrier for the desired quality of life is: (i) insufficient employment opportunities, (ii) poor environment, (iii) insufficient feeling of safety and (iv) higher crime rate associated therewith. In addition, (v) a lower number of education facilities in comparison to inhabitants, (vi) lower attractiveness of university education, and (vii) lower options for culture activities have been also ascertained within the RMS. These indicators show that the region is placed on the bottom part compared to other regions in the CR (ČSU). These areas, which are individually dealt with in the following part of the paper, are associated with the quality of life and with the attitude of citizens to the region and their willingness to live there.

2.1.2 The Region of Moravia-Silesia is objectively characterized, subjectively perceived by inhabitants but *also discussed in public and in the media in connection with a poor environment and actual risks* represented mainly by polluted air. This circumstance significantly lowers both the attractiveness of the RMS for immigration and permanent residence but also for tourism and, as indicated by some studies aimed at competitiveness³, also for the influx of investors and for the increase of competitiveness, particularly that of the core city of Ostrava. According to the aforesaid study (EEIP 2012), the resolution of environmental issues represents one of the three fundamentals of development and competitiveness of the regional centre, the city of Ostrava. The barrier is not just the objective fact that according to ČHMU, out of 10 most polluted cities in 2011, 7 were within the RMS, which is a situation similar to other years, but also the fact that this status has been continuously identified and reported in the nationwide media, which makes the RMS unattractive on a permanent and chronic basis. According to an on-line analysis of the Czech media in 2011, less than 8% of all contributions dealt with the RMS in various aspects. Out of all articles dedicated to a damaged environment, 28% of them related to the RMS. The actual city of Ostrava is then the subject matter of a half of all articles in the on-line media aimed at a damaged environment. However, it must be stressed that in the total share of

³ EEIP, a.s., 2012.

all articles on Ostrava, the contributions dealing with the environmental issues take only 2.4% and 5% in connection with Karviná. In other words, damage to an environment by far does not represent a dominant part of the media's interest in the RMS and particularly in Ostrava and its surroundings. Nevertheless, the RMS and specifically Ostrava hold a dominant position and media exposure within the agenda of polluted environments.⁴

- 2.1.3 The aforesaid study aimed at the competitiveness (EEIP 2012) indicates that the *attractiveness* of a city, or a region, *represents a barrier to a higher influx of investment*, namely those with a higher added value. As is well known, foreign investment has a positive influence on the creation of new jobs and on the economic level of the region. Concentration of foreign investment within the RMS is affected by the nature and industrial structure of the region, specific qualification of manpower and salary levels. The investments made within the region have mostly brought along a lower added value within the meaning of the innovative, development and income opportunities. Foreign investors situate their development centers outside the region and place most of their manufacturing and assembly facilities, which generate a lower added value for the competitiveness and technological development, within the RMS.

2.2 Migration of the population

The Region of Moravia-Silesia is the only region in the Czech Republic, which has been losing population owing to migration within the past two decades. Within this period, the population has declined by nearly 4%, which is the greatest population loss among all regions in the CR. Within the same period, ten regions in the CR have actually grown in population size. In the past sixteen years, the population of the RMS has dropped by 35 thousand (the most out of all Czech regions). *The people departing are particularly those with the highest professional mobility* – the young educated people who represent the key potential of the region.

2.3 Perception of the environment

The state of the environment strongly affects the quality of life of the population. The areas with a deteriorated quality of environment also represent those areas where the quality of life is also worsened. The conurbation of Ostrava where the major part of the population of the region is living has been, on a long-term basis, the area most affected by polluted environment. A significant *influence of the quality of life by the poor quality of the environment is perceived by the majority of population in Ostrava*, out of which 93% sees the current state or the insufficient protection of air and environment as a key issue in the city, or within the region, respectively. According to Ostrava's inhabitants, the state of the environment and the protection of climate represent the key issue of the regional metropolis. The air at the place of their

⁴ Internal background analysis "Semantic Vision" of on-line Czech media in 2011.

residence is (according to nearly 70% of the relevant sample of respondents) considered the least favorable, *i.e.* the most negative factor with respect to the population's health. The people who attribute the negative impact of the polluted air on their health also more often than others say that they suffer from fatigue, asthma, fits of coughing, breathlessness and very often respiratory infections. A higher sickness rate is shown in children as well (mainly the common cold, conjunctive infections, respiratory infections and coughing). Compared to other regions' populations, these people also more often assume that they may not reach the average age common in the CR⁵. It follows from the above-stated facts that the unsatisfactory state of the environment directly affects the quality of life of a major part of the population within the RMS in a very negative way.

2.4 Lifestyle of the RMS's population, prospect of survival

- 2.4.1 On a long-term basis, the Regional of Moravia-Silesia shows *the lowest values of median longevity* of all the regions in the CR. The difference in the median longevity at birth in men is considerable in the RMS – by 4 years in favor of men living in Prague. The prospect of survival of women in the RMS has been the third worst of all Czech regions, following the regions of Ústí and Karlovy Vary. Only in these three regions, the value of this indicator has not exceeded 80 years of age.
- 2.4.2 It follows from the values of the indicator of standardized gross mortality rate in men that *among the Czech regions, the RMS shows the second highest mortality rate*, which points to a long-term grave issue. The issue is, moreover, amplified by the fact that the difference in mortality of the region's population is getting more prominent compared to the regions on the other side of the spectrum. The key cause of the current situation may be a combination of factors, such as jobs and employment conditions, an unhealthy lifestyle and polluted air in the RMS, which brings along health risks even for those inhabitants with a healthy lifestyle and for those who are not exposed to risk factors related to their occupation. The health risks include particularly an increased occurrence of cardiovascular conditions, respiratory illnesses (*e.g.* asthma) but also an increase of the overall sickness rate. In 2010, deaths due to the circulatory system prevailed in men and women followed by cancer where a significant share has been attributed mainly to cancer of the trachea, bronchial tube and lungs.
- 2.4.3 It is obvious from this analytical point of view that the *worsened values of sickness and the death rate in the region are influenced by the overall lifestyle and protection of one's own health*, which has been poor mainly in the male population of the RMS on a long-term basis. A survey conducted by Median (MML-TGI ČR, 2011) shows that the major part of the region's population considers smoking as a part of their lifestyle or as a good thing

⁵ A study conducted by GAC, s.r.o., 2010.

compared with the same part of other Czech regions' population. The number of smokers in the RMS is higher than in the rest of the CR; on the other hand, out of all Czech regions, the share of sport activities conducted at least once a week is the lowest one in the RMS (MML-TGI ČR, 2011). A major part of the RMS population which does not live a healthy lifestyle and smokes tends to claim that it does not make a difference because the air is polluted anyway. This and other similar claims have become part of the popular culture within the region, and thus the polluted air and risky lifestyle reflect into the system of values of the population.

2.5 Safety and crime rate

Criminality represents a serious issue in the region (it is the second most high-risk region in the CR⁶). Moreover, the situation is intensified by the fact that its *considerable concentration is associated with the core districts of Ostrava-city and Karviná*. According to the risk index, the district of Ostrava-city is the second worst locality in the country⁷, which is, after all, perceived by the residents of Ostrava (75% considers criminality or safety of streets as an urgent issue⁸). It must be mentioned that in 2010 fourteen socially excluded (Roma) localities were identified within the territory of Ostrava.⁹ Another ten localities are situated in the nearby cities (Havířov, Karviná, Orlová). In most cases, these are large localities with several hundreds of inhabitants where the likelihood of a high occurrence of crime and socially pathological elements is high.

2.6 Efficiency of the transportation infrastructure

Before the part of the D1 highway connecting Ostrava with the rest of the country was opened, the absence of a road interconnection with the highway system in the country and with the neighboring countries had been long considered one of the key barriers of regional development. At present, *it is particularly the road connection with Slovakia and high-quality roads interconnecting several densely populated areas with the regions that is missing*. Beltways around some cities and currently already insufficient infrastructure within the cities remain to be finalized. The regional airport in Ostrava - Mošnov has very good technical parameters available but the operation has been undersized on a long-term basis and lags behind the competition, which is documented by a comparison of the number of passengers checked in at the Mošnov airport with the other regional airports (Brno, Katowice). Since 2010, the number of checked-in passengers has been declining; in 2011 there were 279,000 passengers

⁶ Ministry of Interior of the CR, 2010.

⁷ Ministry of Interior of the CR, 2010.

⁸ A study by GAC, s.r.o., 2010.

⁹ Kvasnička, Radim (2010): *Popis sociálně vyloučených romských lokalit v regionu Ostravska (The Description of the Socially Excluded Roma Localities Within the Region of Ostrava)*. Praha: Agentura pro sociální začleňování.

compared to an increasing number of passengers checked in at both competing airports, whereas in Katowice, 2.4 million passengers were checked-in in 2011. Despite a certain progress in infrastructure and air traffic development in the RMS occurring in the past years, the relative indicators are not overly optimistic with respect to the size of the population and the social and economic significance of the region.

Section THE SOCIAL STRUCTURES

2.7 Educational efficiency of the RMS

- 2.7.1 The RMS *falls behind the educational efficiency of the population and thus most likely also in the quality of education and education system*. According to the representative results of the international surveys conducted by PISA (OECD), which has been monitoring the results of 15-year old pupils in reading, math and science literacy and their capacity to solve problems on a 3-year basis since 2003, the performance of pupils in the RMS falls behind the average in the CR and other regions. In all monitored fields, the pupils in the RMS along with pupils from the region of Ústí have been ranking among the last ones on a long-term basis¹⁰. A similar trend was shown in an analysis of testing under the "Draft Leaving Exams" where high school seniors from the Region of Moravia-Silesia along with their peers from the region of Ústí achieved the worst results in tests in Czech language, which was the only test taken by all pupils¹¹.
- 2.7.2 *Lower educational efficiency* of the RMS population compared to a relatively identical educational structure of other regions may also be identified in the capacity to *communicate in foreign languages*. In the RMS, 11% of the population older than 15 years of age speaks English and 63% does not speak it at all; in other regions, 19% speaks English and 55% do not speak it at all¹². Less than one fifth (17%) of the RMS population self-educates itself, whereas it is more than one fourth of the population (26%) in other regions. Similar differences are shown in *lower IT literacy* of the RMS population where 43% of the population does not use the internet compared to 38 % of the population in other regions¹¹.
- 2.7.3 The RMS has a relatively *low share of elementary and high schools per 1,000 inhabitants* compared to other Czech regions⁷ and a relatively *small proportion of pupils attending multi-year comprehensive schools* (12th lowest in the CR). However, with respect to the share in the population admitted to 4-year comprehensive schools, the RMS ranks in 6th place⁷. Below-average

¹⁰ ÚIV, 2006; Palečková, 2007; Palečková, Tomášek, Basl, 2010.

¹¹ Ryška, 2007.

¹² Median, MML, 2011.

performance of pupils in the national and international comparison most likely indicates the efficiency of schools and the total drop in educational efficiency below the average values. One of the likely causes of the below-average efficiency of schools and pupils is an outstanding proportion of pupils attending special schools and an above-average number of elementary schools operating in the vicinity of excluded, mainly Roma localities within the RMS¹³.

- 2.7.4 *Lower educational efficiency* of the RMS population compared to other regions *is also reflected in the quality of culture life* with respect to reading, culture, interest in information. With respect to the performance, the position of the RMS population is comparable with the region of Ústí, and both regions have been notoriously ranking on the bottom places compared to other regions. With regard to the below-average educational efficiency of pupils and students repeatedly ascertained in the recent years, the insufficient quality and efficiency of education and most likely also of the school system within the RMS may be considered as a chronic structural burden, which will project along with today's pupils into the future development of the RMS and, as such, represents a strong and cumulative barrier to the development of both residents and the region.

2.8 Size and concentration of socially excluded population

- 2.8.1 A 2006 analysis of the *socially excluded* localities identified *30 localities within the RMS with a total population of 12.5 to 13.5 thousand residents*, which represents nearly one fifth of the entire population residing in the socially excluded localities within the CR.¹⁴ At the same time, only less than 12% of the entire population of the CR lives in the region. In 2010, fourteen socially excluded localities were identified within the territory of Ostrava.¹⁵

¹³ These are also the localities with a high proportion of long unemployed families showing poor educational results of their children living in substandard social and economic conditions, educationally disadvantaged families and the total milieu of such localities. The schools with high numbers of Roma pupils show significantly poor results in the profile subjects (math, Czech language) as well as in the absence rate and in the drop-out rate in the course of the elementary school attendance, failures to finish a school year or transfers to special schools (GAC 2009). The failure to complete educational inclusion of the pupils from socially disadvantaged families and localities also affects their peers by an overall decline in educational performance of the elementary schools concerned and by a significant reduction of the pupils' chances to succeed in secondary schools, obtaining qualification and the quality of education able to succeed in comparison with the performance of schools and pupils in other Czech regions as well as with other countries.

¹⁴ Source: Unless stated otherwise, the information and analysis are derived from the GAC (2006) analysis: *The Map Of Socially Excluded Roma Localities (Mapa sociálně vyloučených romských lokalit)*. Prague: MPSV.

¹⁵ Kvasnička, Radim (2010): *The Description Of The Socially Excluded Roma Localities In The Regional Of Ostrava (Popis sociálně vyloučených romských lokalit v regionu Ostravska)*. Prague: Agency For Social Inclusion (Agentura pro sociální začleňování).

Another ten localities are situated in the nearby cities (Havířov, Karviná, Orlová). According to a qualified estimation, more than 5,500 residents live in the excluded localities in Ostrava and another almost 5,000 live in the localities identified in the tree aforesaid cities.¹⁶ The district of Ostrava, or the entire region of Moravia-Silesia, for that matter, differentiates from other Czech regions by the prevalence of the excluded localities with more than three hundred residents, whereas such localities in other regions are smaller (up to a hundred and no more than three hundred residents).¹⁷ A high occurrence of socio-pathological elements is also associated with the existence of such localities. A high (often more than 90%) portion of Roma residence is typical for most excluded localities.

- 2.8.2 The concentration and high representation of the socially excluded, mostly Roma localities¹⁸, affects a number of parameters of social, economic and other circumstances and conditions of life in the region of Moravia-Silesia. In addition to the educational impacts mentioned above, an analysis of 2010 data conducted by the Ministry of Interior identified the fact that the RMS shows the second worst (after the region of Ústí) parameters of unemployment indexes, paid out social benefits and crime rate where Ostrava-city (2nd place), Bruntál (8th place) and Karviná (9th place) rank among the ten worst former districts in the Czech Republic.¹⁹
- 2.8.3 Given the long-term existence of excluded localities, *i.e.* the population living in closed and isolated enclaves, the excluded localities represent a long-term accumulation of social and economic issues and the projection into the future development of the RMS. Inside the localities, a second generation is now growing up, which is socialized into life patterns and paths of social exclusion, degraded educational, professional and job opportunities with a strong burden of movement within grey or illegal economy and with declining identification

¹⁶ The number of the socially excluded localities and the number of their inhabitants do not include the facilities which are not designed as long-term dwelling (lodging and hotel houses, asylum facilities), which are often used for long-term living. In some of these facilities, a significant part of the dwellers are socially excluded individuals or families.

¹⁷ GAC (2006): *The Analysis Of Socially Excluded Roma Localities And The Absorption Capacities Of The Entities Operating In This Field (Analýza sociálně vyloučených romských lokalit a absorpční kapacity subjektů působících v této oblasti)*. Prague: MPSV.

¹⁸ Accumulation of social issues is typical for the majority of the localities. The most prevalent issues are high unemployment (up to 90 %), which is often long-term and/or repeated, and poor financial standing of families, overindebtedness and distraint associated therewith. Often occurring is also an increased rate of petty crimes (and street gangs of children and youth operating in some of the localities). The socially excluded inhabitants are often victims of usury). Some localities are also burdened by a higher occurrence of various kinds of addictions (gambling, alcoholisms, less often drug using). Some localities show increased tensions between the socially excluded population and the major population living in the neighborhood.

¹⁹ The summaries of the risks occurring in the regions sorted out by the crime offenses, unemployment and volume of welfare benefits paid out which reflect the poverty rate. MV ČR 2011.

with the conditions, lifestyle and cohesiveness of the majority population. This kind of development increases and cumulates both the risks of a strong social devastation of the population of the excluded localities and the risks of creation of significant social, safety and other issues, which, in other parts of the CR, led to a serious failure in cohesion and to an escalation of social and ethnic tensions and conflicts, including extremism.

2.9 Unemployment

- 2.9.1 Since mid 1990s, the *unemployment rate* in the RMS *ranks to one of the highest in the CR*. However, there are some differences among the districts within the region. While the unemployment rate in the district of Frýdek-Místek almost copies the average in the Czech Republic, the districts of Bruntál and Karviná show one of the highest values of the unemployment rate in the Czech regions. The region of Moravia-Silesia also records the highest number of job applicants in all Czech regions.

- 2.9.2 The primary cause of the increasing unemployment rate due to reorganization changes is the long-term structural discrepancy between the offer and demand in the job market. The restructuring and decline of the once strong position of heavy industry in the region caused an accelerated release of manpower which the insufficiently developed tertiary sector was unable to absorb. Unsuccessful job applicants formed increasing numbers of the unemployed and the region gradually started to struggle with the increasing long-term unemployment rate, which represents a serious issue with respect to the demonstrable negative impact on personality and behavior of an individual. *The unemployment rate has recently further increased also due to the predominance of employment in the segments, which are very susceptible to economic cycles and the recession (crisis)* thus affected a number of businesses within the region.

Section THE ATTITUDE AND CONDUCT OF THE POPULATION

2.10 Innovativeness of the population – proportion and promotion of science and research

- 2.10.1 The region of Moravia-Silesia struggles with a low innovative potential of the population as well as low business activity, which is caused mainly by the informal institutions established upon a long-term dominance of heavy industry and functional dependence on employers. A higher share of production with lower added value of the products and services realized within the region still persists, which is also reflected in the *low number of people employed in the segment of scientific and technical activities and low number of researchers*. It is obvious from these and other indicators of the research and development (ČSÚ, 2011) that the RMS considerably falls behind not only dominant Prague but also behind the competitive and less populated region of South Moravia. Low patent application activity in which the RMS shows the second lowest number among the Czech regions (ČSÚ, 2011) only completes the existing situation.
- 2.10.2 *Government expenses dedicated to the promotion of regional science and research of the RMS also very much fall behind.* In 2010, the government spent CZK 0.740 million per one thousand inhabitants in the region of Moravia-Silesia. Out of the overall position of regions, the region of Moravia-Silesia ranks in tenth place, whereas e.g. the second (after Prague) best appraised region (of South Moravia) received CZK 3.3 million. Another argument supporting the insufficient promotion is the fact that in this program period (in 2009) the RMS received only one larger project to be implemented for the purpose of increasing the quality of science and development infrastructure (IT4Innovation, VŠB – TUO), while the region of South Moravia received four large projects in the same "contest" of OP VVI. The infrastructure or services associated with the science and research promoted within the RMS in the preceding period often suffer by their isolated development and insufficient consideration of options of their further application. There is also a problem reflecting in continuously poor cooperation among universities, research organizations and businesses, and in

cross-regional cooperation. The resulting effects of established and functioning innovation and entrepreneurial institutions (scientific parks, clusters, business and innovation centers, etc.) in which the RMS does not fall behind other regions (except for the Capital City of Prague) have not reflected into a more prominent cooperation with the entities located within the RMS and, therefore, into their efficiency (e.g. measured by GDP per inhabitant).

2.11 The interest in *polis* and participation in public life

- 2.11.1 The continuously *lower-than-average interest of the RMS population in public life and in participation therein* has been repeatedly demonstrated by the below-average attendance of the population at local government and Parliamentary elections. Except for the elections held in 1996, the RMS shows permanently lower attendance of its population at the elections and ranks in the next-to-last 12th place, with the region of Ústí showing even lower attendance (ČSÚ).
- 2.11.2 In recent years, *civic activities and societies start to emerge more* and aim mainly at the environmental issues, in particular at the climate and the issue of local governments' activities in the most burdened cities. However, surveys show a significant *splitting of the public between the proactive part of the population and those who have resigned on the quality of environment* and seek their own individual solutions, including the option of moving out of the region, or they just resign on the issues of public interest, enhancement of local conditions and opportunities to improve and modernize them.
- 2.11.3 The existence of continuous *tension* and discrepancy *between the tidiness of the environment, including health, and the employment rate* in the industry, causes a splitting of public opinion and a *lack of consensus concerning further development of the region* and resolution of structural issues of the industrial district of Ostrava. The lack of consensus in the conditions of the obvious perception of an unfavorable climate and its health impacts induces an accumulated environmental and social stress of the population as well as the obvious frustration and tension caused by the unresolved situation on the level of local and regional governments, or the state government, respectively.
- 2.11.4 Given the so far unclear and accurately unmeasured mutual impacts of pollution between the RMS and the neighboring Polish region, and given the repeated tendencies of local and regional governments to stress the liability of the Czech government for the development of the environment and pollution, *the public sees the more obvious competencies and liability for searching for a solution and remedy as unclear*. As far as this comprehensive issue is concerned, there is a considerable distance and barrier existing between the citizens and the local government institutions in charge.

2.11.5 In general, it may be stated that the *activities of the non-governmental initiatives, non-profit or publically beneficial organizations* in the RMS have been under-proportioned on a long-term basis and *have not enjoyed greater public interest in the RMS*. A distrust in their efficiency associated with low interest in political affairs and participation in public life on the part of the RMS population results in an insufficient development in this field. Although the air pollution has long been a burning issue in Ostrava, only recently such NGOs emerge which are able to conduct a dialogue with the Ministry and represent the region's population, which causes them to gain importance and general support.

2.12 Regional identity

For our purposes, it is important to determine the extent in which an individual identifies himself with a given territory. Such territorial identification expresses the strength of an individual's relationship to the examined territory. For example, as shown by the European Values Study 1999/2000, there is nearly an astounding disproportion in the Czech Republic between the *percentage of the population claiming to be close to their city compared to a much higher percentage in the neighboring countries or to the all-Europe average*, and the percentage of the population which identifies with their country compared to the neighboring countries or Europe itself. During the totalitarian regime, no regional or local issues existing in our country were discussed, and after 1990 the discussion drowned mainly in macro-economic or nationwide political issues. The result is such that the Czech population has the weakest relationship to their own city out of all post-transit economies in general. The lack of patriotism is even stronger in the RMS population, because in many cases the people moved to the region just to find work. It is worth mentioning another specific feature of the RMS, which consists in the absence of a common regional awareness of the relevant "actors" of the regional development. Their activities are often partial, not properly coordinated or linked, and too local-oriented. Therefore, the cooperation within the region is not very intense and the relationship is often competitive. At the same time, it is typical for the region to have an advantageous functional complementariness, where industrial agglomerations co-exist along with mountain and agricultural areas. These functionally distinctive areas within the region support its integrity in the material sense, and the non-material integration of the region is much lower. Low regional identity in the RMS contributes to the massive long-term migration of the population.

Section INSTITUTIONAL ENVIRONMENT

2.13 Institutional periphery

The RMS has been showing a long-term disproportion in terms of economic, population and institutional importance. The region's functions have been unilaterally aimed at mining and production in heavy industry, whereas the economic activities in the tertiary sector remain much under-proportioned. Therefore, the decision-making

functions in the form of headquarters, banks or national institutions, have not cumulated in the RMS. Once the key segments of the economic activities and thus the economic significance of the region declined, the *imbalance in the population weight of the regional and institutional (in)significance remained*. The practice of decentralized prosperous economies shows a suitable instrument of the stimulation of regional significance and the start-up of the synergy effect in locating selected institutions, e.g. of nationwide importance, let alone the employment rate, which, in the case of national institutions, tends to a lower impact of the economic cycles than in industry. Aside from the geographical periphery, there is also the *institutional periphery existing in the RMS*, i.e. the absence of key institutions, limited power, in other words “the impossibility to be involved”, which may be understood as a barrier of the regional development.

2.14 Cooperation in coordination

2.14.1 *The cooperating role of local government bodies* (between the regional and municipal ones, as well as among the municipalities on a mutual basis) within the RMS may be defined by law but *it is not on a sufficient level*. The local government bodies of the municipalities (municipal councils) deal with their own development objectives, and even if we find certain links in their materials to regional documents, the relationships with the neighboring municipalities are rather rare. It concerns mainly the concepts and intentions of the development. On the other hand, there is a strong link and synergy in resources in the implementation stage connected to the levels of local government bodies, municipalities and regions. The reason is the interest of the municipalities and cities to obtain promotion means from the ROP NUTS II Moravskoslezsko through which the municipalities and cities within the RMS meet their intentions and objectives of the development.

2.14.2 Since 2009, an update is being prepared of the Strategy of the Regional Development up to 2020. The work is coordinated by the Agency For Regional Development Ostrava (*Agentura pro regionální rozvoj Ostrava, a.s.*) led by the strategic expert group (34 members; it is composed by the top representatives of the regional and municipal governments, businesses, regional institutions and interest groups, and represents a body covering the entire process of processing the Strategy). There are another six topic-oriented groups cooperating therewith. However, *the involvement of the representatives of municipalities and cities of the RMS is absolutely insufficient*; for example, out of 22 municipalities with extended power (the so-called MEP), only one of them is represented in the strategic expert groups and in the Association for Countryside Renewal of the RMS (*Sdružení pro obnovu venkova MSK*). There is an obvious discrepancy with the principles of "Good Governance". It is the low cooperation in coordination in the strategic decision-making on the future directions of the RMS development, which appears to be a barrier of the regional development.

Section STRUCTURALLY DEFORMED ECONOMY

2.15 Structural burden of the RMS's economy

There is *strong continuity and pre-determination of the existing development* within the RMS; it is mainly the segment of fuel production and metallurgy that enjoys a significant position in the regional economy. Albeit their share in the economic structure of the region has declined²⁰, the policy of the business management in these segments supports their key position.²¹ Based on the economic efficiency calculations, the RMS ranks among the regions which show retardation parameters. There are 8 regions in this group, but the RMS has been systematically improving its economic parameters and its development heads towards the stabilized regions. The RMS has the third largest share in the GDP output in the Czech Republic. When applying a GDP indicator per inhabitant, the RMS achieves the position of an average region. During 2001-2010, the region had the highest added value increase. An analysis of the applied indicators shows that *the region aims at a higher economic efficiency not because of the heavy industry segments* but through a gradual restructuring of its economics. The continuous development results in a barrier of a key position of the fuel production and metallurgy segments but also some other heavy industry segments, particularly with respect to the understanding of these segments by the population and thus overestimation of their actual significance in the long-term regional development.

²⁰ It is obvious from the employment development in the individual jobs according to the classification of economic activities (CZ-NACE) during 1995-2010 and from the development of a share of economic activities (CZ-NACE) in Gross Added Value in 1995-2010.

²¹ Calculations have been made in the Regional Disparities (Kutscherauer and group). The regional development heads towards its classification to the stabilized regions' area; the region has the highest pace of added value growth among the regions – it ranks third among the regions in the GDP production.

2.16 Concept of the Development of the RMS's economics

Following from the single conceptual materials are the priorities for the region, particularly the information and communication technologies, precise engineering, material engineering and travel industry. If we understand the promotion of coal mining, coal processing and metallurgy as a structural error, then the structural error is not being excessively enforced according to the conceptual materials but the reality may appear differently. *A great barrier to the continuation of the process of restructuring and transformation of the region could be the tendencies of re-opening of the coal mining in the Frenštát area.*

2.17 Entrepreneurial environment and the share of the self-employed individuals

In the long term, the RMS shows *low innovation and entrepreneurial activity*. This may be expressed by (i) the number of economic entities (according to the number of registered units) – the RMS has been the weakest regions in the CR, (ii) the number of entrepreneurs (the RMS has the lowest number of entrepreneurs per 1,000 inhabitants – 170.63 in 2010, whereas a decline was also observed in 2011), and (iii) the proportion of self-employed individuals (OSVČ) in the total employment. Despite the growing trend in the numbers of entrepreneurs and self-employed individuals in the employment within the transformation period, the RMS still ranks among the regions with the lowest number of self-employed individuals. On the other hand, the proportion of employees continues to be the highest in the RMS (86.8 % in 2011). It also follows from the results of a comparative survey called "City For Business in the Czech Republic 2011" (*Město pro byznys České republiky 2011*), the aim of which was the evaluation of the business environment, quality of location, job market, access to public administration and price conditions, that the majority of cities within the RMS belongs to the worst ones in the CR. In summary, it may be concluded that *the RMS has one of the worst and least efficient entrepreneurial environments in the CR*. The current situation is caused by a long-term functional dependence (nearly centennial) on several big employers operating within the region. This formed the regionally specific informal institutions, which very strongly limit the natural endogenous activity and innovation capacity of the population. It is a strong barrier preventing the development of small and medium-size businesses. A more significant movement is subject to interventions and incentives.

Section ENVIRONMENT

2.18 The most polluted region in the CR as part of a wider region of Silesia

2.18.1 Even after 2000 the RMS, in particular its most populated *area covering the agglomeration of Ostrava, is not only the most polluted region in the CR but also one of the most polluted regions in Europe*. Along with the Silesian

region in Poland it forms the most extensive polluted region in Europe as such. In the course of the restructuring, air quality in the RMS significantly improved due to the decline of heavy industry and partial upgrade of the existing establishments; however, to a certain extent the air pollution has also changed. One of the typical features is currently a high concentration of airborne dust. There are nine out of ten monitoring stations installed within the RMS where the emission limits applicable to PM₁₀²² substance monitored by law (ČHMU, 2012) have been exceeded the most and the most frequently. Therefore, the population of many areas within the RMS is unlawfully breathing polluted air, which has direct impacts on health and longevity; the air is polluted even more than 100 days in a year, although the Czech legislation only permits thirty five days a year. Moreover, the limits are being exceeded multiple times.

- 2.18.2 *A high concentration of small dust particles* (smaller than PM_{2.5}, particularly PM₁ and smaller) also pose a threat to human health. These small particles (*particularly PM₁ and smaller, which are almost impossible to capture by fabric filters*) bind organic substances, such as *carcinogenic polycyclic aromatic hydrocarbons* (PAH²³). Concentration of such carcinogenic substances, namely the more dangerous benzo(a)pyrene, are several times higher in the RMS compared to other regions, not just in the CR, demonstrably but to the presence of heavy industry and, moreover, significantly exceed the limits issued by the World Health Organization²⁴. The presence of this toxin in the air in the agglomeration of Ostrava is one of the highest and most concentrated within the EU, not only in the fallout areas and areas in the vicinity of industrial resources where the concentration is enormous (Ostrava - Radvanice, Ostrava - Bartovice, Orlová, Karviná, Bohumín) but also in non-fallout areas in relatively distant highly populated residential quarters, such as Ostrava – South (Jih) or Ostrava – Poruba. The measurements carried out on the Polish side have also recently signaled an extremely high pollution. In addition to the aforesaid indirect but essential impact on migration, attractiveness of the RMS and perhaps the desired

²² PM₁₀, PM_{2,5} and PM₁- suspended particulates (PM) are solid-state or liquid-state admixtures present in the air, which stay and float in the air given their size and weight – they are suspended. The solid component of the suspended particulates is basically formed by small dust particles; this is why they are commonly called dust or solid particles. The actual suspended particulates are not toxic for human body but they mechanically irritate respiratory system and affect the immunity). Their harmful effects on health are even worse if the particulates are smaller because it is easier for them to penetrate into the respiratory system. We distinguish the so-called fractions of suspended particulates identified as PM (particulate matter) and their size in micro meters – e.g. PM₁₀, PM_{2,5}, PM₁. Through the suspended particulates, some other less harmful substances may penetrate into human body, such as poly-aromatic hydrocarbons.

²³ PAH – polyaromatic hydrocarbons. A number of polyaromats is mutagenic and carcinogenic substances. Benzo(a)pyrene (BaP) has been so far explored the most. It may be inhaled but also penetrates into body through skin. Exposure to BaP may pose a threat to healthy development of human *foetus*; it may also cause cancer or irritate or even burn the skin.

²⁴ As documented by the charts in the appendix attached hereto.

transformation of the region, the air pollution has a direct impact on the population's health. Polluted air causes an increased risk of cardiovascular diseases, respiratory illnesses, cancer, risk of infertility in men and genetic malfunctions. The most endangered groups of the population are young children and pregnant women. Therefore, the air pollution not only projects on to the lives of the current generation but also on the upcoming generations.

2.18.3 It is surprising that ArcelorMittal, despite having reached very promising business results (*e.g.* in 2012, a branch of Arcelor Mittal in Ostrava showed net profit amounting to CZK 800 million)²⁵, is not forced to *modernize technologies in its obsolete operation facilities*, although it is demonstrable that it takes the most part in the air pollution in Ostrava and its vicinity (ZÚ 2008-2009). It is obvious from the conduct of the company management that it lacks local patriotism, which is standard in companies with headquarters outside the region. The current situation in the RMS is thus caused mainly by long-term public conflicts associated with this issue, disunity and tolerance on the part of authorities. Although the pressure on preservation of employment in the RMS is obvious and legitimate, it is utterly clear that only massive investment into the upgrade of technology may lead to a long-term maintenance of metallurgy in the RMS. If the investments will not be made, the operational facilities will soon be halted and abandoned, be it due to the lack of efficiency or the termination of operating capacity under the conditions stipulated by law. Instead of putting pressure on the necessary modernization, some voluntary agreements are being made without any clear sanctions applicable to failure to observe them, which makes the result entirely uncertain.

2.18.4 When implementing any innovations aimed at a reduction of the air pollution, it is also necessary to provide for a monitoring of the innovation impacts on the climate. Since the emissions of the most risky suspended particles PM1 are not being currently monitored in real time, it is not possible to see whether the measures taken, such as separators and filters, which should help reduce the emissions, do have or will have the desirable effect also on the most harmful substances.

2.19 Cross-border import and export of pollution within the region of Silesia

One of the causes of uncertainty and disputes over the air pollution issue is the *insufficient identification of generators and sources of the pollution*. It concerns both the disputes over the proportion of industrial pollution, transportation and households and the mutual overlaps with the neighboring Poland. Although there are some information and results of analysis on the generators, sources of pollution and proportions of pollution (*e.g.* the ČHMÚ study from 2012, ZÚ Ostrava 2008-2009), they are often intentionally challenged and questioned not only by the biggest producers of the pollution. The lack of relevant and unquestionable information

²⁵ According to a statement made by the AMO PR manager on 24 April 2013

represents one of the barriers in the debate concerning the options of remedy and reduction of emissions. This barrier in the emission monitoring may be attributed to the method of measurement and minor involvement of modern sensing technologies in the air monitoring in real time, and providing an access to the precise and localized information to public, mainly in terms of the status and the origin of the pollution. It is obvious from the results of the latest measurements and implemented studies that given the regular transfer of pollution in both directions the issue is cross-regional and the prospective solution should be approached accordingly.

2.20 Non-industrial sources

2.20.1 Given the geographic nature and size of the region, the degree of air pollution differs in various parts of the region. The same applies to the proportion of the contributing pollution sources. The most polluted and populated area of the RMS is the agglomeration of Ostrava. In 2008-2009, an air quality analysis was conducted within the territory of Ostrava (carried by ZÚ Ostrava); the analysis concluded that in 2007 large and medium sources contributed to the total pollution by dust particles PM10 by 88.2 % (approx. 2,150 t/year), local furnaces contributed by 6.1 % (150 t/year) and transportation contributed by 5.7 % (140 t/year)²⁶. The *dominant influence of particularly large and medium sources of pollution* (85 to 100 %) was documented in the aforesaid carcinogenic *benzo-a-pyrene*. These results may be also supported by the conclusions of the ČHMÚ study from 2012, which monitors the proportion of pollution in the individual regions of the CR. It clearly follows from the study that there is a strong dependence between the presence of industry in a given region and the proportions of pollution by sources. The RMS along with the region of Ústí feature *the highest share of heavy industry, and both regions show a diametrically lower share of pollution by small sources, i.e. by local furnaces (less than 25%), compared to other regions of the CR.*

2.20.2 In addition, the RMS is the *third region most equipped by gas pipes* (the Capital City of Prague ranks first). The overall reduction of emissions mainly in the agglomeration of Ostrava apparently goes hand in hand with the reduction of emissions produced by industry. Therefore, the often emerging unqualified claim concerning the diametrical change of proportion of the pollution sources seems to be mistaken and rather intentionally invoked. Nowadays, measures are being adopted as to reduce the production of pollutants from local furnaces; however, it is not always done in the form of a *promotion of finer fuel consumption*, and the effects of such measures on the overall climate in the RMS are absolutely negligible with respect to the funds spent.²⁷ The idea of reducing the emission from all sources may be attractive at first sight; however, it is necessary to consider the actual proportion of the pollution sources. Therefore, the emission reduction should be falling in a major part on particularly large, large and medium sources. Subsidy programs aimed at local furnaces do have a sense, provided that they form a part of more comprehensive measures. *Transportation and local furnaces in the RMS are on the same scale everywhere else but the industry and air pollution does not show on the same scale in any other region.*

2.21 Social and economic causal model of significant processes in the RMS

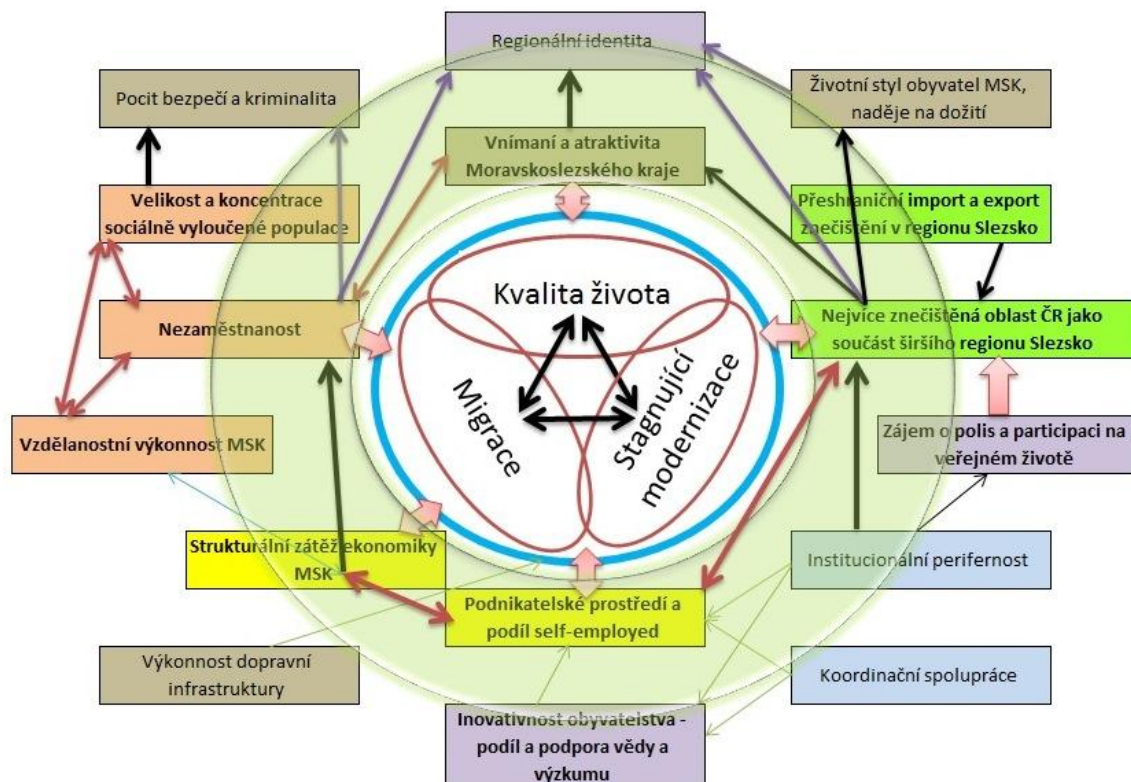
The barriers diagnosed above and the key issues existing in the RMS have been visualized in a model, which serves as an instrument for the identification of key relationships and a consecutive formulation of the priority strategic areas of modernization.

²⁶ Please see the charts in the appendix.

²⁷ Kolářová, Pechrová, 2013.

The model illustrates the impact and causality of processes creating the current situation in the RMS. The core of the model represents the main barrier preventing the development and competitiveness of the Region of Moravia-Silesia. In the text, the barrier is presented by three terms, such as: Stagnating Modernization, which is observed and the future of the region derives from it; Migration as a fundamental phenomenon for the regional development as the situation indicates a permanent "brain outflow"; and Quality of Life, which represents a key factor for the modernization and development of the RMS as reversing the migration trend into the desirable "brain influx" is subject to its significant improvement. The ring defines the critical area of the impact of processes on the RMS; the positions within the ring and in the vicinity of the core represent the key events. Color distinction of the individual factors corresponds with their position within the sections of the diagnostic chapter. The arrows between the individual factors express the relationships and their strength.

Diagram 2.1: Social and economic causal model of significant processes within the RMS



***Aiming the EU structural aid at further modernization of
NUTS II Moravia-Silesia in the upcoming period of 2014 - 2020***

Legenda

Sekce STRUKTURÁLNĚ DEFORMOVANÁ EKONOMIKA	Sekce ŽIVOTNÍ PROSŘEDÍ	Sekce SOCIÁLNÍ STRUKTURY		Jádro modelu představuje hlavní bariéru rozvoje a konkurenceschopnosti Moravskoslezského kraje
Sekce INSTITUCIONÁLNÍ PROSTŘEDÍ	Sekce VÝCHOZÍ REGIONÍ CHARAKTERISTIKY	Sekce POSTOJE A JEDNÁNÍ OBYVATEL		Prstenec vymezuje kritickou oblast vlivu procesů na MSK, pozice v prstenci a v blízkosti jádra vyjadřuje hlavní děje
 Kritický obousměrný vztah	 Kritický jednosměrný vztah	 Velmi silný obousměrný vztah	 Silný obousměrný vztah	
 Velmi silný jednosměrný vztah	 Silný jednosměrný vztah	 Signifikantní jednosměrný vztah	 Signifikantní obousměrný vztah	

Source: Author's work

3 PRIORITY AND STRATEGIC AREAS OF MODERNIZATION

In this chapter, we use the barriers diagnosed above as to select the priority and strategic areas of modernization and the structural EU aid according to their importance, relevance and causal relationship.

3.1 Dynamic character of the structural modernization

The economic system, its level and results as sources of wealth affect all areas which represent the quality of life. It influences employment, the environment and the social sphere. A functioning economic system, possibly in the process of its development, creates conditions for the resolution of the majority of all issues and barriers. However, *the economic system of the RMS* is in a situation where *it must deal with the issues which are, in major part, a result of a long-term effect of endogenous and exogenous conditions and pressures on the exploitation of natural and human resources regardless of the quality of life.*

For many decades, the economic system of the Region of Moravia-Silesia has had the highest representation of industry in the economic structure among the Czech regions. The inner structure of the regional industry continues to be focused on heavy industry, although it is obvious that its participation in employment has significantly reduced in the past decade. Service segment, or the third sector in general, continues to be represented only in part. Even though gradual structural changes are underway on a permanent basis, it is necessary to maintain the tendency to make and support structural changes while respecting the impact of industry on the regional employment rate. *With respect to the necessary restructuring and modernization of heavy industry, it is necessary to create a sufficient capacity of job positions, mainly in the service sector, which represents an assurance of permanent sustainability.* The economic crisis may actually accelerate this market restructuring pressure in a considerable way.

3.2 Education and science

This strategic area associates diagnosed barriers described in Chapter 2.7 (Educational Efficiency of the RMS) and 2.10 (Innovation Capacity of Population – Participation and Promotion of Science and Research). *An increase of efficiency of the educational system in its entire structure and on all levels represents a significant strategic objective for the RMS* because the insufficient efficiency of the educational system binds a number of other structural problems experienced by the region.

An increase of the quality of education may cause a growth of the pro-modernization activities of the population, be it in the area of employment, economy structure or with respect to the interest in material aspects of quality of life in the region. It will be difficult to achieve a satisfactory pace of modernization and synergy effect necessary for the completion of the regional transformation and its long-term competitiveness

without an adequate support granted to innovation, science and research activities performed by qualified and educated manpower, which is currently insufficient.

3.3 The most polluted region in the CR

The difficult actual situation and the negative perception of the environment, mainly the climate, represent a considerable barrier to the regional development. It strongly affects the quality of life and thus the migration of the educated population away from the region; it influences the attractiveness of the region as a “place to live” or as a prosperous competitive region suitable for investment and business activities. The basin area surrounded on two sides by a mountain range populated by the majority of the region’s inhabitants is geographically suitable for the occurrence of the inversion, which deteriorates dispersive conditions, especially in the winter season. Inversion, however, is not the main cause of the bad climate in Ostrava. The transportation and local furnaces have the same proportion in the RMS as in other regions; it is documented that the greatest source of the pollution is heavy industry.

Although the emissions of particularly the “large” substances have considerably reduced, it seems that the substance production harmful to man is not being proportionally on decline. It is necessary to realize the fact that the population living within the region has been often exposed to the pollution much higher than permitted by law. However important the heavy industry may be for the region, it is obvious that unless the production facilities are upgraded as to increase their efficiency and to reduce the pollutants’ emission, namely those harmful to human health, it will not be possible to sustain the industry in the region on a long-term basis and to complete the overall transformation of the region and change its very negative perception and thus the low attractiveness. *Without clean air, the likelihood that the region will be competitive on a long-term basis is rather low.*

3.4 Cross-border import and export of pollution within the region of Silesia

The issue of cross-border import and export of pollution exchanged with the neighboring Poland is of capital importance for the region of Ostrava and, as the case may be, for the RMS (same as for the region of Silesia). Although there is not uncontested information available, nor any results of the measurement of the generators, sources, proportions and exchange of the pollution, wind streams during and out of the smog situations or any results of the air pollution monitoring according to the wind stream direction, such conclusions may be deduced.

What is important, however, is the fact that *unless the air quality improves on both sides of the border, i.e. within the broader region of Silesia, the permanent improvement will not occur on either side given the regular import and export of the pollution.* This is why it is extremely important to cooperate on the cross-border

level and to coordinate the interest in the structural aid granted to the region of Silesia as a whole belonging to the joint European space.

3.5 Public administration and participation in public life

The inception of a predominant consensus concerning the solution and the willingness to bear the costs and problems associated with the regional modernization cannot be assumed *without a broader public debate on the nature of the problems and barriers preventing the development of the RMS*. The current discourse mainly concerning the environmental issues showed rather a mutual confrontation and even questioning of the situation and relevance of the issues, instead of a reasonable debate regarding the alternatives of their solution, time perspective and the costs and revenues of such solutions from various points of view. There is noticeable lack of a consistent application of horizontal structures of governance, *i.e.* those which involve the majority of population. The structures represent a fundamental prerequisite of the "Good Governance", which is currently a very promoted administration concept (particularly under the EU conditions) to which the Region of Moravia and Silesia should be directed.

In the RMS, the pro-active part of the population is shadowed by the majority of population which does not believe in any possibility to influence the situation and entirely resigned to the public issues, improvement of life conditions and modernization. If the people would be convinced of enforceability of their opinions and options of improvement, if they saw clearly defined competences and liabilities for (non)solving problems, it is likely that their participation in public life would be higher and they would be more interested in their city, region and environment in which they live. This could also lead to a strengthening of the so-far very poor regional identity. An improved situation in this area could put the region to a different light on both national and European level. Obtaining support and argumentation for the solution of fundamental modernization issues would be much easier with the support of the population. This is also an important structural condition for the implementation of the structural change.

3.6 Size and concentration of socially excluded population

The structural support to the development of cohesiveness is required by the current issue of the socially excluded population in the RMS, which is very serious and may rapidly deteriorate. Approximately 20% of all the population of the socially excluded localities is living in the Region of Moravia-Silesia, which is alarming with respect to the proportion of the majority population living in the RMS. The typical features of such localities include excessive size, high proportion of Roma inhabitants and a considerable accumulation of strong socially pathological elements.

The concentration and excessive representation of socially excluded inhabitants has a negative impact on a number of parameters of the social, economic and other

circumstances and life conditions in the RMS. Unfavorable development in this area considerably increases and cumulates the risks of a strong social devastation of the population living in the socially excluded localities as well as the risks of occurrence of serious social, safety-related and other issues, which in other parts of the CR has already led to significant failure of cohesion and escalation of social and ethnic tensions and conflicts, including extremism.

4 IMPLEMENTATION AND ROLE OF INSTITUTIONAL ACTORS

4.1 Cooperation between the public administration institutions and the academic and professional segment and general public

The concept of modernization of the priority strategic areas as defined profile barriers of the RMS's development should be prepared *as part of the cooperation between the public administration and local government with the academic and professional segment and with the general public*. It does not involve only the search for a conceptual solution for the individual fields of modernization but also reach a broader consensus over the long-term projects, which will be funded and supported from EU structural aid. The proposals of specific modernization strategies for the individual fields must be the result of a broader professional cooperation and general public.

4.2 Synergy on vertical and horizontal axis

In order to achieve a suitable and successful implementation, *the institutional structure must maximize the synergies on both the vertical axis* (municipality-region-government) *and the horizontal dimension* in which the modernization could be implemented in practice by means of projects.

4.3 Analytical and critical feedback

The entire process will require an *analytical and critical feedback* responsibly *assumed by the regional academic institutions*; they should also provide the public administration and the general public with the information on the results and prospective proposals of corrections and optimization.

4.4 Involvement of experts

Given the accumulation and mutual interconnection of most of the strategic barriers and issues, the RMS should *seek to obtain a major share in EU structural aid* as well as to be involved in searching modernization programs not only in the respective government ministries but also the experts from the CR and, if so necessary, from abroad. Many western European countries were dealing with similar problems in the past with success.

4.5 Schedule modernization steps

Modernization steps must be scheduled to a planned fiscal period in each strategic area and must be defined in time sequence and with respect to single objectives in order to monitor how far the objectives are being achieved and possibly correct the process as required.

4.6 Inform and involve the general public

With respect to long-term concerns of a part of the population regarding the modernization and restructuring changes it is necessary to make sure that the *general public is familiar with its actual perspectives and the directions where the region and the cities wish to direct their economic and structural development.*

5 PROPOSED MEASURES FOR THE PRIORITY STRATEGIC AREAS

This chapter summarizes relevant proposals of the measures applicable to defined priority strategic areas of modernization. The individual proposals are prepared in various scope and detail; however, *it would be suitable for all measures to be further discussed, amended and specified in a broad discourse as specified in the preceding chapter in order to achieve joint consensus of all relevant political and non-political actors.*

5.1 Dynamization of structural modernization

In the upcoming period, it will be necessary to respect the heavy industry segment as a key element of the economic structure of the region; however, it is also necessary to be consistent in maintaining and promoting the trend of structural changes and refrain from preventing or devaluing it by the measures similar to the prospective opening of more mines. In its nature, innovation, implementation of results of the scientific and technical progress, the industrial segment increases the work efficiency and in a longer time horizon it also leads to a lower unemployment in this segment. It is necessary to promote modernization of the existing heavy industry in particular with respect to the environment and a long-term sustainability and, at the same time, fully support the development of the subject of information and communication technologies, precise engineering or material engineering. The less the economy would be based on large industrial businesses, the more the employment would be stable and the heavy industry modernized. There is a lot of space for the involvement of the structural aid. In addition to the above, the following may be considered the strategic priorities:

- a) Promotion of restructuring of the RMS's economic system by increasing the share of the third sector in the production and employment within the region. This would enable to create sufficient absorption capacities of employment. The development of the tertiary sector is provided for particularly by smaller and medium-size businesses (hereinafter referred to as the "SMSB"). In order to support its dynamics, it is recommended establishing a network of organizations, which would provide start-up entrepreneurs with legal, financial and administrative services under financially favorable conditions. The entrepreneurs would thus have more space to take care of their line of business to the detriment of the little transparent initial administrative operations, which they are not that much familiar with. The presence, function and scope of authority of these organizations should be properly presented in the media to create general public awareness.
- b) Consider an option to promote the RMS in a similar direction as in large, mostly foreign investors. The time-limited forms of aid, including the financial aid,

could help starting up the process of development of the RMS within the region more intensely.

- c) Government and administrative bodies should intensify their activities aiming at understanding the restructuring trends by the public, and understanding the fact that it is not the heavy industry but the tertiary sector which guarantees permanent employment and improvement of the environment.

5.2 Education and science

In this respect, we consider the *active role of the RMS of key importance in obtaining a major part of the structural aid for education and processing of high-quality development projects aimed at the modernization and efficiency of the educational and schooling system* within the RMS with respect to the interconnection and accumulation of issues. The following items may be considered the strategic priorities:

- d) Introduction of the last year in kindergarten as mandatory for all children across the RMS.
- e) Adequate improvement of payroll and working conditions for kindergarten teachers, their equipment and choices. Nearly all OECD studies show that the investment into the pre-school education represents the most efficient basis for the improvement of the educational chances of children, all the more so for those having a complicated social and family background.
- f) Improving the pre-school preparation in order to reduce the number of children who postpone the entry into the first grade of elementary school, thus deteriorating their educational chances.
- g) Maximize the children's entry into regular elementary schools and minimize the space for the direct entry of pupils into special schools and educational programs.
- h) Systematically reduce the number of children in classes and provide for the presence of teaching assistants in regular elementary schools wherever so necessary.
- i) Enhance the financial assessment of teachers in regular elementary schools and motivate them by providing feed-back.
- j) Select, support and prepare pupils with above-average results in the last years of elementary school for their safe transition into high schools. Specific support of outstanding pupils should improve their chances to enter high school and university.
- k) Provide high schools of all types with financial aid in order to enable them to hire external teachers, make the teaching more interesting for pupils and provide them with a closer contact with the existing issues within the RMS.

- l) Increase the involvement of universities within the RMS in team research programs, promote internship programs and influx of teachers and researchers from other regions and from abroad to take part in the education and research in the RMS.
- m) Establish a system of regional scholarships for outstanding students and motivate them to stay in the RMS after graduation or to return to the RMS if they study outside the region or abroad.

5.3 The most polluted region in the CR as a part of the greater region of Silesia

Given the existing state of the environment, its perception by the general public and its impact on the quality of life in the region as well as the number of processes and factors which considerably limit the options of the sustainable development of the RMS, *it is necessary to change the negative trajectory of the development.* In order to do so, the following priorities should be pursued:

- a) Consistent observation of agreements, rules and both Czech and EU legislation by all regional actors; the failure to observe them must be properly sanctioned.
- b) Execution of a systematic real-time monitoring of the whole spectrum of pollutants, in particular small dust particles and bound PAH, and general monitoring of substances harmful to human health. The contemporary monitoring should provide undisputable data on the agents, sources and proportions of pollution, and report the results in real time so that all subjects involved would have them available when necessary.
- c) Increase the public awareness of the required changes of lifestyle, attitude to the environment and civil participation in debating the options of solution.

5.4 Cross-border import and export of pollution within the region of Silesia

Both borderline regions belong to the EU space and it is obvious that without any improvement of the climate on both sides, the regular import and export of pollution will continue. In the upcoming years, the exceptions concerning the air pollution by industrial facilities negotiated by the Polish side with the EU will be gradually terminating, which, along with the implementation of standards of pollution by some PAHs, *creates space on the EU part to push Poland to modernize, too. Therefore, there is a suitable period for a deeper cooperation in modernization in both parts of Silesia.* The cooperation should take place by means of:

- a) Joint discussion of restructuring programs. Setting a new program period is a good opportunity to launch deeper cooperation.
- b) Supporting the cooperation among academic institutions.

- c) Boosting the coordinated and unified monitoring of air pollution based on the same methodology and system of measurement as described in the preceding part if possible.
- d) Exchange of experience and "best practices".
- e) Synergy between the legislation and monitoring the emissions' reduction.

5.5 Public administration and participation in public life

As part of the debate on the fundamental issues and barriers of the RMS's development, mutual ratio between the quality of life and the structure of the economic system, *it is necessary to open the space for non-political public actors to get them involved in the discussion and help select a solution*. Starting with key business actors, civil organizations and associations up to academic teams, it is obvious that the RMS has a sufficient capacity, actors and interested parties as to launch and complete such a joint search for the direction and content of modernization. It is likely that there will be willingness then to implement and fund such modernization. Therefore, the key priorities are:

- a) Opening public discourse involving all "actors" over the issues mapped and registered herein, which will become the key means of motivation and involvement of the public that needs to be convinced that there is no willingness to solve or even acknowledge the issues on the regional and municipal basis.

The creation of an *ad hoc* or a permanent platform for public discourse must have a permanent and horizontal character, which does not pursue merely power-driven negotiations carried out by local governments and decision-making over the issues which are vital for the everyday life of the population as well as for the improvement of the quality of life.

5.6 Size and concentration of socially excluded population

Solution of this issue requires primarily a long-term perspective, interest and effort. Setting of objectives and concepts of a solution should be made through cooperation and synergy of the government-region-municipality. It is likely that the *solution would be rather inter-generational by means of the education system*, which should be able to take the children out of the excluded localities. The following are the strategic priorities to be considered:

- a) Preventing the establishment of new localities.
- b) Systematic creation of the conditions for offering opportunities to individuals and families interested in re-integration, thus starting up a long-term process of individual solutions and mobility in order to return to the majority population.
- c) Increase local government and participation elements for those interested.

- d) Suppress the negative economic phenomena, which tend to deepen both social exclusion and economic deprivation of families thus being forced into illegal activities, such as usury, gambling and organized crime, which sustain and deepen the exclusion. Such a developed "business with poverty" must be eliminated.
- e) Take the maximum effort as to promote and strengthen the social field work and the integration and inclusive efficiency of kindergartens and elementary schools.

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