

THE ECONOMY OF A REGIONAL METROPOLIS. CASE-STUDY: IAȘI, ROMANIA*

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Abstract

The city of Iași with a population of over 300,000 people is the biggest European Union city at the border with the former-Soviet space. The article, part of an extended study on territorial development of Iași and its peri-urban area, focuses on the role of the city to trigger regional growth and to enhance cross border cooperation. Recent processes at work generating economic cohesion and integration are explored drawing on the catalytic factors of development and the specialization of local economies. The paper discusses also the externalities of urban growth such as the urban sprawl that causes land use conflicts at the rural-urban fringe. It argues that human capital and higher birth rates than the national average are the strengths, and low connectivity and accessibility are the weaknesses for regional growth. The regional polarization of the city is based on the supply of high level services over the entire North-East Region and opportunities to cross border cooperation through the expansion of an agro-alimentary supply-chain are highlighted. Building on the main capabilities and assets of the agglomeration economies of Iași, the paper finally identifies some of the mechanisms and structures that foster urban and regional growth.

* The paper is part of the research conducted between 2009 and 2010 in the view of drafting the Master Plan of the Iași Municipality, Romania.

1. Introduction

Beginning with 2007 when Romania acceded to EU membership, the City of Iași became the biggest city at the furthestmost Eastern border of the European Union. Due to its geographical location, Iași displays a significant potential to bridge the Western Europe and the former-Soviet space. Its role is enhanced by its position of a European metropolis included in the continental urban network, according to recent ESPON (European Spatial Planning Observation Network) studies. Iași is placed within the most underdeveloped region of Romania, the North-East Development Region, continuously lagging behind during the last decade as against the other Romanian regions. Within this context of declining regional economy, Iași stands as the engine of economic growth for the County of Iași and entire North-East Region as well. Iași exercises its metropolitan function over an extended but less urbanized area in comparison with the national average, thus unbiased by competitive relations with other urban poles. The dichotomy between rising metropolitan economy and declining regional economy stays at the root of major socio-economic disparities.

Urban and regional disparities are now more important than ever due to the increasing interconnectedness of places (Amin and Thrift, 1994; Dunford and Perrons, 1994), so it is vital to understand the processes causing local economic growth and why some regions keep on lagging behind, while others are able to accelerate their economic growth. This scientific inquiry gains more significance in Central and Eastern Europe where the process of metropolization continues at a faster pace than in the Western Europe. The scientific literature places an emphasis on the specific characteristics of particular cities and regions as European integration is expected to increase the specialization of European regions (Sunley, 2000).

A widely accepted fact is that urban poles play a fundamental role in generating innovation and economic growth (Hall, 1985). As a result of urbanization economies quaternary services agglomerate in the core metropolis and high technology industries are attracted to growing urban environments as well. Low level services and labor-intensive industries search for peripheral areas inducing job-creation and triggering economic growth. Counter-urbanization contributes to the emergence of new rural economies based on non-agricultural activities. Nevertheless, the urban growth is strongly influenced by the regional context. The relation between the urban core and its area of influence depends mainly on the urbanization level and the level of economic development, in general.

Building upon this theoretical framework, the case study of Iași aims to identify: (a) the socio-economic factors that trigger urban growth; (b) the disparities between urban and rural; (c) the drivers for economic cooperation between the city and its influence area; and (d) the ways in which the agglomeration economies of Iași would contribute to the economic growth of the entire region. The study summarizes the main findings of the research devoted to territorial planning of Iași. It highlights the development opportunities of a transboundary metropolitan region in connection with the polycentric territorial development. The paper is structured in several parts. The

first part is searching to identify the comparative and competitive advantages of the urban economy of Iași. After a long urban decline associated with deindustrialization, there are signs of urban revival, mainly due to reindustrialization and tertiarisation. Beside “common” factors related to agglomeration economies, increasing returns are due to human capital, entrepreneurship and innovative milieu of the city. The next part considers that economic specialization (industry and services in the city and agriculture in the peri-urban area) generates clear-cut regional disparities. The assessment of socio-economic disparities using the global development index shows that there is a distance-decay effect in inducing growth over the rural area. The result confirms the assumption that geographical proximity reinforces interchanges and mobility and reignites the value of factor and demand conditions, and thus provides a major push to continuous improvement and innovation. On the other hand, the economic specialization is the main source for stimulating rural-urban cooperation through the functional complementarities and dependencies it creates. The last part focuses on how the economy of the city and its peri-urban area can get benefits from productivity and innovation externalities. These may be realized by using a variety of inputs available locally, by raising external returns in human capital and by creating technological spill overs.

The geographical scale of the study exceeds the metropolitan area, made up of the first ring of rural settlements and includes the second ring as well in order to assess the regional polarization of the city. From the methodological point of view, the study employs various statistical and spatial analysis techniques (Hull Score, SWOT analysis, cluster analysis, GIS).

2. Iași in the regional context

Iași is the second city in the country in terms of demographic size and the second university center in terms of number of students, the capital city of one of the most extended and populated Romanian historical regions but also one of the most underdeveloped socio-economic region. Although the regional development policy applied since 1998 was aimed to reduce the differences between the eight development regions of the country, the economic disparities increased. Estimated by the GDP per capita, the regional economic performances are different, but they excel in the constancy of the extremes during the last ten years: the North East Region and Bucharest-Ilfov Region. The former is the less developed region of Romania, while the latter represents the fastest-growing region at national scale. The most worrying is the fact that the development disparities between the two are not reducing but, on the contrary, they increase (the ratio between the GDP per capita in Bucharest-Ilfov Region and the North East Region increased from 1.96 in 1994 to 3.40 in 2006). Despite the fact that it is a city located close to a frontier characterized for a long period of time of impermeability, and although it does not play the role of seat of the North East Development Region, Iași kept its prestige of regional capital and university, cultural and scientific center (Figure 1). More than that, Iași had to overcome another

obstacle due to its relative position – that of not being able to fully exercise its urban functions within the regional urban system due to its location between two natural and predominantly rural regions: the Jijia Plain at North and the Central Moldavian Plateau at South. The opportunity Iași had was its opening to the West through channels of communication that created a secondary axis of segmentation of the Moldavian territory (Iași–Târgu-Frumos–Pașcani–Târgu-Neamț) perpendicular on the main one (Focșani–Adjud–Bacău–Roman–Pașcani–Suceava–Siret). There is no doubt that, among all the Moldavian towns, Iași distinguishes itself as the only one able to stand on the same hierarchical position with the central cities from the other regional urban subsystems (Cluj-Napoca, Timișoara, Craiova, Brașov, Constanța).

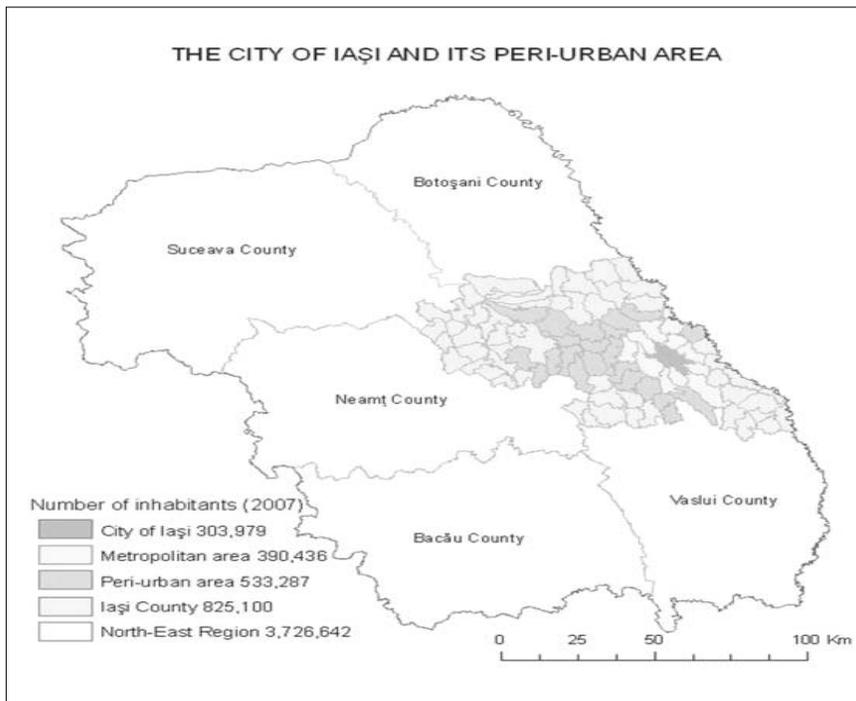


Figure 1: The location of Iași

Iași is one of the biggest urban centers of the country that undertake an intense and positive trend of the tertiarization process. The peripheral geographical location of Iași, close to the Eastern frontier favors the setting of a development objective in services with cross-border significance: Iași – a city of the interregional trade maximizing the advantage of the location at the Eastern border of the European Union. If in terms of numbers a considerable decrease of the work force from research and development can be noticed, in what concerns the capacity of innovation and the knowledge-generating potential, there are remarkable development premises. The innovative business center from the technological park Tehnopolis that houses in average 10 start-up companies from the field of IT&C, of movie industry and product design,

biotechnologies and food industry, is just one example of the research-university-production networks based in Iași.

Nevertheless, the city of Iași and its peri-urban area are confronting with dysfunctionalities, part of them being “inherited” due to political errors before 1990 and some others being “accumulated” during the transition period mainly due to the legislative discontinuities and to the inconsistent development strategies. Before 1990, the strategy of socio-economic and territorial development led to some problems regarding the traffic and transportation, the underdevelopment of the frontier zone, the existence of an unbalanced network of settlements and especially the conversion of the city into a manufacturing center based on heavy industry in total disregard to its regional vocation. To these dysfunctionalities some others are added related to: the marginal location, low accessibility across Carpathians to the rest of the country and western Europe; long-standing deprived regional role; slow growth of quaternary services; problematic functional zoning; and the neglect of inter-communal communication links.

3. Economic specialization

Although Iași County (NUTS 3) is economically less developed than others, there is a favorable balance between the urban and the rural area. By its demographic dimension and the features of the local economy, Iași is the main consumer as well as services supplier at a regional level. With its 300 thousands inhabitants, Iași represents the most important foodstuff outlet not only at the county level, but also at a regional scale. Concurrently, the urban economy of Iași brings out industrial products and provides services for an area that surpasses the county boundaries. This correlation between the functional specialization of the rural area and that of the urban area represents an important trigger for the economic and social integration.

The functionality and the dynamics of the economic activities within Iași peri-urban area are characterized by the *agricultural specialization* in connection with its proximity to the urban market and to the *rising suburbanization*. Iași is surrounded by a wide rural area dominated by agricultural activities whose proximity to the urban market determined the agricultural specialization in fresh foodstuff. Taking into account the first 10 milk, vegetables and fruits producers, it can be noticed that most of them are located in the vicinity of Iași. The spatial pattern is similar for all the three products, including the villages around Iași and only few ones are more remote, especially in the North-Western corner of the area under study. This particular location of the main milk, fruits and vegetables producers is not accidental, besides the natural potential (climatic, edaphic), an essential role being played by the destination of the agricultural production towards the urban market. Only the villages of Cotnari, Belcești, Strunga, Erbiceni and Oțeleni are not making part of the first and second ring of rural localities, all the other agricultural producers being located very closely to the city (Figure 2).

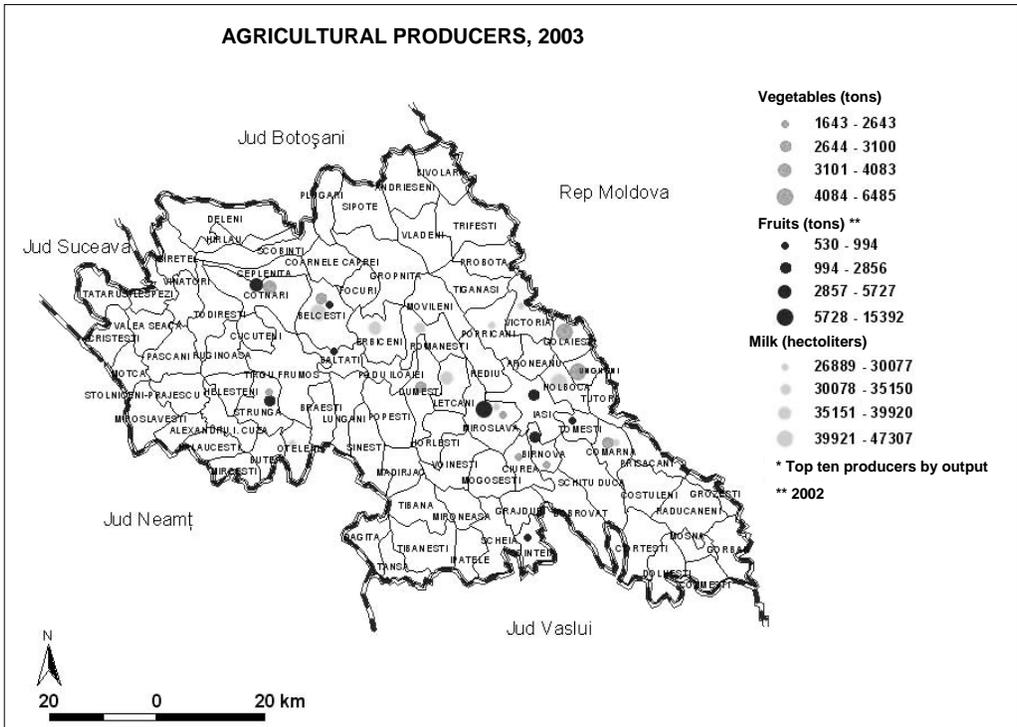


Figure 2: Spatial distribution of top ten agricultural producers

Suburbanization is a socio-economic process felt more intensely after 1990, especially by the big urban centers at the national level. It is the moment when both the population and the economic activities refocused toward the rural area in the proximity of the city for various reasons that are related to the urban economic restructuring, the land and real estate market, the quality of life and natural environment. On a regular basis, the largest cities surpass their administrative boundaries by extending the residential area in nearby villages or by placing the production and service activities outside the urban built-up area. Iași makes no exception from the urban sprawl. The dense urban tissue, the urban traffic congestion, the burst of the prices in real estate and land market, the lack of spare areas for expansion and development, together with the predominant collective housing reduced significantly the attractiveness of the urban area for population and economic activities. As a result of the metropolitan decentralization, investments chose to locate in the villages around Iași, such as the production of silk fabrics at Bârnova, footwear manufacturing at Erbiceni, paint production and wood cutting at Lețcani, primary wood processing industry at Miroslava, tea, coffee and vegetable oil processing at Tomești, machinery and equipment manufacturing and carpentry and joinery of metal components at Valea Lupului.

A second effect of the suburbanization process is the extension of the residential areas in nearby villages. It can be estimated through the increasing number of private housing in these villages. The number of private residential properties finished in the

rural area increased continuously from 745 in 1992 to 1116 in 1993, 1638 in 1994 and 1731 in 1995. The number of new dwellings evolves according to a gradient that reflects the distance from Iași, suggesting the direct relation between the population decrease in Iași and the population growth in the neighboring villages, as well as the positive evolution of the housing stock registered there. The first ring villages of Iași registered the largest number of new dwellings – Ciurea (62), Miroslava (86), Popricani (52). The number of new houses decreases as we move away from the city, for example: Belcești (7), Movileni (6), Sinești (3). Ten years later, in 2005, the same impact of the urban sprawl was registered, meaning the further extension of the residential areas. In 2005, there have been finished from private funds between 20 and 50 dwellings in Bârnova, Ciurea, Miroslava, Reditu, Tomești, and Valea Lupului, all these being villages located in the metropolitan area of Iași. The other villages registered in average a much smaller number of dwellings finished in 2005, reaching maximum 15. Some villages, particularly those located close to the city, registered important increases of the private property fund. Here are some examples: Aroneanu (756 dwellings in 1995 and 979 in 2005), Bârnova (1029 – 1669), Ciurea (2217 – 3093), Holboca (2154 – 3194), Lețcani (1632 – 1935), Miroslava (1769 – 2614), Popricani (1562 – 2060), Reditu (1632 – 2398), and Tomești (2034 – 3589). The growth in the number of private dwellings correlated with the increasing evolution of the population after 1990 demonstrates the existence of an important urban to rural migration and the enhanced residential function of the villages around Iași (Figure 3). During January-

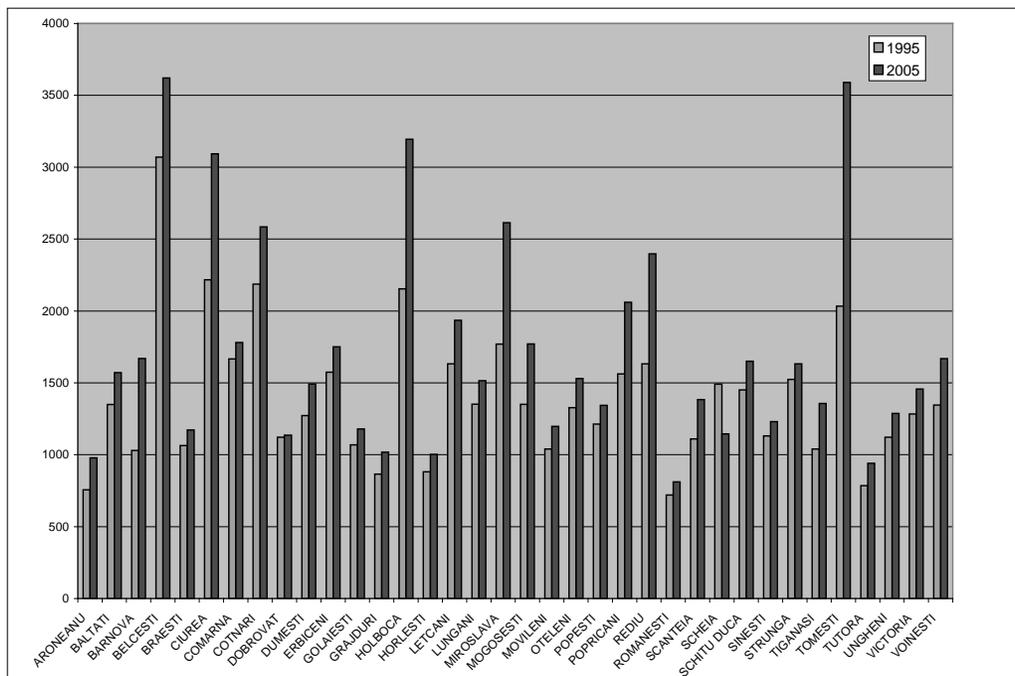


Figure 3: The evolution of the private property fund, 1995 and 2005 (number of dwellings)

July 2009, in Iași County the number of building permits released was with 14.2% smaller than the same period of the previous year (-201 permits), reflecting a certain tendency of decrease in the number of applications of starting off new buildings, due to the economic crisis resented that year.

Analyzing the level of socio-economic development represents an efficient method of identifying the favorable or restrictive factors for the development process, as well as the direction of action. The development disparities have been measured using the Hull Score resulted from the aggregation and the standardization of the primary indicators. The statistical data is available for 2002 (census year that contains data at the level of NUTS 5) and makes reference to the following indicators relevant for the economic and social development of the villages from the peri-urban area of Iași: the infant mortality rate, the net migration, the total number of employees, the number of doctors per 1,000 inhabitants, the number of teachers per 100 pupils from secondary and high school, the length of the sewerage system. The primary indicators have been standardized according to the maximum and minimum values, then aggregated according to the individual significance and counted in the guise of the global development index (according to the methodology used by the Consultancy Group Rambøll in the study “Regional disparities in Romania 1990-1994”). Iași peri-urban area is clearly differentiated by the variation of the global development indicator. The cities, especially Iași, that would have modified the variation of most of the socio-economic indicators, or would have altered the interpretation of the values, have been excluded. The most developed villages are located around Iași and along the potential urbanized axis of communication from Iași to the West, towards Podu Iloaiei and Târgu Frumos. The highest values are recorded in the villages located in the proximity of Iași: Miroslava, Reditu, Holboca, Grajduri and Podu Iloaiei, the latter having granted the township in 2004, as a reflection of its higher level of socio-economic development. Three other villages differently placed in terms of relative position and distance make themselves remarked for the high development level – Ciurea, Scânteia and Romanești – enjoying good prospects to become real engines of diffusing the economic growth and social welfare. The medium level of development is characteristic to the villages located in the North of Iași (Aroneanu, Movileni, Popricani, Victoria) or to its South (Tomești, Comarna, Bârnova, Schitu Duca) and also to those villages located between Podu Iloaiei and Târgu-Frumos, Belcești and Bălțați. As for the rest, all the other villages located at bigger distance from Iași, with a more reduced accessibility and economic profiles dominated by agriculture are distinguished by a low index of development. The spatial variation of the global development index helps to identify the villages that have an average to high development levels on one side and those with a low score on the other side. The latter should be the preferred targets of the measures and actions of the development strategy (Figure 4). Obviously, Iași and the first ring of communes represent the driving force of social and economic development. In fact, these stand for the Metropolitan Area of Iași, founded in 2004, and including Iași and 13 neighboring communes (Popescu, 2008). They play the most important role in

the business environment at the county level, accounting for 91.7% of the number of companies, 94.2% of employment and 93.9% of the total turnover in 2007 (Integrated Development Plan for the Growth Pole of Iași 2009-2015). The spectacular increase of technology-based sectors forecasts an above national average rate of growth and an outstanding potential to competitive clustering. A recent study (GEA Strategy and Consulting, 2008) ranks Iași on the 4th position of the national hierarchy of biggest cities in Romania. In terms of population, accessibility, entrepreneurship, human capital and innovation, Iași scores 19 points after Bucharest (23), Cluj Napoca (22) and Timișoara (21). On a scale from 1 to 5, Iași holds the highest score in terms of human capital, 4 points in terms of innovation and entrepreneurship and the lowest score (3) in terms of population and accessibility.

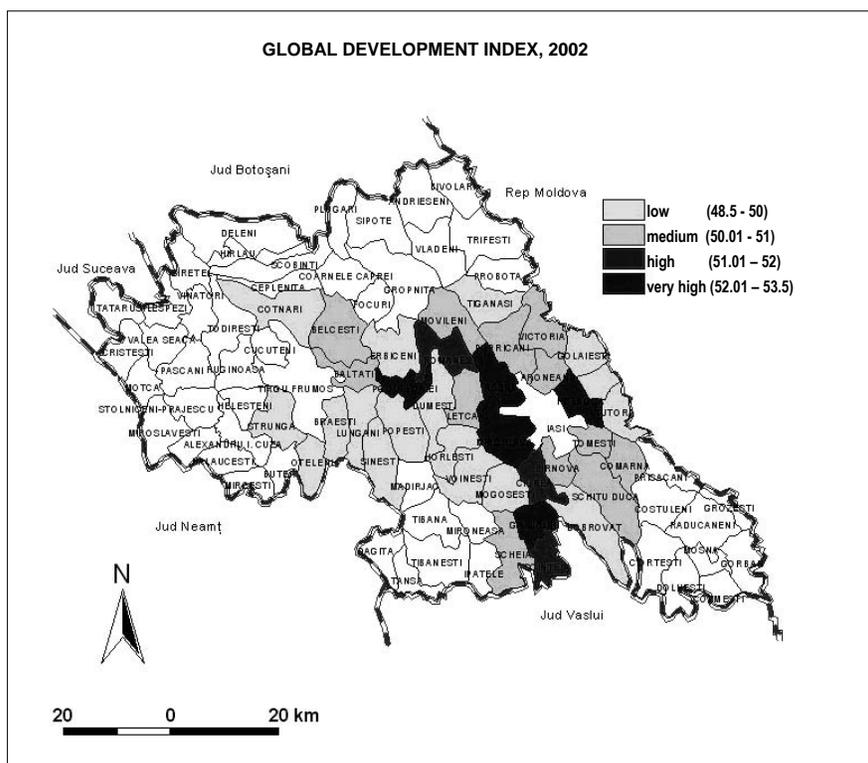


Figure 4: Global development index

The economic features of the city and rural settlements studied together with the identification of the development advantages and disadvantages hinted some strategic actions for the future. These make reference to:

- Optimizing the tertiary functions of the urban and intensifying their influence on the rural areas;
- Obtaining economic performances that would promote Iași urban and peri-urban area on a competitive market at the regional (especially integrated in the North East Region) and national level;

- Promoting an adequate management of the land-use pattern in the peri-urban area as a consequence of the suburbanization process that enhances the residential function of the rural; and
- A well-balanced exploitation and preservation of the natural and human resources in the context of promoting a qualitative cultural and rural tourism.

4. Economic zoning

From the view point of the distribution of the most important economic activities, the area is characterized by an obvious functional complementariness (industry and services in the urban area, agriculture in the rural one) which can represent an important premise for the socio-economic integration and cohesion. The diverse structure of types of land use outlines the variety of the agricultural production with high potential both for the vegetable and animal output. The industrial sectors in rural environment are interconnected with local resources while those from Iași reflect an urban center in full metropolization which strengthens its position of regional coordination and cross-border cooperation through a balanced mixture of industrial and tertiary activities. After the structural changes starting with 1990, Iași managed to reach a regular economic structure for a big city with regional functions (Figure 5).

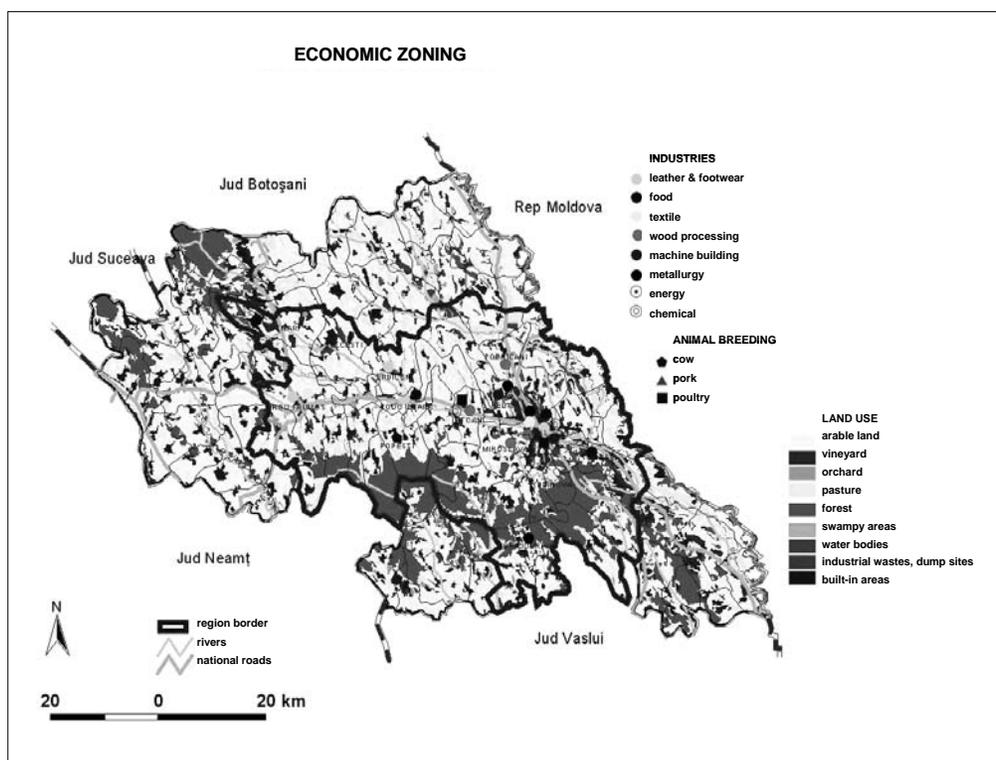


Figure 5: Economic zoning

5. The catalytic factors of development

Turning the local economy into a service-based one – The tertiary sector is well represented in Iași and Târgu-Frumos, as well as in the villages advantaged by their geographical location in the vicinity of Iași: Aroneanu, Ciurea, Holboca, Popricani, Rediu and Ungheni. Emphasizing on the development of the tertiary sector in Iași becomes obvious as 67% of the employed population of the city works in this sector. In 2002 the cities have been characterized by deindustrialization exercised through losing one third of the relative value registered in 1992 and through the service economy estimated by the increase with 40% of the employment in services. Iași is characterized by an economy based on innovation and knowledge, in the same time consolidating its prestige as university and scientific research center.

The diversified and competitive agriculture – Agriculture is the main economic activity especially in the rural area, but also in the two small towns, Târgu-Frumos and Podu Iloaiei. Every type of crops and livestock is highly developed. The level of performance registered by the agricultural activities, supported by the important potential, is also sustained by few elements such as: the existence of direct exporters represented by 2 agricultural firms from Iași peri-urban area; the existence of the key companies able to stimulate the economic growth at the local and regional level, ranked on leading positions in the National Top of Private Companies in 2008; the attractiveness and the capacity to absorb EU funds for rural development of Iași peri-urban area measured in the number of projects.

A variety of touristic resources – Most of the sightseeing spots are concentrated in Iași. At its turn, Iași benefits from the neighborhoods quite rich in touristic attractions – particularly natural ones. The touristic activities that can be undertaken in Iași and in its adjacent area are very diverse, from cultural, clerical and museum tourism, ethnographic, balneary and sport tourism, transit tourism, to the weekend and business tourism. Anyway, the tourist flow is not important compared to other urban centers with regional significance and the tourism infrastructure is poorly developed in compliance with the standards of a European city. Nevertheless, its potential to become a European cultural center is real.

The Sustainable Socio-economic Development Strategy of Iași, Orizont 2020, comes up with three scenarios, each focused on a separate yet interconnected field of action: Iași – city of services relying on an economy based on IT&C and knowledge services; Iași – city of interregional trade by maximizing the advantages of its location at the Eastern border of the European Union; Iași – city of modern industry by extending the existing strengths and expertise in manufacturing to broader and highly integrated supply chains. The development of the tourism is a constant component of all the three scenarios due to the high potential of Iași. The three scenarios have been subject of a public debate and, consequently, four strategic objectives came to the forefront:

- Firstly, Iași detains industries and services based on knowledge and IT&C activities. The study of the economic development underlined the role of the human capital to trigger IT&C and new technologies growth. The significant

number of universities and students, as well as the experience already accumulated by some IT&C companies are arguments supporting the further development of this sector.

- Secondly, Iași uses its knowledge and talents for innovative and creative industries. Worth mentioning in the favor of this objective are: the project of locating the IT&C companies in the city center, the creation of a “center of excellence” with an active involvement of the universities, the extension of the innovative business center, the organization of fairs and exhibitions. Thus, Iași has the chance to improve the existing industries and to develop new creative ones.
- Thirdly, Iași would be widely known as touristic and cultural capital city of Moldavia. The city displays a diverse touristic potential (cultural, religious tourism, special events, business tourism or therapy). Currently, a touristic development strategy is on the way to be worked out by the local authorities.
- Fourthly, Iași becomes the major provider of services for the entire North-Eastern Region. For becoming so, Iași enhances its regional function. This involves Iași as a regional centre in delivering medical and educational services, financial and insurance services, commercial services, transportation and distribution services.

6. Towards a strategy of economic development

6.1. Agriculture

It is a vital sector of the regional economy and, implicitly, a major determinant of the economic revival of the peri-urban area of Iași in order to attenuate its still dominant rural character. The broader spatial context, in which the peri-urban area is subordinated to Iași, must be taken into account. The agricultural production of the North-Eastern Region as well as of the Iași county would have been higher if not impeded by various drawbacks: the differentiated soil quality and the alternation of the soil categories; their fragmentation compared with other similar plain units; its fragmentation in small private land parcels; the adverse weather conditions; the low level of fertilizers and technology in agricultural works. Accomplishing the development goals aims to meet the consumption needs of the urban population as well as of the peri-urban producer; it also aims to ensure the raw materials for the light industry, correlated with penetrating on the European market with competitive products. The Integrated Development Plan for the Growth Pole Iași 2009-2015 identifies a potential agro-alimentary cluster in the Metropolitan Area of Iași and proposes a program for development of the peri-urban agriculture. It also acknowledges as a main threat the change of land-use from agricultural purpose to residential and non-agricultural uses.

A general objective would be the integration of the agricultural development into a strategy of rural sustainable development, in combination with other activities: cottage industry, furrier industry, wool fabrics and vegetal fibbers, objects of utility and wood handicraft, various services, rural tourism, and processing of the auxiliary products of the woods. This goal can be fulfilled by respecting some punctual objectives:

Commercial agriculture by fusion of individual plots (average 20 hectares farms following the European model) through promoting different association forms (currently small plots of about one to three hectares represent approximately 90% of the total). Even more competitive are the complex associations based on partnerships that would include the entire supply chain (from obtaining products by using modern agro-techniques until their commercialization), by specializing the partners on operational segments (improving the soil, mechanization, growing certain crops or livestock, micro industrialization, management, marketing), eliminating the abandoned areas due to lack of capital, a low level of mechanization and aging workforce by leasing in legal contractual conditions; the efficient management of human resources from agriculture as there is plenty of them; organizing a technical, sanitary and legislative assistance center in order to promote a competitive organic agriculture; creating an efficient distribution and sales network (showrooms, sales through commercial distributors) but in the same time taking into account the size of Iasi marketplace – 300 thousands inhabitants and the existence of supermarkets such as Billa, Metro, Gima, Univers'All that can absorb a large amount of the agricultural potential over Prut that in the conditions of trans-border cooperation can be processed, delivered and sold through Romanian companies on the national and international market; integrating the agricultural production with its different stages of production, mainly traditional, by encouraging local entrepreneurs; diversifying the economic profile of the rural settlements by combining agricultural development with supporting the agro tourism and handicraft.

Cotnari brand creation. Viticulture developed especially on the 1,100 hectares of vine from Cotnari offers the peri-urban agriculture of Iași a competitive advantage to national and international markets. Through Cotnari wines, the agriculture of Iași holds a potential brand on the domestic market, having the possibility to become a real brand name for the local agriculture. The possibility for Cotnari wines to become a country brand is big if we take into account that there is no country brand in the present, while neighboring countries, Republic of Moldova and Hungary have. Together with Jidvei and Murfatlar wines, those from Cotnari are the most well-known wines abroad, winning the greatest number of golden medals at international contests. There is no wine festival as in Moldova and as a matter of consequence, around 2,000 foreign tourists willing to undertake a wine tasting tour arrive in Romania annually. An adequate promotion failed in 2002 when the Ministry of Tourism launched the Program “Romania – the country of wine” which included the project “Wine road”. The program comprised wine cellars and vineyards from Prahova, Buzău and Dâmbovița counties but none of those known at international level. A certain degree of promotion comes from tourism agencies. One of them, ANTREC organizes thematic trips such as “wine road within Iași regions”, including Cotnari as the main attraction. There are other tourism agencies which promote a wine road in Romania combined with wine cellars in Moldova. Romanian tour packages which address mainly French tourists include visiting Jidvei, Murfatlar and Cotnari vineyards at the beginning of October in order to participate to the Wine Festival in the Republic of Moldova.

Structure of agricultural crops and demand of the local urban market. Generally speaking, there is an adequate geographic location of the most important agricultural producers in the proximity of the city. Nevertheless, social surveys of the suppliers for Iași agro-alimentary market could evaluate the balance between the two. An identification of surplus or deficient products could be possible in this case and future disequilibria may be solved either by directing certain products towards the regional area, or changing the structure of vegetable cropping in favor of deficient or even inexistent crops but with high ecological potential. It is also important to determine the general functional distribution which aims to a well-balanced development in Iași peri-urban area through integration of agricultural exploitation in the structure of the area, in relation to other components, and avoidance of expansion of other categories of use on fertile agricultural lands (for example, expansion of the build-up area for residential development to the detriment of agricultural lands). The most adequate cropping systems for the peri-urban area refer to intensive green houses and solaria, and plantations. The peri-urban area should be well-defined as land specialized in vegetable gardening and fruit growing according to the environmental conditions (topoclimate, types of soil), delimiting the regions with high profitability for vegetables and fruits production. An efficient way to stimulate productivity is to use select seeds from the most productive plants, to create fruit, shrub and flower nurseries. Organizing centers for distributing select and treated seeds is a mandatory condition in this case.

Raising livestock as main sector of the peri-urban agriculture. The structure of livestock is diversified representing an important starting point for converting raising livestock into a commercial economic activity of intensive type. Raising horned cattle for milk in intensive system predominant in middle farms with 30-50 heads and using as model the horned cattle farm from Popești can be a viable option especially in those villages which after 1990 registered important increases in the number of horned cattle from private households. As well, the intensive raising of swine following the example of Belcești farm, could become the premise for the future development of farms specialized in raising swine and of incorporated meat processing factories. To the farms specialized in raising cattle for milk, it can be associated or integrated small farms specialized in raising suckling pigs. Poultry breeding farms with high productivity, for example the one from Lețcani, can be multiplied and diversified in what concerns the number of species (ducks, geese, turkeys, ostriches). In this case, the complex processing of meat at local level would mean an important source for creating new jobs. Raising horses in small farms in accordance with sustaining and developing rural tourism represents a viable alternative both for stimulating economic growth and for creating a balance between offer and demand on local workforce markets in rural environment. The existence of the textile firm which produces silk fabrics at Bârnova can represent a stimulus for developing a small network of silkworm breeders who can provide raw material for the silk fabrics firm, being in the same time an additional source of revenue for individual households.

6.2. Industry

North East Regional Development Plan states that the most important industrial units at regional level operate in car, equipment and machine building industry, alimentary industry, wood processing industry, light industry (knitted garments, textile and footwear), and pharmaceutical industry. The same industries are also representative for Iași County, fact which denotes the role of local industry in establishing the domains of excellence at regional level. After a difficult period of industrial restructuring, Iași County makes itself noticed through some sectors with significant weight, which concerns national industrial production. In 2005, accordingly to the Socio-Economic Development Strategy of Iași County – Orizont 2020, these industrial sectors are: alimentary industry (21%), readymade industry (10%), metallurgy (9%), chemical products (9%), production and distribution of electricity (8%), machinery and equipment industry (6%), and textiles (5%). The Integrated Development Plan for the Growth Pole of Iași 2009-2015 identifies as increasing sectors the pharmaceutical and chemical industry, metallic constructions, furniture and editing. The contribution of Iași County to national industrial production is also relevant from the view point of the position the region occupies in manufacturing and processing industrial products, such as: edible oils – 1st place, synthetic fibers – 3rd place, meat – 12th place, readymade industry – 18th place, wood – 26th place. In the county's productive system, Iași is the main industrial center. The economy, which was dominated by industry before 1990 (Popescu, 2000), is still based on dynamical industrial activities, in full development, which give the city a stable specialization. From 1990 and up to 2008, industrial specialization remained the same, but the percentage of industrial sectors in the structure of workforce has changed. The hierarchy of industrial sectors which outlines the industrial specialization is represented by textile industry, machine building industry and chemical industry. In 2008, the top of firms from Iași suggests a concentration of competitive companies in the primary products industry which also includes the chemical industry, readymade and textile industry, machinery and equipment industry. Despite the major industrial restructuring and the dramatic reduction of workforce in industry, the domains of excellence remained and, even more, they enforced their position in the local productive structure (Popescu, 2006). Recent investments are directed towards pharmaceutical, textile, alimentary, furniture industry and metallurgy. Some of the most recent and important foreign investments are made by Lafarge, Mittal Steel and IT Embarcadero Technologies. Several studies pinpointed Iași as a potential high-tech cluster. Besides Technopolis, the Regional Technological Centre and Iași Business and Technology Campus are planned to create 150 new jobs and to host 10 start-ups (Integrated Development Plan for the Growth Pole Iași 2009-2015). Former industrial inner-city areas are important space reserves enabling the reconversion of urban economy, mainly from manufacturing to services (Stoleriu, 2005). Commercial and service activities develop on former industrial areas (Nicolina, Terom, Fortus). One of the objectives of the Integrated Development Plan of the Growth Pole Iași 2009-2015 is to draw an inventory of industrial brownfields

and a plan to regenerate them. The first step is done through the participation of the Iași City Hall at the South East Europe Project, ReTinA, aiming to study the way the derelict industrial areas of Iași could be regenerated.

Textile industry is regarded as being represented by the most powerful concentration of big companies (Vastex Vaslui, Siretul Pașcani, Rifil Săvinești, Romalfa Câmpulung Moldovenesc, Bucovina Rădăuți and Jatex Botoșani) and tends to become the definitive element of the regional industrial specialization (Popescu, 2005). The companies from Iași have the opportunity to form together with the other textile companies from North East Region a powerful textile cluster to address the national and international market. Ten companies of textiles and clothing in the North-East of the country (Rifil Yarn factory – is the most important producer of threads for clothing in the Eastern Europe plus other 9 companies of knitting and clothing from knitted fabrics) together with the Regional Development Agency North East, “Gheorghe Asachi” University – Faculty of Textiles and Leather Engineering Iași (until 1990 the only one with this profile in the country), The Research-Development National Institute for Textile and Leather and a consultancy company took the initiative of a partnership having as purpose “to assimilate new products with a greater added value”. The objectives of this cluster initiative are mentioned in detail in the Regional Development Plan North East 2007-2013. They refer to internationalization by opening new marketplaces, reducing costs of transactions through a common marketing and a common trade policy, growing competitiveness through joint investments in technology, creating a common identity by commercializing products through a personal brand. The cluster member-companies have a total capacity of production of three million pieces of knitting fabrics per year (Regional Development Plan North East 2007-2013). The textile cluster is known at national and European level, being mentioned by the project InovCluster 2009 (textile cluster in NE including the counties of: Bacău, Botoșani, Iași, Neamț, Suceava, Vaslui) and by European Cluster Organization Directory 2010.

Astrico North-East is one of the partners of the North-East Regional Laboratory for Innovations made up by AsviLoc+ project (Agencies Supporting Value of Innovation systems in regional and local economies) that runs in the 2009-2012 period. It is a program financed by European funds (SEE Program) in order to grow the role of North East Regional Development Agency and of other development agencies in 12 countries to create regional systems for innovations and to form a transnational network for innovation. One of the AsviLoc+ objectives is to encourage new associative structures by creating a regional textile cluster. During the workshop “Innovation phenomenon in the business environment from the North-East Region of Romania” (May 27, 2010) the intention to create a regional textile cluster formed by North East Regional Development Agency, Astrico North East, “Gheorghe Asachi” University Iași – Faculty of Textiles, Leather Engineering and Industrial Management and InovCluster, was announced. This is the way through which, in fact, the textile cluster Astrico North East accesses EU structural funds meant to finance the cluster activity on medium term. Astrico North East is an evolutionary emergent cluster with an endogenous

potential for development, based on a specialized network of suppliers and producers with an evolving partnership with knowledge providers (university and research institute) and an active catalyst actor in promoting innovation (North East Regional Development Agency) (Popescu, 2010).

The Socio-Economic Development Strategy of Iași – Orizont 2020 identifies three industrial domains with high potential for building the city as a creative center and a proper place for the “industries of knowledge”; technology of information and communication, light industry (textile and footwear) and alimentary industry. The latter was also mentioned by the Development Strategy of Iași County for the role it possesses in what concerns economic growth and intensification of cross-border cooperation with Republic of Moldova.

The main objective is developing a competitive industry, based on innovation, knowledge, in accordance with the principles of market economy. This objective can be accomplished through some punctual targets.

Redefining the specialization and consolidating the competitiveness of industry in Iași. In Iași, industry suffered an intense process of deindustrialization which led to the redefining of industrial specialization. The industrial sectors cover different trajectories: some are on the rise, others have development potential or they are at low ebb. The industry of Iași County had a diversified structure, having a similar profile as the regional one. The differentiated evolutions of industrial sectors from the transition period made that only some industries existing at the beginning of the restructuring process last as dominant sectors and outline the regional industrial specialization. Certain sectors stood out up to the present moment: light industry (textile, readymade industry), alimentary industry, furniture industry, pharmaceutical industry which have local and regional resources, tradition resources and specialization resources of the workforce. These industries can represent the premises of future industrial specialization if they are able to promote regional trade-names (e.g. Cotnari wine), to innovate new products, and to invest in clean technologies. The industry's competitiveness is demonstrated on one hand by the traditional industrial sectors and on the other hand by the top innovative industrial fields with major inputs of capital and knowledge sustained by the diverse network of centers for scientific research and universities. Certain partnerships may be possible in key domains for industrial performance of Iași; medicine-pharmacy-chemistry-medical equipment-medical informatics (Antibiotice Iași, University of Medicine and Pharmacy Gr. T. Popa, Iași, centers for scientific research) in order to build an innovative cluster in the Eastern part of the country; information technology and applied information in different domains (IT companies, centers for informatics in different fields, a cluster with high potential for becoming real in Iași and which will contribute to define a clear vision regarding the future of the city and to consolidate its image as a center of innovation through counteraction of the “brains' exodus”; agriculture-alimentary industry-research in alimentary chemistry (agricultural companies with diversified profile and economic performances, alimentary companies, University of Agricultural

Sciences and Veterinary Medicine “Ion Ionescu de la Brad”, Iași), taking into account that after the textile industry, the alimentary one occupies the second place as importance in the economy of Iași. The alimentary industry is dominated by SMEs which have a more difficult start-up related to investments, capital, entrance on the market and the accession to European Union has meant applying certain high quality standards which impose an efficient partnership for this domain; textile industry-chemical industry (of paints and dyestuffs) – readymade industry-creation and art (textile companies, readymade companies, University Al. I. Cuza, Iași, University of Arts, Iași, fashion houses) given the fact that Iași has previous experience in this domain: it lodges Fashion Week and in the same time it represents the center of culture and art of Moldavia. European funds and local entrepreneurs’ force from textile industry contributed to the complete rescaling of this sector by focusing on the niche specializations and investments in re-technologization.

Development of a regional coordination system. The starting point of this system is represented by the consolidation of the regional coordination capacity of Iași (Rey *et al.*, 2000). This is a city with a long administrative experience which played a traditional polarizing role in the Moldavian space (Istrate, 2005) and in the same time a regional metropolis impeded to exercise its function after 1968. The peripheral position within the region is counteracted by the town’s symbolic value in local culture and by its remarkable image which entitles the town to play the role of a regional coordination center. The regional system coordinated by Iași would not degenerate in a super-centralized strategy, the Moldavian urban system being a bicephalous one where Bacău plays a more and more important role, and Suceava and Piatra Neamț expand their influence within their counties’ areas.

Creation of functional complementarities within the county industrial system. Most of the time, the relations of industrial cooperation are limited to the county’s area, rarely taking place in the regional space. The new industrial specializations in process of defining will connect the industrial centers between them, generating solidarity, partnerships and synergies. However, we have to take into account that not all of the industrial centers of the region will be able to maintain this functionality at the present intensity. Industrial function will continue to be dominant or at least important for Pașcani, for example, but the others will evolve towards services. This tendency is already manifested in the case of Iași, but also in the case of other small towns with tertiary activities in full development (commercial activities). Iași County and especially its peri-urban area should become a coherent industrial concentration but, in the same time to impose itself at national level through a particular industrial specialization.

Development of partnerships productive/services companies-universities-research centers. The economic performances of Iași peri-urban area and of Iași metropolis depend basically on their capacity to stimulate the location of both dynamic, innovative companies and companies focused on knowledge and information. These companies have their own location standards which include together with the classical factors,

the existence of a creative and rational economic environment. A strong relationship with universities and centers of research is vital for the development of a reliable economic activity. Between 2001- 2006, twelve centers of excellence were created within the universities of Iași; University Al. I.Cuza, “Gh. Asachi” Technical University, University of Medicine and Pharmacy Gr. T. Popa (Popescu, 2008). In fact, Iași belongs to a regional context where the activities for research-development are dynamic and well-defined. For example, in 2006, the North East Region had 3,981 persons engaged in R&D activities, in full development after 2002, occupying second place after București-Ilfov Region. The North East Region has also occupied second place after București-Ilfov Region in terms of number of R&D wage earners per 10,000 employed persons with a percentage of 31.9%, and the same place in what concerns the turnover of 414 billion Lei. In this region operate 40 SMEs engaged in R&D activities occupying second place after București-Ilfov. The R&D companies from Iași were the most dynamic in terms of number and turnover, according to a statistical analysis made by The Chamber of Commerce and Industry Iași.

7. Conclusions

The study focuses on the case study of Iași, the biggest city at the Eastern border of the European Union. Divergent evolution trends displayed by the increasing urban economy (Iași) and the declining regional economy (North-East Region) stands at the root of socio-economic disparities. Surrounded by a less urbanized and agrarian dominant rural area, the city of Iași, unchallenged in terms of its polarization capacity at the regional level, shows a significant potential to trigger economic growth over an extended influence area and to enhance cross border cooperation with Republic of Moldova. The benign influence of Iași over the peri-urban area contributed to the demographic stability and the location of secondary and tertiary activities. The functional complementarities between urban and rural are the engines of regional growth. Also, the human capital and the absence of depopulation and ageing are the strengths of social and economic development. Despite the low connectivity and accessibility of the city and its peri-urban area, Iași is the regional supplier of social services, mainly educational and medical. The economic specialization of the city and its potential of trans-boundary cooperation could help the internationalization of the supply chain in agro-alimentary industry and finally the trade integration across the Eastern border of the European Union. In this way, Iași would be a leading center of an integrated productive network capable of gaining access to wider national and international markets. Commercial agriculture, cluster of related industries, innovative partnership, and branding contribute to the raising of productivity and innovation externalities and ultimately to urban and regional growth. Iași as innovative city might, if political barriers would be lifted, help the emergence of a cross border metropolitan region at the final frontier of the European Union.

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