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КИЇВСЬКИЙ ГЕОГРАФІЧНИЙ ЩОРІЧНИК

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Восьмий випуск щорічника є тематичним і присвячений міжнародній конференції «Процеси просторової трансформації у Центральній Європі у XXI столітті» і торкається питань, що подані під рубриками *„Регіональні демографічні, соціальні та економічні трансформації у Центральній Європі”*, *„Міста, міграційні процеси та трансформація простору”, „Етнополітичні, культурні трансформації, розвиток сфери послуг та туризму”*. У них представлено значущі для географічної науки і для практики результати вирішення наукових теоретичних і прикладних завдань, виконаних українськими та зарубіжними географами.

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Адреса редакції: 01601, Київ – 601, просп. акад. Глушкова, 2а, кімн. 407
e-mail: geokyiv@gmail.com,
тел. +38(044) 521-32-24, +38 (095)367-54-87
www.geokyiv.org

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ЗМІСТ

<u>Етнополітичні, культурні трансформації, розвиток сфери послуг та туризму</u>

СУСПІЛЬНА ГЕОГРАФІЯ УКРАЇНИ: ТЕРИТОРІАЛЬНІ АСПЕКТИ РОЗВИТКУ

Ярослав Олійник
Київський національний університет імені Тараса Шевченка, Київ, Україна

В історії розвитку української суспільної географії функціонували та нині продовжують дослідження регіональні наукові центри, у межах яких формувалися наукові школи. В основу їх класифікації покладено: 1. функціонування організаційних структур, на базі яких проводились або ж нині відбуваються розробки методологічних основ суспільної географії в Україні (НДІ, ВНЗ, громадські організації); 2. діяльність наукових шкіл та внесок її окремих представників у методологію української суспільної географії (наявність регіональної наукової школи, теоретико-методологічні напрямки її діяльності та відповідно фахівці з цих напрямків; результативність функціонування) .

1. *Провідний центр* у розвитку методологічних основ суспільної географії в Україні – *м. Київ.* Протягом всього XX століття тут були зосереджені основні організаційні структури, що проводили теоретичні дослідження. Нині працює Інституту географії НАН України, , географічний факультет Київського національного університету імені Тараса Шевченка, Інститут економіки природокористування і сталого НАН УкраїниНаціональний педагогічний університет імені Михайла Драгоманова, знаходиться центр Українського географічного товариства. Цей центр є найбільшим осередком розробки методологічних основ суспільно-географічної науки, розвиток яких розпочався ще у XIX ст., а на межі XIX та XX століть тут відбулося становлення економіко-географічної науки, своє становлення пройшли етногеографічний та комерційно-географічний напрямки науки. У роки Української національної революції 1918-1921 рр. в Києві працювали такі відомі економіко-географи як К.Воблий, А.Синявський, В.Садовський, С.Остапенко, Я.Пілецький та ін., яким належать перші в історії української науки підручники з економічної географії, що висвітлювали теоретико-методологічні основи науки.

Впродовж 20-х років економіко-географічні дослідження тут проводилися під керівництвом К.Воблого. Це був період формування української галузево-статистичної наукової школи. У 1933 р. він заснував у Київському університеті першу в Україні кафедру економічної географії, де до початку Другої світової війни працювали також І.Мукомель, К.Пяртлі, В.Поданчук.

Після розгрому в 1934 р. Науково-дослідного інституту географії та картографії в Харкові, окремим структурним підрозділом він був переведений до складу геолого-географічного факультету Київського університету. Відділ економічної географії очолив І.Маєргойз.

У післявоєнні роки Київ остаточно утверджується як провідний науковий та методологічний центр української економічної географії. Продовжила роботу кафедра економічної географії Київського університету (завідувачі: К.Воблий (до 1947 р), К.Пяртлі (1947-1958рр.), О.Діброва (1959-1973рр.), С.Мохначук (1973-1974рр.), В.Юрківський (1975р.), М.Пістун (1976-1998), Я.Олійник (з 1998р.).

У 1964р. М.Паламарчук заснував Сектор географії, функціонування якого впродовж майже 30 років сприяло створенню Інституту географії НАН України. Теоретико-методологічні проблеми тут розроблялися М.Паламарчуком, І.Горленко, Г.Балабановим, В.Нагірною та ін. У межах Академії наук України ще в 1934р. була створена Рада по вивченню продуктивних сил. В цій організації теоретико-методологічні студії свого часу проводились М.Паламарчуком, Ф.Заставним, а зараз їх здійснюють А.Степаненко та інші в Інституті економіки природокористування і сталого розвитку НАН України.

Отже, саме в Київському науковому центрі сформувався найпотужніший осередок розвитку методології суспільної географії. У Києві пройшли своє становлення та розвинулись наукові школи К.Воблого (М.Паламарчук, Л.Градов, Л.Корецький, І.Кугукало та ін.), О.Діброви (Ю.Пітюренко, М.Пістун та ін.), М.Паламарчука (Ф.Заставний, Я.Жупанський, С.Іщук, Я.Олійник, Д.Стеченко, В.Нагірна, П.Масляк, І.Горленко, Г.Балабанов, Р.Язиніна, М.Фащевський та ін); сформувалися сучасні суспільно-географічні школи М.Пістуна (І.Дудник, О.Паламарчук, П.Луцишин), С.Іщука (В.Джаман, О.Любіцева, І.Смирнов), Я.Олійника (М.Дністрянський, К.Мезенцев, Л.Нємець, К.Нємець,М.Барановський ,І.Швець , А.Калько).

2. *Наукові центри, де протягом ХХ ст. існували окремі НДІ чи громадські організації, а зараз теоретико-методологічні дослідження, сконцентровані на кафедрах університетів*. До таких центрів відносяться *Львівський та Харківський центри.* Становлення Львівського суспільно-географічного центру розпочалося ще наприкінці XIX ст. У 1882р. почало свою роботу Наукове товариство імені Тараса Шевченка (НТШ), яке діяло до 1942р. У Львові також існувала кафедра географії заснована 1892р. А.Реманом. На їх основі протягом XIX – на початку XX ст. розвинулись два осередки суспільно-географічних досліджень. Свого часу тут працював С.Рудницький, який розпочав формування наукової школи української антропогеографії. Його учнем став М.Дольницький, а ідеї були розвинені В.Огоновським та О.Степанів. Вони, працюючи в межах антропогеографічного напрямку приймали участь у розробці теоретико-методологічних основ української суспільної географії. До Львова на початку 20-х рр. емігрували вчені з УРСР, серед них В.Геринович та основоположник районного напрямку в українській економічній географії – В.Садовський.

Після включення Львова в 1944р. до складу радянської України економіко-географічні дослідження теоретико-методологічного змісту проводились на кафедрі економічної (згодом економічної та соціальної) географії Львівського університету. У цьому напрямку провідна роль у 60- 80-

х рр. належала зав. кафедрою О.Ващенку, який сформував у Львові власну наукову школу (Ф.Заставний, О.Шаблій та ін.).

На сучасному етапі Львівський центр є одним з основних наукових осередків розвитку методологічних основ української суспільної географії. Тут знову діє НТШ (відроджене 1989р.) – зокрема – його Географічна комісія на чолі з О.Шаблієм та кафедра економічної і соціальної географії Львівського національного університету імені Івана Франка, завідує кафедрою О.Шаблій, якому належать розробки у сфері методології сучасної суспільної географії на засадах українознавства. На кафедрі працюють також такі відомі економіко-географи, як С.Кузик, І.Ровенчак, Л.Шевчук та ін. Формується й наукова школа О.Шаблія (докторську дисертацію захистила О.Заставецька). Активно проводяться дослідження у сфері методології історії української географії (О.Шаблій, О.Вісьтак, П.Штойко).

Харківський центр. Організація Харківського наукового центру та інтенсивні економіко-географічні теоретико-методологічні розробки пов'язані з розвитком української національної науки у 20-х рр. минулого століття. Оскільки Харків був столицею тодішньої УСРР, основні адміністративні й академічні установи перебували саме тут. Так у 1927 р. при Всеукраїнській Академії Наук (ВУАН) та Наркоматі освіти було створено Український Науково-дослідний інститут географії та картографії (УНДІГК), який очолив С.Рудницький. Його методологічні студії стосовно географії, що були сформульовані ще на початку ХХ століття у Львові, - послужили подальшому розвитку, антропогеографічного напрямку економічної географії, але вже тепер у Харкові.

С.Рудницький продовжив у Харкові підготовку своїх учнів та послідовників. З цією метою при УНДІГК було організовано аспірантуру (аспіранти – О.Діброва, О.Ващенко та ін.), проте сформувати наукову харківську школу С.Рудницькому не вдалося, бо вже 1934р. Інститут було закрито, а його провідних науковців разом з С.Рудницьким репресовано.

Поряд з тим також у Харкові розвивається і районний напрямок економіко-географічних досліджень , про що свідчать теоретико-методологічні напрацювання К.Дубняка та Ф.Матвієнка-Гарнаги. Теоретичні засади краєзнавчого напрямку у ряді своїх праць обґрунтував К.Дубняк.

Після ліквідації Інституту, основним осередком економіко-географічних досліджень взагалі і методологічних розробок стає Харківський університет. У тому ж таки 1934р. тут була організована кафедра економічної географії. Тривалий час на кафедрі не було висококваліфікованих працівників. Першим доктором наук тут став А.Голиков, якому належать праці з методологічних проблем економічної та соціальної географії.

На сучасному етапі в Харкові ще не сформувалася власна наукова школа, проте Харківський науковий центр є досить перспективним у плані подальших розробок у галузі теорії географії А.Голиков. К.Нємець Л.Нємець

3. *Наукові центри, які сформувалися переважно протягом другої половини ХХ ст. та функціонують на базі університетських кафедр*, де й зосереджені теоретико-методологічні дослідження у сфері суспільної

географії: *Одеський Чернівецький таСімферопольський центри* .

Одеський центр. Власної сучасної наукової суспільно-географічної школи в Одесі не створено, однак ще в 20-х рр. ХХ ст. в Одесі працював відомий економіко-географ О.Сухов, який видав один з перших підручників з економічної географії України, де висвітлив свої погляди на предметну сутність науки. Він заснував тоді свою наукову школу, його учнем і послідовником став І.Мукомель (у 70-х рр. завідував кафедрою економічної географії Одеського університету, активно проводив економіко-географічні дослідження України).

Як центр розвитку методології суспільної географії Одеса відома з 80-х рр. ХХ ст. Ці дослідження пов'язані безпосередньо з функціонуванням в Одеському університеті кафедри економічної географії та діяльністю відомих економіко-географів В.Дергачова (представник Московської економіко-географічної школи, учень Ю.Саушкіна) та безумовно О.Топчієва (завідувач кафедри), який має вагомий внесок у розробку теоретико-методологічних основ сучасної української суспільної географії.

Чернівецький центр. Економіко-географічні дослідження в Чернівецькому науковому центрі були започатковані в 40-х рр. минулого століття А.Синявським. Активні економіко-географічні дослідження тут розпочалися в 50 – 60-х рр. ХХ ст. Вони пов'язані з творчою діяльністю В.Оникієнка та М.Ігнатенка на кафедрі економічної географії Чернівецького університету. М.Ігнатенко досліджував предметну область економіко-географічної науки, а також був засновником Чернівецької наукової школи. На сучасному етапі суспільно-географічних досліджень в Чернівецькому центрі добре відомі такі економіко-географи як Я.Жупанський та В.Руденко. Я.Жупанський на початку 90-х рр. відновив історико-географічні дослідження, обґрунтував теоретичні засади історії української географії як науки. В.Руденко (зав. кафедрою економічної географії та екологічного менеджменту) розробив теоретико-методологічні засади оцінки природно-ресурсного потенціалу. Серед сучасних вчених економіко-географів Чернівецького центру відомі також дослідження в галузі географії населення та розселення В.Джамана.

Сімферопольський центр. Економіко-географічні дослідження в Сімферополі були зосереджені спочатку на кафедрі економічної географії Кримського педагогічного інституту, а продовжились в Таврійському національному університеті імені В.І. Вернадського. Власну наукову школу тут репрезентував економіко-географ І.Твердохлєбов. Зараз теоретико-методологічними дослідження географічної науки тут займається учень І.Твердохлєбова – ректор університету М.Багров.

4. *Наукові суспільно-географічні центри, що функціонують на базі відповідних університетських кафедр*. У них теоретико-методологічні дослідження протягом ХХ ст. проводились несистематично, а зараз ці центри перебувають на етапі становлення таких досліджень. *Волинський центр* (кафедра суспільної географії Східноєвропейського національного університету імені Лесі Українки. Дослідження теоретичного змісту проводились П.Луцишиним та О.Краснопольським); *Тернопільський центр*

(раніше діяла кафедра економічної географії Тернопільського фінансово-економічного інституту, а нині кафедра Тернопільського національного педагогічного університету імені Володимира Гнатюка. Методологічний характер мають дослідження О.Заставецької). Започаткування теоретико-методологічних досліджень у сфері суспільної географії відбулося протягом 90-х рр. також у *Вінницькому центрі* В.Захарченко), *Уманському* (С.Сонько), *Луганському* (Ю.Кісельов).

5. *Наукові центри де функціонують відповідні профільні кафедри державних чи педагогічних університетів*, але методологічні проблеми суспільної географії досліджуються на рівні навчальних дисциплін: *Дніпропетровський, Полтавський, Ніжинський, Мелітопольський, Ужгородський, Херсонський, Сумський, Кіровоградський*, *Кам'янець-Подільський,*

6. Регіональні *наукові центри, у яких теоретико-методологічні дослідження у сфері суспільної географії не проводяться: Донецьк, Запоріжжя, Чернігів, Житомир, Рівне, Миколаїв, Черкаси, Хмельницький, Івано-Франківськ.*

TRANSFORMATION OF THE SPATIAL ORGANIZATION OF THE INDUSTRIAL PRODUCTION OF UKRAINE IN POST-SOVIET PERIOD

Grygorii Pidgrushnyi
Institute of Geography, National Academy of Sciences of Ukraine, Kyiv, Ukraine
pidgrush@meta.ua

Abstract. *The paper emphasizes that fact, that industry is the main type of economic activity of the majority of Ukrainian regions and industry realizes powerful impact on every sphere of the society life in the country. Peculiarities, factors and driving forces of the sectoral structure transformation and spatial industry organization in post-soviet period were discovered. Typification of Ukrainian regions according to peculiarities of transformational processes in industry was elaborated. Principal regularities of spatial organization transformation of country's industry were discovered. They are: reduction of the highly- and medium-technological industries parts in the industrial structure of majority Ukrainian regions; increase of the heavy industry sectors part, that is characteristics by high material- and power-consumption of products; reduction of the industrial center's number and size; "blurring" of the industrial knots, that were formed in preceding period, etc. Owning to the last years' economic crises, negative tendencies in the structure and spatial organization of the country's industry became stronger. In the article possible scenarios of the industrial production transformation and its spatial organization in Ukraine in the prospect are described.*

Підгрушний Г.П. **Трансформація територіальної організації промислового виробництва України в пострадянський період.** *У статті наголошується, що промисловість є основним видом економічної діяльності в більшості регіонів України і має потужний вплив на всі сфери життя суспільства в країні. Розкрито особливості, фактори і рушійні сили трансформації галузевої структури і просторової організації промисловості в пострадянський період. Розроблено типізацію регіонів України за особливостями трансформаційних процесів в промисловості. Розкрито основні закономірності трансформації просторової організації промисловості країни, до яких відносяться: зниження частки високо- і середнього-технологічних галузей в структурі промислового виробництва більшості регіонів; зростання частки важкої промисловості, що характеризується високою матеріало- та енергоємністю продукції; скорочення кількості та розмірів промислових центрів; «розмивання» промислових вузлів, які були сформовані в попередній період тощо. Внаслідок економічної кризи останніх років, негативні тенденції в структурі і просторовій організації промисловості країни посилюються. У статті розкрито можливі сценарії трансформації промислового виробництва та його просторової організації в Україні на перспективу.*

Socio-economical development of the country is a complex notion that combines several components. Basic among them should be considered condition and features of development in the countries region- and city-forming economy branches. In the conditions of the industrial or highly-industrial societies such branch, basically, is industrial production. Nowadays, the considerable part of regions and cities of Ukraine are at these stages of development.

It is quite natural, that any structural changes in the industrial production lead to considerable transformations in all spheres of life of the regions and cities of the country. In another words, structural transformation of the industry is an impulse of regional development. In connection with this, research of the essence and mechanisms of the transformation of the structure of industrial production and its influence on regional development acquires special value in modern conditions. By means of certain forms of influence and system of mechanisms these impulses cause changes in all structural components of socially-territorial complexes of regions and cities. The accumulated critical mass of these changes cause evolutionary development of the country and its territorial taxons.

Stated problems still are insufficiently investigated. All this cause necessity of expansion and deepening earlier formulated statements about features of the transformation processes in the industrial production structure and determination of their features in modern conditions of Ukraine.

Historical experience of the development of the global economic system, industrial complexes of certain countries and regions testifies that defining feature of dynamics of their structures is cyclicity of development, which finds its explanation in the theory of long waves in economy. According to this theory, industry development is expressed by alternation of growth phases and manufacture stagnation.

Among authors of this theory should be mentioned names of scientists-economists J.Shumpeter, G.Mensh, N.Kondratyev and others. For the name of the latter long waves (cycles) in economy were named. Existence of long waves in economy is caused by periodic activization of financial possibilities in maintenance of generation and introduction of technological innovations.

There are five Kondratiev cycles (KC) in the development of the modern world economy (Central Committee).

Passage of each of these cycles is connected with occurrence, expansion, aging and gradual reduction of the priority basic innovations for this cycle. Accordingly, there are certain branches of industrial production that are priority for each of the cycle.

Transformational processes in the industry of Ukraine during the Post-Soviet period are substantially caused by specificity of its historical development and the problems that were accumulated during the previous epoch.

In the second part of the 60's in Ukraine transition to the stage of highly-industrial development had been started. This period in Ukraine was marked by the beginning of passage of the fourth KC with inherent to it innovations. Such branches as the car- and aircraft engineering, the machine tool building industry, the electrical engineer, the instrument engineering, the chemistry of organic synthesis and others

received priority value on the given stage. Conditions in western (trans-Carpathian, Lviv, Volyn, Rivne, Ternopil, Ivano-Frankivsk, Chernivtsi) and some central (Khmelnitskiy, Vinnitsa, Cherkassy, Kiev) regions were favorable for the placing of new manufactures. There were the most intensive shifts in branch structure of the industry because of the accelerated development of the middle- and some highly-technological branches of mechanical engineering in these regions in the late 60's – 80's years.

The overwhelming majority of the enterprises of these branches (the manufacture of communication facilities, the electronic and radio engineering industry, etc.) were a part of the military-industrial complex of Soviet Union. Placement of these manufactures had been caused by presence here a wide network of cities with insufficiently developed industrial base, favourable economic-geographical position, considerable manpower. This prospectively made them cores of industrial growth.

Insignificant shifts in branch structure occurred in some southern and eastern regions of the country (Poltava, Kharkiv, Dnipropetrovsk, Donetsk, Kirovohrad, Mykolaiv). Processes of adaptations of the fourth KC innovations and development for it priority branches and manufactures in these areas passed differently. The adoption of innovative influences in the Kharkiv, Dnipropetrovsk regions in considerable degree occurred within the frames of the already developed branch and territorial structure of the industry in the result of modernization and partial prespecialization of existed manufactures. In other regions, for example, Donetsk, the structure of manufacture that was already formed during previous cycles structure of production, characterized by high part of branches of the coal industry, the ferrous metallurgy, low-technological branches of heavy mechanical engineering, etc., appeared rather conservative for adoption of innovative influences. In the majority of cases, here took place the combination of various variants of adaptation of innovations and development of the priority branches, including expansion and formation on this basis of the new centers of the industry.

It also equally concerned regions where structural shifts in the industry had average intensity (Lugansk, Zaporizhia, Kherson, Sumy, Chernigiv, Zhitomir, and Crimea).

Development of branches and manufactures, priority for the fourth KC In Ukraine, had a number of positive consequences. Among them, first of all, should be mentioned relative stabilization of industrial production's growth rate, which had been noted in the country during second half of 60's - first half of 70's. They have made 8 % of an annual increase of manufacture on the average.

Consequence of no less importance of the above-mentioned process was formation in the country of present branch structure of the industry in which the appreciable place belongs to the mechanical engineering. This branch is a basis for manufacture and adaptation of new technologies, mass production of the modern technologies, which are necessary for modernization of all economic complexes, society information and therefore are basic for country transition to a stage of postindustrial development.

However, despite presence of preconditions, in second half of the 70's and in the 80's transition of the industry to qualitatively new level of development, providing formation in the country of a postindustrial society hadn't been accomplished. Since 70's that very transition had happened in the developed western countries.

Nevertheless, planned and predicted character of the Soviet economy couldn't prevent crisis, which perceptibly displayed in the second half of 70's - the beginning of 80's. This very period was characterized by sharp recession of mid-annual rates of increase of industrial production. The reason of chronic crisis that amazed the Soviet economy and had for a long time latent or semilatent character, was covered in genesis of the industry of the country, features of behavior of the staged-evolutionary process in the development of the plan-regulated and market economy.

All that demanded accurate comprehension of an essence of the situation by the state elite, acceptance of adequate decisions and the organization of necessary actions for structural reorganization of the economy, and, first of all, the industry. Initiated by the state and party management measures in the second half of 80's had not positive results. Moreover, measures on liberalization of the prices, external economic and enterprise activity accelerated a collapse of social and economic system, its decomposition. The reason of it was covered in ignoring of action of the law of value that actually blocked structural reorganization and caused such property of system, as immunity to scientific and technical progress.

In addition to that, Ukraine inherited from the former Soviet Union appreciably militarized industry (35 % of capacities of the military-industrial complex of the former USSR) with the deformed branch structure in which it was marked excessive (over 70 %) prevalence of branches of the heavy industry.

All these lacks considerably reduced possibilities of progressive shifts in structure of industrial production and transition of the country on the qualitative higher stage of development.

In the process of transformation of socio-economic conditions of managing (transition to market relations, integration into world economic system, etc.) by delay with realization of effective reforms in economic sphere crisis amplified even more and had got landslide character. In 1990 industrial production growth had stopped, and in the next years there was its sharp recession. Only in 1995 rates of falling had started to slow down, and in 1999 was slight manufactured growth (4 %) which in 2000 was already 12,9 %, in 2003 – 15,8 %, 2004 – 12,5 %, 2005 – 3,1 %, 2006 – 6,2 %, 2007 – 7,6 %. However, growth of industrial production of last years has been caused not by institutional changes in economy, development of a market infrastructure and increase of efficiency of functioning of the manufacture, but by many favorable conjunctures for production of key economy branches of the industry of Ukraine on the international market.

The research of the dynamics of the volumes of the production and shifts in branch structure of the industry of the country and its regions conducted by us during 1990 - 2007 allowed to draw the following conclusions:

1. There was a sharp growth of the «load» of the branch structure of the industry because of the increase of the parts of material-, power- and eco- capacious

branches of the heavy industry – electric power industry, fuel industry, ferrous metallurgy, etc., during the mentioned period.

2. There was a considerable reduction of total amounts and parts of high-technological manufactures (first of all mechanical engineering), and also separate manufacture of the consumer goods in industry structure.

In the conditions of the market transformations of the economy and foreign trade liberalization the above-mentioned tendencies in dynamics of structure of the industry are caused by several factors: relative demand in the world market on production of branches of the heavy industry (the electric power, ferrous metals, production of the chemical industry); absence of demand for production of high-technological branches of the country which actually couldn't change military orientation and start the mass production of high-quality high technology civilian production; low competitiveness of production of wide consumption; etc.

Regional development processes of the industry in the country are substantially subordinated to all above-mentioned tendencies. At the same time, there were essential shifts in territorial structure of the industrial production of the regions of the country:

1. The size of industrial centers and points both on output volume, and on number occupied in manufacture decreased. Disappearance of separate industrial points, as elements of the territorial structure of the manufacture in connection with closing of the enterprises took place.

2. There was "washing out" of the formed on the basis of the usage of the industrial knots mineral resources. It explained by rupture of industrial connections between the enterprises which had been the part of certain technological cycles. Mainly it was connected with closing of considerable quantity of the coal-mining enterprises in Donbass.

3. Intensive development was acquired the process of diffusion of industrial production. The main factor of its activization was formation and development in the country of small and average business, introduction in manufacture new technologies, the small-sized, wide-profile and high-efficiency equipment, etc.

Thus, transformation processes in industrial production in Ukraine during the Post-Soviet period have led to formation resources- and power-intensive export-orientated model of economy.

During the time of transition from planned to market economy as a result of "opaque" privatization strategic industries passed under the control of the oligarchical groupings presented by so-called financial and industrial groups. The largest among them are: «System Capital Management», "Privat", «Interpipe», «the Industrial union of Donbass», «the Finance and the credit», etc. Actually, they shaped transnational corporations that have their own divisions in many countries. Occupying separate segments of the international markets of ferrous metals, electric power, production of the chemical industry, these groups have rather high receipts. All that don't create for them any motivations for complex modernization and structural transformation of the economy, on the basis of its scientific-capacity increase and growth of the part of high-technological manufactures, formation on this basis of the innovative model of economy of the state.

Thus, national economy with weak diversificated industrial structure nowadays is extremely vulnerable to the timeserving fluctuations of foreign markets. In its turn, all that brought in "zone" of high risk social sphere of the country. Confirmation is that fact, that Ukraine is one of most suffered from the global economic crisis countries. Recession of industrial production in 2009 were almost 22 %.

All that have determined an insistent need for realization of strategy of transition of national economy of the country on innovative model of development in the basis of which lies basic innovations of the 5th and 6th KC. Motive power in the decision of this problem may become only recognition of depth and danger of stagnation by the state elite, its political will and aspiration to success.

TRANSFORMATION OF BELARUSIAN DEMOGRAPHIC SPACE IN THE END OF 20TH – BEGINNING OF 21ST CENTURY: THE ROLE AND MAIN FUNCTIONS OF DEPRESSED AREAS

Ekaterina Antipova
Belarusian State University, Minsk, Belorussia
antipovaekaterina@gmail.com

Abstract. *Demographic space of Belarus at the end of XX – beginning of XXI century is characterized by the transformation, differentiation and polarization. Transformation is expressed in compression of the area of positive demographic dynamics and expansion of the area of demographic depression, which is characterized by an annual, natural and mechanical population decline and aging. Differentiation is expressed in reduction of continuity and domination of areality of demographic space. Polarization is expressed in increasing differences in the nature of the demographic development of urban and rural spaces, and leads to the formation of: 1) zones of the positive dynamics of the urban areas and the concentration of population in large cities, and 2) zones of demographic periphery in rural areas and fragmentation of rural settlement. Urban and rural spaces of Belarus in the transformation conditions acquire new functions – migration attractiveness of depopulated rural areas for the purpose of recreation and agro-tourism, agro-towns formation, migration of the industrial sector into the suburban zone, small business development in the industrial sector of small towns, etc.*

Антіпова Є.А. **Трансформація демографічного простору Білорусі наприкінці XX – початку XXI століття: роль та нові функції депресивних районів.** *Демографічний простір Білорусі в кінці XX – на початку XXI століття характеризується трансформацією, диференціацією та поляризацією. Трансформація полягає у стисненні зони позитивної демографічної динаміки і розширенні зони демографічної депресії, яка характеризується щорічним природним та механічним скороченням населення, його старінням. Диференціація полягає у скороченні континуальності і домінуванні ареальності демографічного простору. Поляризація виражається у збільшенні відмінностей в характері демографічного розвитку міських і сільських просторів і призводить до формування: 1) зон позитивної динаміки у міських поселеннях та концентрації населення у великих містах, 2) зон демографічної периферії в сільській місцевості та фрагментарності сільського розселення. В умовах трансформації міські та сільські простори Білорусі набувають нових функцій – міграційна атрактивність знелюднених сільських територій для цілей рекреації та агротуризму, формування агромістечок, міграція виробничої сфери в приміську зону, розвиток малого бізнесу в індустріальному секторі малих міст тощо.*

Demographic development of the Republic of Belarus in the end of 20th – beginning of 21st century is characterized by a number of evolutionary trends that are peculiar to the Europeans countries. Depopulation, low birthrate, natural decrease and ageing of population take place in the country. However, political and socio-economic transformations, induced by the disintegration of socialist system and USSR, reforming of economy in the economic conditions of transition period have led to the changes both common scenario of demographic development in the Republic of Belarus and transformation of demographic space.

In the end of 20th century the population size of the Republic of Belarus exceeded 10 million. Over the period of 1999 – 2012 the population size declined by 5,8 % till 9,465 million people, annual decrease amounts to 0,4 %. Both evolutionary factors (value changes, individualization of European society's awareness, the growth of socio-economic development and etc.) and strictly local factors (environmental, socio-economic and etc.) are in the basis of this transformational demographic trend. Against the background of population size decrease modern demographic space of Belarus is characterized by intensification of polarization of urban and rural spaces' development the first features of which appeared as far back as in the 1970s.

Polarization is expressed in the increase of differences in the character of demographic development of urban and rural spaces and leads to the following formation: 1) areas with positive urban dynamics and concentration of population in large cities; 2) in rural area – areas of demographic periphery and fragmentariness of rural settlement. While urban population of the country rises annually (over the period of 1999 – 2009 the growth amounted 3,1 %), rural population faced scale decrease (25,7 % over the period) (Table 1).

The period of political and socio-economic transformations in Belarus coincided with the beginning of transformation in the character of natural population movement. In 1993 natural increase changed into population loss (2,8 %) and the country entered into the stage of depopulation. Over the period of 1999 – 2009 the decrease of birthrate was practically 20 % - from 13,9 to 11,5 ‰, the growth of mortality was more than 30 % - from 10,7 to 14,3 ‰. Meanwhile if the birth rate of

urban and rural population was equalizing during this period (11,7 and 11,1 ‰ respectively), mortality of rural population was more than in two times than among urban population (24,2 and 11,1 ‰ respectively). All in all there is natural increase of urban population currently (0,6 ‰) against the background of common trend of natural decrease, in rural area – natural decrease (13,1 ‰) (Table 2).

Table 1 – Dynamics of Belarusian population size*

Years	Population size, millions of people			Growth/decrease over the period of 1999 – 2011, %		
	all population	urban	rural	all population	urban	rural
1999	10,045	6,961	3,084	-5,8	+3,1	-25,7
2012	9,465	7,175	2,290			

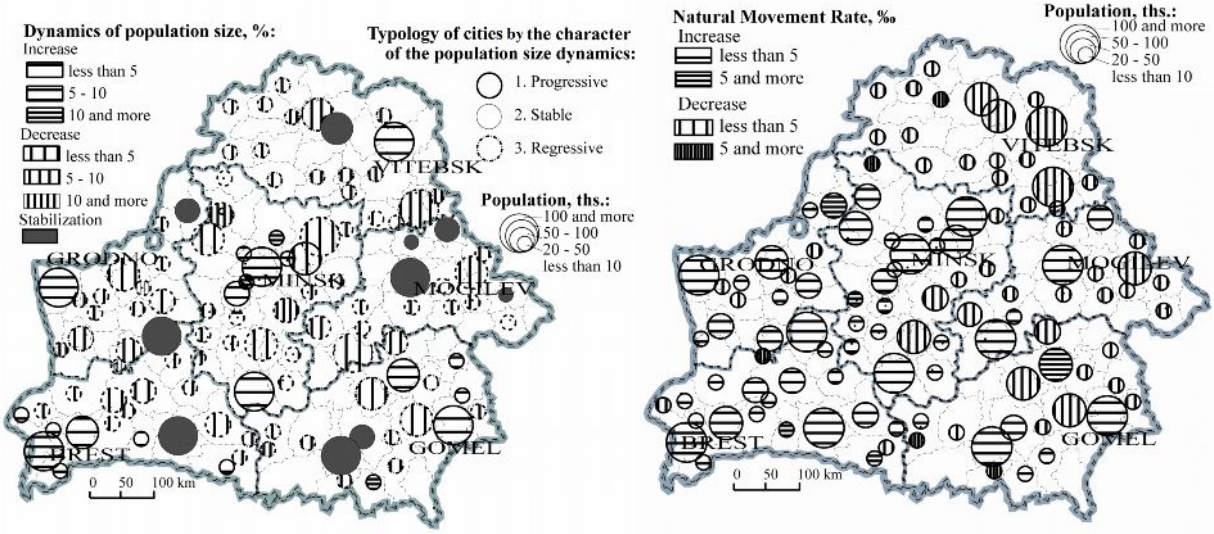
Heterogeneity of demographic space intensifies at the micro geographical level. Three areas of dynamics can be determined – progressive, stable and regressive – in the urban space with common positive trend. Every fifth town of Belarus is characterized by annual population growth. Geographically these are cities referred mainly to both the area of capital development and south Polesye region with prevalence of naturally-economic and historically-cultural factors. By population size these are the cities of two categories – large cities having higher level of socio-economic stability and small cities in which governmental support of small-scale business currently is in use (Figure 1a).

Table 2 – Dynamics of natural population movement in Belarus, ‰

Years	**Birth rate**			**Death rate**			**Natural increase/decrease**		
	all popu-lation	**urban**	**rural**	**all popu-lation**	**urban**	**rural**	**all popu-lation**	**urban**	**rural**
1990	13,9	14,9	11,7	10,7	7,4	17,3	3,2	7,5	-5,6
1993	11,3	11,6	10,9	12,4	8,8	20,0	-1,1	2,8	-9,1
1999	9,3	9,5	8,7	14,2	10,6	22,3	-4,9	-1,1	-13,6
2010	11,4	11,6	10,8	14,4	11,1	24,4	-3,0	0,5	-13,6
2011	11,5	11,7	11,1	14,3	11,1	24,2	-2,8	0,6	-13,1

The regressive type is dominant by the character of dynamics, 70 % of cities refer to this type. The largest areal of spread of such type of cities is north region Poozerye (Vitebsk region) with conation of naturally-geographical and demographic factors [1]. This region is characterized by prevalence of small cities by population size (less than 20 thousand of people) where population size decreased in the result of migration in 1960 -70s, the period of active urban industrialization, and in our days it has the oldest age structure of population in comparison with other regions (Table 3).

Natural urban population movement of Belarus is characterized by approximately equal positions in the structure of cities with natural increase and decrease (51 and 49 % respectively). There are north-east area of loss and south-west area of increase in demographic space (Fig. 1b).



a) population size dynamics b) natural population movement

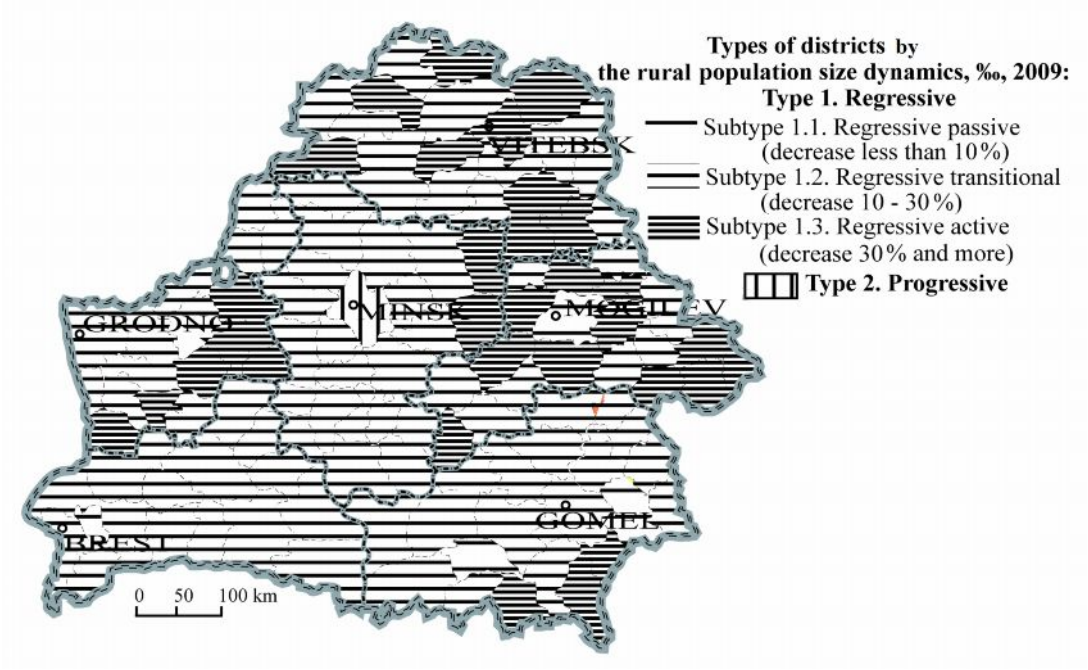
Figure 1 – Dynamics and natural movement of urban population of Belarus

Table 3 – Typology of Belarusian demographic space by the character of population size dynamics, 1999 – 2009

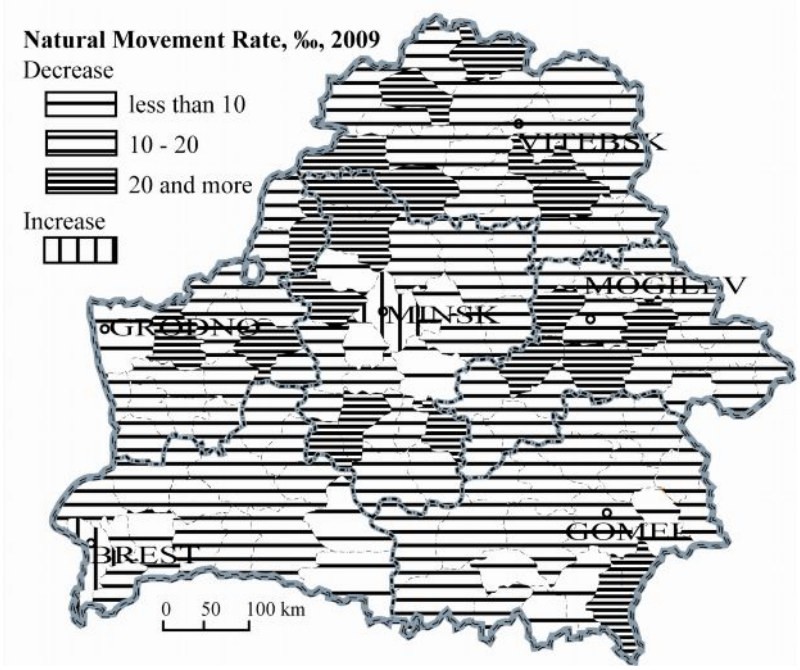
Type of city/region	Number of cities /districts		Increase/ decrease of population size, 1999 – 2009, %
	entities	%	
A. Urban space			
Type 1. Cities with progressive dynamics	23	21	+5,5
Type 2. Cities with regressive dynamics	79	70	-7
Type 3. Cities with stable dynamics	10	9	-0,006
B. Rural space			
Type 1. Districts with regressive dynamics	117	99	-20,4
Subtype 1.1. Regressive passive (till 10 %)	4	3	-7,4
Subtype 1.2. Regressive transitional (10 -30 %)	81	69	-21,5
Subtype 1.3. Regressive active (more than 30 %)	32	27	-32,3
Type 2. Districts with progressive dynamics	1	1	+12

It can be determined two areas in rural space of Belarus with common negative trend – area of regressive and progressive dynamics – with prevalence of the first one. Minsk region is the only region from 118 administrative districts that is characterized by annual population growth what is caused by processes of suburbanization, development of suburban capital zone, spread of urban socio-economic standards on bordering rural space, development of migration from urban

to rural areas among middle and highly provided segments of population. Absolute majority of districts located in all regions of the country are characterized by regressive dynamics – annual decrease and natural population loss. During 1999 – 2009 population size in the districts of this type has reduced on more than 20 %. The most depressive area (with decrease of population size on more than 30 % and natural loss on more than 15 %) arose in north-east (Vitebsk and Mogilev regions) and west (Grodno region) regions (Table 1, figure 2).



a) population size dynamics



b) natural population movement

Figure 2 – Dynamics and natural movement of rural population of Belarus

On the basis of above-stated the transformation of demographic space of Belarus in the end of XX – the beginning of XXI century has led on the one hand to the fragmentariness and lessening of area with positive demographic dynamics to isolated areals of rural area and certain cities, on the other hand to the expansion of area with demographic depression that is widespread in rural area (Table 4).

Cities and regions of demographically depressed areas of Belarus take a certain functional niche in economic complex and territorial structure of the country. Depressed cities perform mainly agro-industrial and industrial functions. Depressed rural spaces by functional type refer to mainly the following districts: a) with large natural complexes; b) in the zone of regional center influence; c) agricultural profile with low or high agro-resort potential (Table 5).

Table 4 – The main characteristics of Belarusian demographic depression space, 1999 – 2009

Indicator	Urban area	Rural area
Number of administrative districts (cities, regions)	79	117
Share from total amount of administrative districts (cities, regions)	70	99
Depopulation over the period of 1999 – 2009, %	7	20,4
Natural population decrease, ‰	0,4	13,2
Migratory population decrease, ‰	5,2	16

Table 5 – Functional types demographically depressed regions of Belarus

Functional type of cities	**Urban space, unit/%**		**Functional type of districts**	**Rural space, unit/%**	
Industrial	32	41	Capital region	6	5
Industrially-agricultural	35	44	In the zone of regional center influence	20	17
Agrarian	1	1	Agricultural profile with high agro-resort potential	19	16
Touring-recreational and nature conversation	11	14	Agricultural profile with low agro-resort potential	19	16
Total	79	100	Natural with large natural complex	32	27
			Natural with high touring-recreational potential	7	6
			Special (Chernobyl) region	14	12
			Total	117	100

In the situation of transformation urban and rural spaces of Belarus begin to assume new functions. A number of rural communities that in the result of depopulation remained without population were populated by migrants from Russia having retirement age. Certain rural communities that also remained without population and located in the lake area of Vitebsk region begin to develop the sphere of agritourism. It is created an agro farmstead network for the purpose of recreation that become popular recently by the reason of attractive pricing policy among not only Belarusians, but also among Russians. According with governmental programme of development and revival of Belarusian rural area a network of agrotowns emerged in order to improve an image of rural area and create social standards of higher level in the largest socio-economically and demographically stable rural communities. Under the implementation of governmental programme of regions' and small towns' development small-scale business becomes more active in a number of cities of Belarus, small-scale enterprises are created in food sector and service industries. It is observed an active process of suburbanization in urban space. Cottage communities in the area of capital influence which were without population became "secondary residence" for people from Minsk. There is building of hypermarkets and malls, establishment of enterprises and suburban farms (hothouse enterprises, poultry factories and etc.) catering for capital in the suburban zone of Minsk.

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PARADIGM SHIFT IN THE RUHR REGION: FROM INDUSTRY TO INNOVATION – FROM GREY TO GREEN

Dietwald Gruehn
Dortmund University of Technology, Dortmund, Germany
dietwald.gruehn@udo.edu

Abstract. *The paper gives an outline on the current development of Germany's largest agglomeration, the Ruhr region, which has lead to a fundamental paradigm shift. The heavy industry has gone and was successfully replaced by innovative technologies; the region's appearance turned from grey to green, and new urban development projects contribute to an enhanced life quality, which makes the region competitive for the future.*

Грюен Д. **Парадигмальні зрушення у Рурському регіоні: від індустрії до інновацій – від сірого до зеленого.** *У статті наводиться нарис сучасного розвитку найбільшої агломерації Німеччини – Рурського регіону, який зумовив фундаментальні парадигмальні зрушення. Важка промисловість тут була успішно замінена інноваційними технологіями; регіон перетворився із «сірого» на «зелений», а нові містобудівні проекти сприяли підвищенню якості життя, тобто зробили регіон конкурентоздатним на перспективу.*

1. INTRODUCTION. Traditionally in Germany the Ruhr region was regarded as an industrial zone, characterized by environmental damages, low life quality and a predominatly unlettered population. The industrial production mainly focussed on coal and steel production. Apart from the University of Duisburg which was founded in 1655 and closed by the Prussian King in 1818, the first universities were founded in the 1960ies, such as Ruhr University of Bochum (1965) and Dortmund University (1968). Since those times universities played an important role in the Ruhr region to master the need for a fundamental structural change, caused by a gradual decline of the coal and steel sector (Henze et al. 2009). With the process of closing down both collieries and steel production plants huge areas within the urban fabric fell out of use. Parallel to this number of inhabitants of the most cities within the region decreased caused by migration and other demographic changes. Hence, cities like Essen or Gelsenkirchen lost about 100,000 inhabitants within two or three decades and therefore belonged to the most rapid shrinking citites in Germany. The decline of the major economic pillars of the regional economy not only lead to a high unemployment rate (Prossek et al. 2009). Much more it was sensed by the local people as a decline of the total region itself. A depressed atmosphere diffused into the hopeless region.

The todays Ruhr region more and more develops to a vital agglomeration, charcterized by an exceptional industrial heritage, a broad range of cultural offers, large areas of parks and green belts and a huge number of revitalized brownfields which at large enhance both live quality and the image of the Ruhr region (Dpt. of Urban Design and Land Use Planning 2008). What are the reasons for this paradigm shift?

2. METHODS AND AREA DESCRIPTION. The paper is mainly based on an analysis of the historic development of the Ruhr region. The paper includes findings of the most relevant investigations carried out for the last couple of years.

The Ruhr region is the largest urban agglomeration in Germany. It is located in the federal state of North Rhine-Westphalia and has more than 4,000 km² and a population of about 5 million.

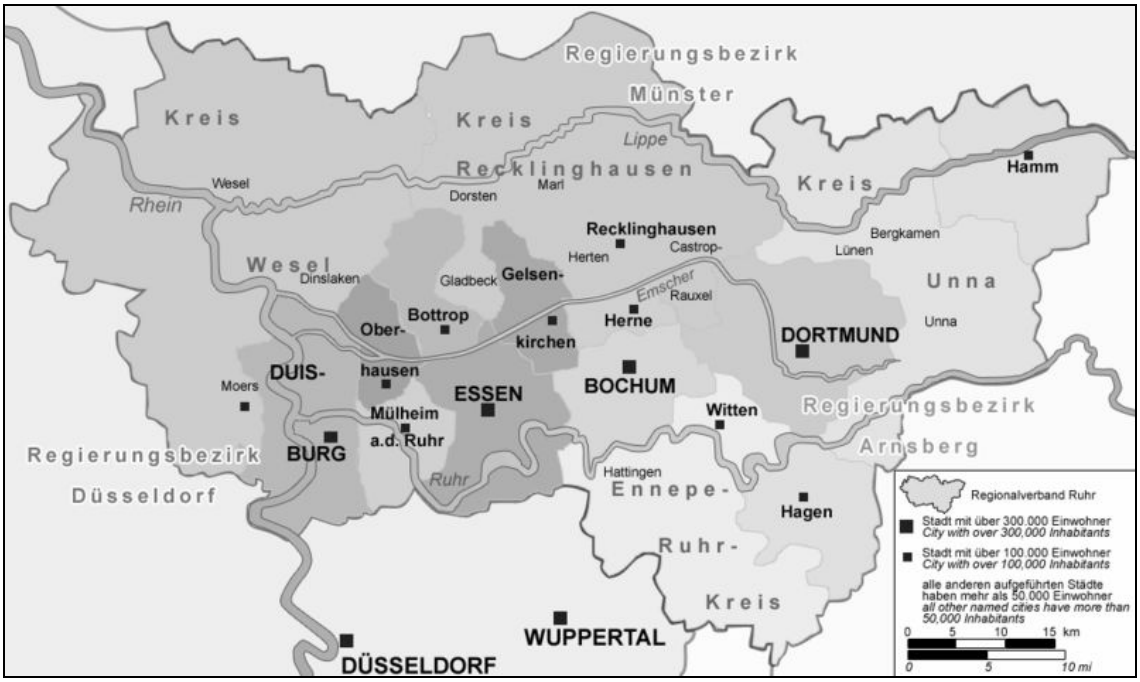

Figure 1 - Area of RVR (Regionalverband Ruhr) according to Ulrich, D. (2004)

The Ruhr region consists of several large, formerly industrial cities which are located at the rivers Ruhr, Lippe and Emscher (figure 1). The latter one flows through the central part of the Ruhr area. Therefore, geographically the term "Emscher region" would have been more adequate than "Ruhr region". But for more than 100 years local people were ashamed of the Emscher, because the 83 km long river was used as an open sewer, whereas Ruhr and Lippe were used for the supply of potable water. Due to subsidences caused by mining it was not possible to build subsurface sewers in the region. Hence, the only possible solution to get rid off sewage as well as pit water was to make use of the Emscher river.

Before the process of industrialization started in the early 19th century, the region was mostly agrarian and thus indistinguishable from surrounding parts of Westphalia and Rhineland (Häpke 2009). Its fertile loess soils made it one of the richer parts of Western Germany. By 1850, almost 300 coal mines were in operation. The coal was processed in coking ovens into coke, which was needed to fuel the region's blast furnaces, which produced iron and steel. Before the coal deposits along the Ruhr were exploited, new mines were sunk. The mining industry migrated northward from the Ruhr to the Emscher and finally to the Lippe (Henze et al. 2009).

3. RESULTS AND DISCUSSION. Since the 1920ies regional planning was established in the Ruhr region (RVR = Regional Association Ruhr) to organize

traffic as well as urban and economic development and to protect green belts on a supra local level (Gruehn 2010). Another institution of outstanding importance is the Emscher Association (Emschergenossenschaft) founded in 1899. Its task was to organize sewage disposal. For this purpose Emscher river was converted to an open canal. Since mining activities went to the north Emscher association started to rebuild and to revitalize the Emscher watercourse.

Nevertheless the main idea of this huge project was developed within the International Building Exhibition "IBA Emscher Park", which started in 1989. IBA Emscher Park was initialized as future program by the government of North Rhine Westphalia in co-operation with 17 cities, two counties and the Regional Association Ruhr. The aim was to improve life quality by means of architecture, urban design and ecology as sound basis for the economic change of this old industrial region. A total of 120 projects with a budget of 2.5 billion € were developed and realised within IBA Emscher Park, for instance

- Emscher Landscape Park (300 square kilometres open space)
- revitalization of Emscher river
- historical monuments of industrial architecture and
- urban development projects.

Figure 2/3 – Comparison of two Emscher sections: Emscher canal in Dortmund-Mengede (left) and revitalized Emscher river in Dortmund-Barop (right) (Gruehn, 2012)

IBA Emscher Park is considered as key factor for the above mentioned paradigm shift. From that point Ruhr region was not any more regarded as an ugly and devastated "no go area". The region itself became presentable by including historic monuments into the future "green concept", which disclosed unanticipated perspectives. Figures 3 and 4 illustrate the impact of revitalization projects. Emscher

in Dortmund-Mengede is still an unamusing sewer canal whereas the revitalized Emscher in Dortmund-Barop mirrors the beauty of a natural water course.

In figure 4 Nordsternpark Gelsenkirchen is presented, which was designed as German State Garden Show in 1997. Nordsternpark was constructed on a former colliery site. After closing the colliery in 1993 the area was developed in accordance with IBA Emscher Park to connect two city quarters of Gelsenkirchen by a newly created park considering historic architecture of the industrial age. The idea was to create a new park which is a symbiosis of a landscape park and a commercial park.

Figure 4 – Nordsternpark Gelsenkirchen (Vincentz, 2012)

From today's point of view IBA Emscher Park was a starting point for a huge number of single projects which have been carried out by different local and regional authorities in the last decade. Though, its impact is still noticeable. The most of those single projects integrate well into the visionary concept of IBA Emscher Park. Hence, the ascertainable trend of different authorities to adopt ideas and to support the implementation of IBA Emscher Park goals verifies its strong impact.

The next step to continue the process which was triggered by IBA Emscher Park from 1989 to 1999 was the development of a "Masterplan Emscher Landscape Park 2010" (figure 5 and Projekt Ruhr GmbH 2005). This process took five years, starting from 2001. During the whole planning process the government of North Rhine-Westphalia and all concerned local and regional authorities were involved, including Regional Association Ruhr as well as Emscher Association. The area of the landscape park (457 km^2) was enlarged compared to IBA Emscher Park (300 km^2). The added park areas are primarily green belts in the inner cities and green connections. The Masterplan Emscher Landscape Park 2010 comprises more than 400 single projects which will be realised within a time frame of 30 years.

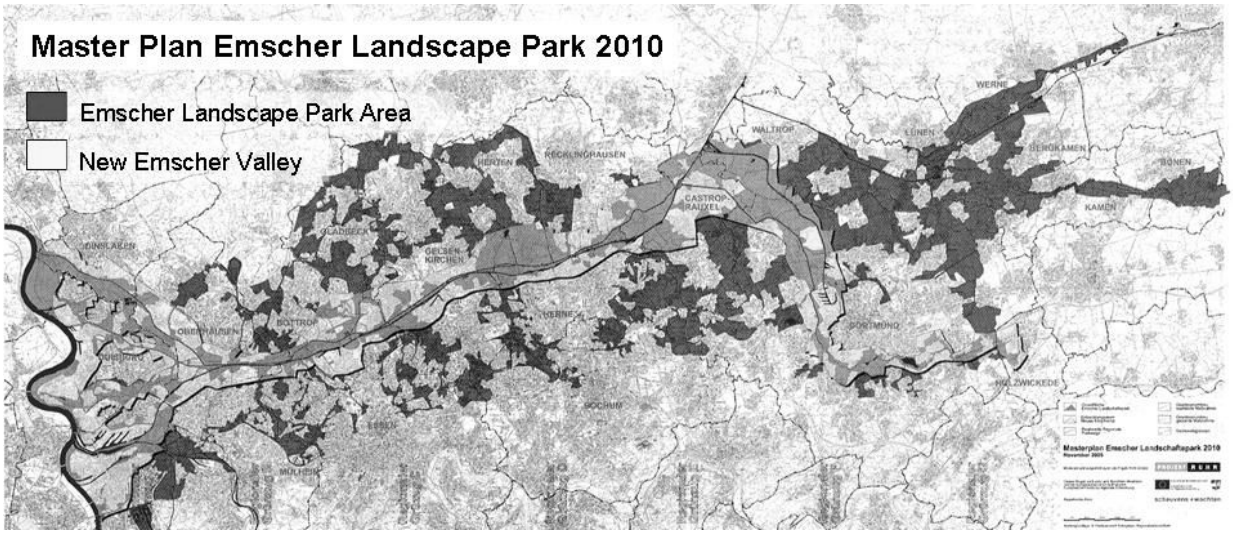

Figure 5 – Masterplan Emscher Landscape Park 2010 (Projekt Ruhr GmbH 2005)

A further step to rearrange the Emscher river system was the "Masterplan future Emscher – the new Emscher valley" with main focus on flow conditions and technical requirements of the Emscher revitalization within the whole catchment area. This masterplan comprises 83 km watercourse of the Emscher as well as 270 km tributaries. The estimated costs are about 4.5 billion € (Emschergenossenschaft 2006). The co-operation between Regional Association Ruhr and Emscher Association during the co-ordination process induced a permanent co-operation with long-term perspective within the working group "New Emscher Valley".

The described projects were implemented without formal planning instruments. Despite of the fact that formal planning instruments in empirical investigations have proved successful (Gruehn 2006), informal approaches as described seem to be more promising especially in complex situations like the Ruhr region. Important prerequisites, at least in the case of Ruhr region are a long-term perspective, a comprehensive budget and political consensus which facilitates maximum support for the project goals.

4. CONCLUSIONS. Informal approaches, such as "IBA Emscher Park", "Masterplan Emscher Landscape Park 2010" as well as "Masterplan future Emscher – the new Emscher valley" have essentially contributed to a paradigm shift in the Ruhr region in many respects. The region's grey turns into green, life quality enhances, a sewer is about to be transformed into a natural water course, a neglected area has become an attraction, not only for tourists. Informal instruments in Ruhr region have enabled stakeholders to develop a sustainable future perspective for the whole region.

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DEPOPULATION IN EU COUNTRIES AND DISTRIBUTION OF SPARSELY POPULATED TERRITORIES IN LITHUANIA

Vidmantas Daugirdas, Edis Kriaučiūnas, Gintaras Ribokas
Lithuanian Social Research Centre, Vilnius, Lithuania
vidmantas.geo@gmail.com, edis.geo@gmail.com, gintaras.geo@gmail.com

Abstract. *Depopulation is a wide spread phenomenon in EU, especially in the eastern border countries. It has been causing certain negative socio-economic consequences for several decades. However the pace of depopulation and consequently arising problems are different in different places. Big international sparsely populated region is under formation in the cross border region of south-eastern Latvia, eastern Lithuania and north-eastern Poland. It even spreads outside EU border involving areas in western Belarus, Russia or Ukraine. The main aim of this paper is revelation of these processes, their reasons as well as main socio-economic consequence. The main attention is paid to the analysis of trends of changes of sparsely populated territories in Lithuania and what social and economic consequences appear.*

Даугірдас В., Кряучюнас Е., Рібокас Ґ. **Депопуляція в країнах ЄС та поширення рідко заселених територій в Литві**. *Депопуляція – поширене явище в ЄС, особливо в країнах на його східному кордоні. Це стало причиною ряду негативних соціально-економічних наслідків протягом кількох десятиліть. Однак темпи депопуляції і, відповідно, проблеми, що виникають, є різними у різних місцях. Великий міжнародний малонаселений регіон формується у транскордонному регіоні південно-східної Латвії, східної Литви та північно-східної Польщі. Він навіть поширюється за межі кордонів ЄС, охоплюючи західні області Білорусі, Росії, України. Основною метою статті є виявлення цих процесів, їх причин та суттєвих соціально-економічних наслідків. Основна увага приділена аналізу тенденцій зміни малонаселених територій в Литві та відповідних соціально-економічних наслідків.*

Introduction. Sparsely populated territories (further SPT) as the research object became relevant in Lithuania more than ten years. This report is basted on the data received during the several surveys. The newest survey is still lasting and is implemented by the scientists from Lithuanian social research centre Human geography department. This research is funded by a grant (No. SIN-02/2012) received from the Research Council of Lithuania.

The SPT problem in Europe is not new and especially in Nordic countries. This fact is substantiated by the existence of the North sparsely populated territories organization (NSPA). This institution is carrying out regular monitoring of the SPT in Nordic region [4]. In Lithuania SPT is also increasingly becoming a serious challenge for society and the state. The ways to solve the problem are being sought. However, SPT is still rapidly increasing. This report is dealing with several aspects of this problem.

Depopulation in European countries. Analysis of the European demographic trends of the end of the 20th–the beginning of the 21st centuries prompts the following issue: perhaps it is high time the traditional model of demographic evolution was revised and the new fifth stage of demographic development – depopulation – recognized. Quite a while, population ageing, low and decreasing birth rates, low natural increment and even natural depopulation have been the main demographic trends in many European states. This is especially true about the Central and Eastern Europe where demographic crisis has become evident. The negative changes of population number in some European countries in the last twenty years are intimidating, especially focussing on Central and Eastern Europe (including Lithuania) [2].

The number of European population has been decreasing since 2000. The rates of population growth in other regions of the world also have been falling. The demographic trends will remain non-consoling for some time in Europe [9]. According to the moderate scenario, the population decrease will continue until 2060. If in 2000, the population number in Europe amounted to 728 million in 2050 it will amount to 632 million. The depopulation trends will be especially strong in Eastern Europe where the population may decrease from 305 to 222 million. Rates of depopulation will be slower in Southern Europe. Western Europe will preserve its population whereas slight growth of population is expected in Northern Europe. According to the data of "Eurostat", the highest depopulation rates among the EU member states in 2010 were observed in Lithuania (0.62 %), Latvia, (0.57 %), Bulgaria (0.56 %) and Germany (0.25 %) [7]

Therefore, the number of SPT in EU is increasing. Most of them are concentrated in Northern Europe. According to "Eurostat" data, in 2000 there were 33 NUTS 3 regions with the population number lower than 15 people per km^2. Meanwhile, in 2010 the number reached 37 NUTS 3 regions, despite the fact the general EU population density increased from 112,3 till 116,6 people per km^2 [3].

Sparsely populated territories in Lithuania. The demographic situation in Lithuania does not a lot differ from other Central and Eastern European countries: low birth rate, large emigration, relevant population ageing process, etc. The country survives the demographic crisis. In the country appears depopulation as every year

we are loosing such number of residents like we would loose sizeable country's city. In Lithuania it is one of the worst situations in European scale. However, for us as geographers is more interesting territorial dimension of this problem. Therefore, more than 10 years ago we started to concern about sparsely populated territories in Lithuania and other countries, and the spread of them. The first attempts to calculate the sparsely populated territories were implemented in 2000. At that time it was recorded 41 local units (eldership), whereas in 2006 were counted 70. Meanwhile, currently there should be around 184 such local units (or 45% of all rural LU). The large growth rate of sparsely populated territories motivated to implement the deeper and broader investigations.

In Lithuania the majority of SPT are concentrated in the forested North-eastern and Southern parts of the country, where the rural population density is less than 12.5 people per km^2. The area that is occupied by SPT covers 45 % of state territory (Fig. 1). Besides, SPT join into vast continuous regions that extend even the country's border towards Latvia, Poland, Belorussia. These are the territories that might be characterized by the distinctive and usually unacceptable demographic, economic, social and other indicators. For instance, over the last decade in SPT the number of residents is decreasing more than 2 % per year and in some places even by 4 %. Even exists such local units where are no births at all during the year and the elderly amount around 50 and even more percent of all local residents.

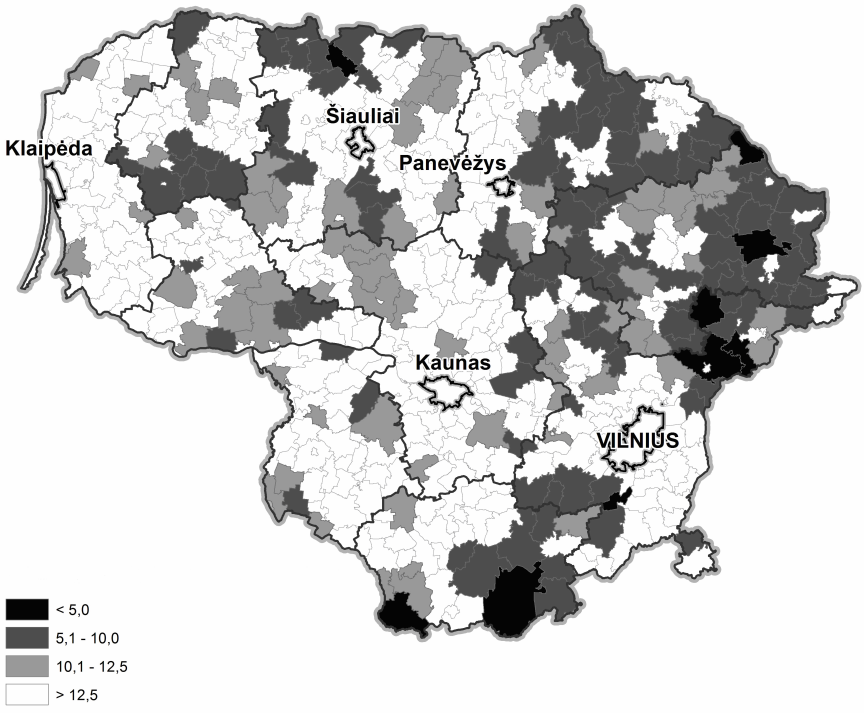

Figure 1 – SPT in Lithuania in 2011 (where rural population density is less than 12.5 people per km^2).

The peculiarities of SPT system settlements. Lithuanian network of SPT settlements, its development distinguishes itself with some peculiarities as well. During the Soviet period a planned reorganization of settlements was implemented in Lithuania. According to the concept of unified settling system, a settlement

network was developed by joining neighbourhoods of various size and function into a territorial complex. The development of rural settlements was organized according to the collective farm development of that time. In order to facilitate settlements it was planned to develop around 250 micro regional centres (the majority of them – naturally formed towns) and to establish central and subsidiary settlement network in every neighbourhood taking local conditions into account.

The reorganization of rural settlements was essentially connected to the development of agricultural production. At the end of Soviet period there were 737 collective farms (kolkhoz) and 282 soviet farms (savchoz) [10], in which – 1086 central farming settlements (almost half of them also had functions of a district centre) and 1132 subsidiary settlements (including former central settlements, that turned into subsidiary after farm enlargement). An absolute majority of farms' (over 90%) territories had two or more larger settlements close to a central settlement at the end of Soviet period [8].

During the Soviet period individual farms were being destroyed and residents moved to central settlements (they grew rapidly), however, an overall number of residents in rural areas decreased; traditional villages with approximately 50-200 residents decreased the most (number of residents decreased 3-4 times). The decrease of rural residents' number influenced the formation and development of SPT.

After the reestablishment of independence depopulation process continues in rural areas of Lithuania: from 2001 to 2012 residents' number in rural areas decreased by 13.3 % [5]. According to our calculations SPT occupied 27% of all territory of Lithuania in 2001, and in 2011 – already 45% of the territory. A similar part of all rural settlements in Lithuania is concentrated in SPT (in 2011 – around 45%), but only around 26% of all rural residents of Lithuania live there. In 2011 an average village size in Lithuania was 60 residents, and 35 in SPT. As a result, SPT mainly differs not only by more sparse population of the territory, but also by smaller settlements: the biggest part (around a half) of SPT constitutes from small villages with 1-9 residents, while villages with over 500 residents are in only every forth SPT local unit. In general, SPT distinguishes themselves by distribution tendencies in the smallest and largest rural settlements in the context of Lithuania's rural areas. More than half (55%) of all small villages (1-9 residents) of Lithuania are situated in SPT, in which around 6 % of SPT residents live, while in other rural areas of Lithuania the part of all their residents does not reach 2% (i.e. 3 times less than in SPT). In general, a direct correlation is witnessed in Lithuania: increasing a rural category (according to a number of residents), a common number of people living in this type of villages increases (the part as well). However, it is a bit different in SPT: most people live in villages with 200-499 residents (33,7%), and only around 10,5% of SPT residents live in villages with over 500 residents, meanwhile in other rural areas in Lithuania around 39% of rural residents live in such settlements, i. e. a part of people living in these villages is around 4 times bigger than in SPT.

Lately the tendencies of decreasing number of residents in rural territories of Lithuania are increasing in all Lithuanian regions, except the big city areas, due to

emigration and negative natural growth (because of residents' old age). If during Soviet period individual farms and villages with approximately 50-200 residents were depopulated the greatest, so during the last two decades the number of residents has been reducing in villages of all categories. While the number of residents is reducing, the number of settlements is reducing as well because the number of villages without residents is growing: in 2011 there were 4200 settlements without residents in Lithuania, more than half of them – 2520 – in SPT.

Abandoned agricultural land in SPT. After Lithuania regained independence in 1990, after starting land reform and conducting land restitution, agricultural recession began, which considerably increased the area of abandoned agricultural land. This process had clear regional differences: the appearance of abandoned land was temporal in territories with favourable agricultural conditions and after a few years there was practically no land of this category left, however, the abandoned land area in territories with unfavourable agricultural conditions was increasing up to joining EU in 2004, and only later began to reduce. This process especially affected Eastern Lithuania, which is distinguished by landscape with hilly land, sandy plains, lakes and forests. In the end of the Soviet period abandoned agricultural land occupied around 1% of the territory, but at the moment it consists of around 20% of the territory in Eastern Lithuania, and in some especially unfavourable territories – even more [1]. It is a tendency that the areas of SPT location and less favourable agricultural territories essentially correlate.

Abandoned agricultural land area in Lithuania has reduced from 1,01 million ha to 0,9 million ha from 2007 till 2010 [6]. It especially manifested itself in Eastern Lithuania, where there were the most of this type of land. At the moment it is beneficial to declare and work on agricultural land even without gaining any profit because of the EU support. As a result in some districts' municipalities abandoned land area had reduced almost double from 2003 to 2011 (Utena, Varėna, Ignalina).

Unfavourable agricultural conditions, not the lack of people, mainly hampers farming: low crop capacity of the soil, complicated landscape, big plot division, condition of melioration systems and old land owners' age. Our latest research (of 2012) showed that agricultural activities as the main source of income is relevant to only 27% of Eastern Lithuanian farmers, but pension and other social payments – to more than a half of farmers participating it the research. It would be possible to plant a forest on a part of abandoned land because it would little change the income of rural residents, however more than 60 % of respondents' would not want to do so.

Increase in territorial divide. Depopulation processes, decline of a rural settlements network, a spread of less favourable agricultural land and abandoned land are increasing social and territorial residents' divide. It reduces economic, social and cultural development opportunities. These processes are especially well seen when analyzing the decline in educational institutions' and other social function institutions' network. In sparsely populated rural districts of Lithuania the school was and will be one of the most important institutions, assuring the base of community's life. However, educational institutions' network is declining because of a rapid decline in number of residents and students. In 2000-2011 student number in Lithuania reduced down to 35 %, in recent years – by 5-6 % every year. It is

natural and inevitable that the common education school network is rapidly declining. During the last ten years almost 1045 schools (44%) were closed in Lithuania, and over 300 schools are about to be closed in a few upcoming years. The school network in SPT is declining especially fast.

Other necessary institutions, such as cultural centres, kindergartens, libraries, health care institutions, post and bank offices, stores are also declining. The possibilities to use public transport are also reducing. It decreases meeting the most necessary needs, availability of service companies, worsens living conditions, activities and work possibilities, increases social tension, destroys an expectation of improving demographic situation. Even people's consciousness is changing, more and more they think of themselves as residents of periphery, forgotten by the state, left on their own. The massive renovation of schools, roads and other public service institutions is not helping either.

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AIR TRANSPORTATION IN TRANSITION. POST-SOCIALIST COUNTRIES ON THE WAY TO HYPERMOBILITY?

Piotr Trzepacz
Jagiellonian University, Krakow, Poland
piotr.trzepacz@uj.edu.pl

Abstract. *Post-socialist countries in Central Europe have experienced a major political, social and economic transformation over the last twenty years. This transformation has affected virtually all facets of life including air transportation. The sector has experienced changes in passenger volume and the network of destinations. Several countries in the former Eastern Bloc have deregulated their air travel markets, which has prompted a number of low-cost carriers to enter their markets. The purpose of the research is to identify the factors responsible for the growth (dynamics and directions) of the air transportation sector in post-socialist countries in Central Europe.*

Чжепач П. **Трансформація повітряного транспорту. Постсоціалістичні країни на шляху до гіпермобільності?** *Протягом останніх двадцяти років постсоціалістичні країни Центральної Європи зазнали значних політичних, соціальних та економічних трансформацій. Ці трансформації торкнулися практично всіх аспектів життєдіяльності населення, включаючи повітряний транспорт. У секторі відбулися зміни у обсягах пасажирських перевезень та маршрутної мережі. Кілька країн колишнього Східного блоку дерегулювали свої ринки повітряних перевезень, що дозволило вийти на них цілому ряду дешевих перевізників. Метою дослідження є виявлення факторів, що зумовлюють зростання (динаміку і напрямки) сектору авіаперевезень в постсоціалістичних країнах Центральної Європи.*

Introduction. The 21st century has become the age of unprecedented mobility level. Both the frequency as well as the spatial range of travel led to the emergence of the term "hypermobility" (Adams 1995, 1999). The airplane as a mean of transportation for covering large distances became almost its symbol. Although hypermobility is seen mainly as a symptom of modernization, and inseparable to development, it is also hard to ignore the wide spectrum of negative aspects which come along with it. These issues include environmental consequences (Anderson, Bows 2008) or social polarization. The availability to high-frequency travel and its benefits is only restricted to people representing a narrow socioeconomic status. And any restrictions to mobility are treated as factors to social exclusion (Kenyon 2002).

In the time of hypermobility the issue of crossing borders is no longer treated as an obstacle by most travellers. Yet for residents of post-socialist countries such a possibility is still one of new prospects gained with freedom and democracy. These citizens have gained access to free travelling only after the transformation. Elimination of political or even ideological barriers was crucial to developing not only air travel but mobility in general. The pace and directions of air transportation in the region under examination is strongly diversified. The main aim of this paper is their identification and conditions within global trends of mobility. [1]

Phases in development of air transportation in post-socialist countries. Since the beginning the analysed region had a special role for aviation. Especially the countries in Central Europe were destined for transportation development due to their transit location. This is mostly why in the interwar period, due to the range of aeroplanes from that era, the central part of Europe was used as a spot for intermediate landing for flights between Eastern and Western Europe.

World War II is considered a separate phase. This was the time for localizing airports due to military reasons along with the front moving east. After WWII ended some of these locations endured, becoming places for future nodes of civil aviation.

The next phase is the time of air travel in countries of Eastern and Central Europe under the influence of the new political system. Centrally planned economy is a system where consumer demand and supply do not matter, which led to local markets being completely dominated by national carriers. After the transition, air travel started to function in the open competition market. It started to prosper also due to a rising popularity of new business models – the low cost carriers (LCCs). This group opened a new phase in air travel for residents of post-socialist countries.

The transformation generated conditions for almost unhindered travelling, but it was the liberalization of transportation and the emergence of LCCs such as Ryanair or Wizz Air which give people means of mobility.

The determinants and scale of air mobility in European post-socialist countries. Aviation is a branch of transportation highly-dependant on infrastructure. This accessibility however, does not mean only the number of available airports. General organization of transport connecting it to other elements of settlement network may lead to a situation where a small number of airports will not be a factor obstructing air travel. This is one of the reasons why the idea to link airports with nearby cities or regions by railway lines is growing (Kołoś et al. 2012).

The network of airports in the discussed countries shows clear differentiation between the western and the eastern part of the region (Fig. 1.). The western part includes areas from Poland to Albania. Apart from central airports with an intercontinental range, there are some regional airports of differing significance, which have even up to 3 million passengers annually (case of Kraków). These types of airports are rare in the eastern part of the area in question. However, it also needs to be said that in such countries as Poland or Romania major existing airports have their accessibility on unsatisfactory levels. A dense network of regional airports,

[1] This dissertation analyzes several post-socialist European countries, and presents statistics on basic features of passenger air travel.

which offer transfers to major nodes, makes up for other shortcomings in the development of other types of infrastructure.

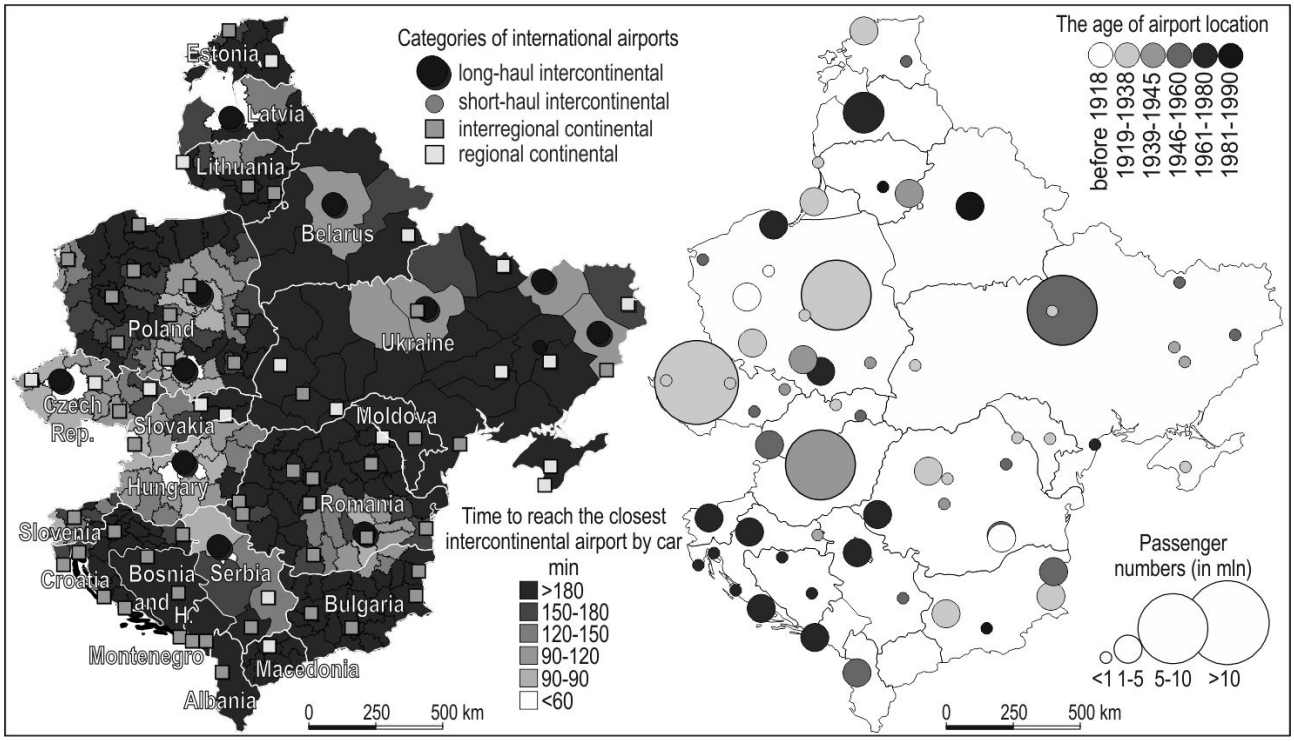

Figure 1 – Airports in selected European post-socialist states
(*Source*: author's elaboration based on data published by airports; airport access measured based on www.viamichelin.com)

It needs also to be pointed out that spacing of airports in the studied countries clearly corresponds to the spatial features of the settlement network. In places where the settlement network is more monocentric (the capital city is dominating as the biggest city), like in Hungary or Slovenia, the airport network follows this pattern.

In the southern regions of Europe regional airports which are responsible for serving tourist centres by the Adriatic and Black Sea are comparable in size to airports of capital cities. This is a completely different situation than in Central Europe and former Soviet republics, where the central airports are clearly superior, although it changes due to expansion of the LCCs in regional airports and economic issues of national carriers, which treat the capital airport as the main hub.

It is also worth mentioning that since the start of transition no new location for international airport was established in the studied parts of Europe. This brings more questions, e.g. whether the above-mentioned fact should be considered as a sign of delay in decreasing deficiencies in infrastructure, which are one of the fundamental barriers of regional and national development? Or should it be treated as a testimony to saturation of air travel infrastructure and proper localization of its nodes? It needs to be stressed that the main problem for servicing an almost record-breaking volume of passengers was not the number of airports but their throughput capacity and accessibility. It is safe to say that further growth in air travel in these countries will depend on the pace of implementing investment plans which will allow more passengers according to their needs and the expectations of the carriers.

The post-socialist countries are all still characterized by low levels of aviation mobility (Table 1), in spite of the fact that the number of passengers in these countries have increased from 45.5 million in 2004 to 99.8 million in 2011. Unfortunately, when one juxtaposes these numbers with the demographic potential of this group of countries, the result falls behind in comparison to the rest of Europe. Aviation mobility indicator, defined as the number of passengers in relation to the number of residents, is extremely low for all post-socialist countries. In 2011 the EU average was estimated at 1.6 passengers per 1 resident.[2] Only Latvia and Montenegro had a higher value, and these are countries with relatively low population number. Although all surveyed countries made progress, EU members who liberalized their markets had more significant results. The gap in the level of aviation mobility in Europe is best illustrated by Poland and the Ukraine which together have a population of 80 million people (similar to Germany).

Table 1 – Air transport in selected European post-socialist states

Country	Passenger number (in mln)		Dynamics (2004 – 100)	Index of (air)mobility		LCC share		Share of central airport	
	2004	2011		2004	2011	2004	2011	2004	2011
Postsocialist countries – European Union member states									
Bulgaria	4,3	6,7	156	0,56	0,88	0	27,6	37,1	49,7
Czech Rep.	10,1	12,8	127	0,96	1,22	18,2	25,1	95,3	93,5
Estonia	1,0	1,9	190	0,77	1,46	3,8	27,1	96,5	96,9
Lithuania	1,1	2,7	245	0,33	0,82	0	51,4	90,1	63,5
Latvia	1,1	5,1	464	0,50	2,27	4,3	22,2	99,8	99,9
Poland	6,1	20,7	339	0,15	0,54	16,4	50	67,9	42,6
Romania	3,4	9,8	288	0,16	0,46	0,6	43	78,4	68,7
Slovakia	1,1	1,8	163	0,20	0,33	40,5	73,8	78,4	84,5
Slovenia	1,1	1,4	127	0,55	0,70	5,2	8	97,9	100,0
Hungary	6,4	8,9	139	0,64	0,89	16,8	23,6	99,9	100,0
Average			**224**	**0,48**	**0,96**	**13,2**	**35,2**	**84,1**	**79,9**
Other postsocialist countries									
Albania	0,6	1,8	300	0,19	0,19	·	·	100,0	100,0
Belarus	0,5	1,0	200	0,05	0,10	·	·	100,0	100,0
Bosnia and Herzegovina	0,4	0,6	150	0,10	0,16	·	·	91,3	98,6
Croatia	3,4	5,7	167	0,77	1,29	·	·	41,5	38,4
Macedonia	0,5	0,8	160	0,25	0,40	·	·	93,9	91,1
Moldova	0,4	1,0	250	0,11	0,28	·	·	100,0	100,0
Montenegro	0,7	1,3	186	1,13	2,13	·	·	49,5	48,6
Serbia	2,1	3,1	148	0,29	0,42	·	·	99,1	99,2
Ukraine	5,5	12,7	232	0,12	0,28	·	·	65,3	68,2
Average			**199**	**0,33**	**0,68**	·	·	**82,3**	**82,7**

Source: author's elaboration based on data published by airports and Eurostat database and www.oagaviation.com

[2]The greatest developments in this field are done by the small island countries in Southern Europe: Cyprus 8.6; Malta 8.4, and on the continent to Ireland (5.1) and Denmark (4.6). It is also needs to be emphasized that the Northern European countries are in the international forefront of aviation mobility (Island – 7.7, Norway – 6.6, Switzerland – 5.3).

But the number of passengers in German airports is estimated annually at nearly 190 million, while Polish and Ukrainian airports have only ca. 33.4 million passengers together. This situation is highly complex as the above-mentioned countries play a different role not only on the European level but also globally. It is hard to compare the rank of such a city as Frankfurt am Main with any cities located in the post-socialist countries.

However, one has to bear in mind that in the perspective of globalization the activation of post-soviet countries in the area of air travel should let them avoid being peripherilized. The other thing which needs to be pointed out is that development in aviation mobility depends more and more on regional centres.

The discussed group of countries is strongly diversified in terms of air travel development dynamics (Fig. 2.). There is a clear dichotomy here. Eastern European EU non-member states were particularly hurt by the financial crisis from the late 1990s which mainly hit Russia, and decreased air traffic. The countries in this region which after 2004 joined the European Union have rapidly gained large numbers of passengers through liberalizing air transportation and welcoming low-cost carriers. All post-socialist countries indicated a clear drop in passengers due to the financial crisis, which was especially visible in 2009 results. In most cases this was the first time such a decreased occurred since the early 1990s.

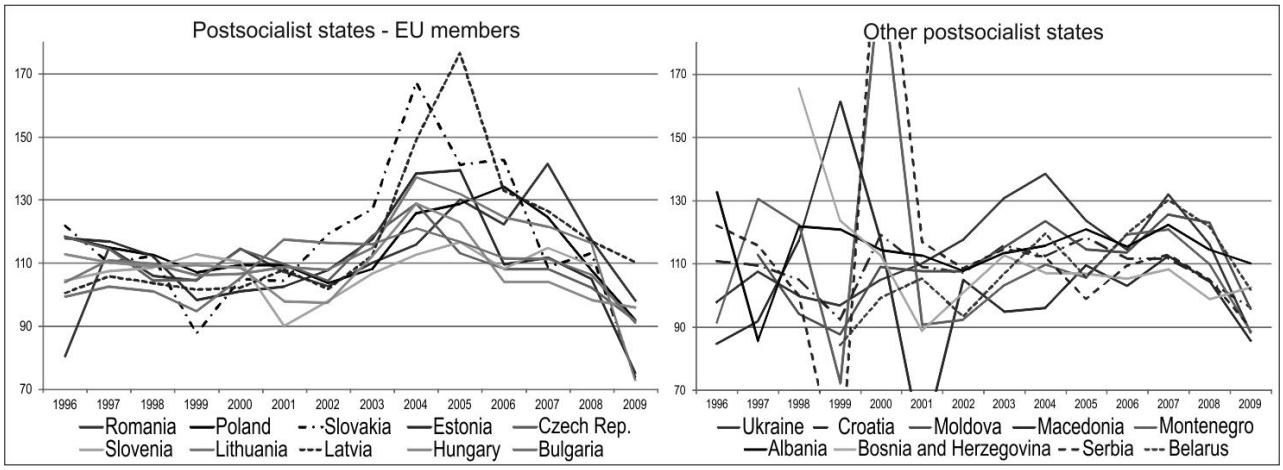

Figure 2 – Dynamics of passenger air transportation development in selected European post-socialist states (1996–2009) (*Source:* author's elaboration based on data published by airports and Eurostat database)

Summary – directions and the essence of the air transportation changes in post-socialist countries of Europe. All researched countries troubled by their socialist past noted a rapid increase in the number of passengers after the transformation. One of the most important factor allowing them to get record-breaking results was their EU access, and the integration of the air travel services that came with it. However, in terms of aviation mobility these countries are still on the peripheries of Europe. This stems not only from the amount of air traffic which can be easily explained e.g. by demography. The records in air transportation development mainly depend on the policy of low-cost carriers who mainly control the regional airports.

In case of post-soviet countries it is hard to speak of hypermobility, as the rapid development in air transportation does not correlate with success in terms of socioeconomic development. It is more a result of a demand rooted in no alternatives for economic migration to more developed countries in Western and Northern Europe. If the financial crisis stays, it may turn out that the growth of air travel in post-socialist countries and the increase in mobility will be very short-termed. Another aspect worth considering is the psychological barrier which accompanies still many residents from these parts of Europe when planning a trip by plane.

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THE LEVEL OF KNOWLEDGE ECONOMY DEVELOPMENT IN UKRAINE AND EU COUNTRIES

Valentyna Smal
Mykola Gogol Nizhyn State University, Nizhyn, Ukraine
vivosmal@mail.ru

Abstract. *In recent decades, the world economy held radical changes that suggest the formation of a knowledge-based economy. Strengthening of knowledge capacity of economy is an important sign of postindustrial development. The paper consists of results of research of the level of knowledge capacity of economy, defined for the countries and regions in the European Union, as well as Ukraine. Correlation between the level of development of countries and regions and the degree of knowledge capacity of their economy is revealed.*

Смаль В.В. **Рівень знаннєємності економіки країн і регіонів Євросоюзу та України**. *Упродовж останніх десятиліть у світовому господарстві відбулись радикальні зміни, що дозволяють говорити про формування економіки знань. Посилення знаннєємності економіки – важлива ознака постіндустріальності розвитку. У статті представлені результати дослідження рівня знаннєємності економіки, визначеного для країн та регіонів Євросоюзу, а також для України. Виявлена залежність між рівнем розвитку країн і регіонів та ступенем знаннєємності їх економіки.*

Knowledge economy is one of the widely used names of the contemporary stage of the world economy development. Knowledge turned into the driving force of local, national and global development, became an independent factor of production along with such traditional factors as land, labor, capital. Technologically advanced national economies of the world are indeed based on knowledge.

Significance of studying various aspects of knowledge economy development is growing with the increasing its importance in the world in general and in any individual country, including Ukraine. Investigation of the knowledge economy is moving from descriptive to empirical and analytical study that requires the application of specific statistical information, indicators, and instruments for processing. The selection and proper systematization and interpretation of large amounts of data through the analysis is an important research task.

The cardinal reformatting of economic activity caused by increasing role of knowledge has become the subject of active scientific debate being conducted by representatives of different fields of studies. The most significant theoretical and practical achievements in the study of knowledge economy have foreign and native economists and sociologists in particular F. Machlup, P. Drucker, P. Cook , B. Godin, B.-A. Lundvall, L. Fedulova, A. Chukhno [2-8].

Geographers are able to provide spatial analysis of the sector that produces knowledge as well as industries that use those knowledge. In this regard, there is need to develop theoretical and methodological approaches to the study of the knowledge economy and their approbation. This paper and other author's article are is devoted to that subject area.

Knowledge economy can be analyzed in two ways: using (1) "input" and (2) "output" indicators. The first way provides estimation of total investment in the sector that produces and spreads new knowledge, which can be measured by the number of patents, the quality of human resources involved in R & D sector and in the economy as a whole. The intensity of production which is based on knowledge or in other words so called "knowledge-based economy" is analyzed involving "output" indicators.

Economic sectors that mostly use new knowledge include both high-tech industries and knowledge-intensive services. Eurostat developed aggregation of the manufacturing industry and service sectors depending on technological intensity.

According to Eurostat classification high-technology production includes manufacture of pharmaceuticals, medicinal chemicals and botanical products; office machinery and computers; radio, television and communication equipment and apparatus; medical, precision and optical instruments, watches and clocks; aircraft and spacecraft. Manufacture of chemicals and chemical product; machinery and equipment; electrical machinery and apparatus; motor vehicles, trailers and semi-trailers; other transport equipment belong to medium-high-technology industry. Such kinds of industries are characterized by high levels of investment in innovation, intensive advanced technology, and well-educated workforce.

Following similar approach as for manufacturing, Eurostat defines the following sector as knowledgeintensive services: water and air transport; post and telecommunications; financial intermediation; real estate, renting and business

activities; education; health and social work; recreational, cultural and sporting activities.

Currently available statistical information allows to compare knowledge intensity of Ukrainian economy in comparison with EU countries, involving the following indicators: 1) R&D expenditures (%, share of GDP); 2) R&D expenditures per capita (euro per capita); 3) number of patent applications to the European Patent Office (per million of inhabitants); 4) expenditures for information and communication technology (%,share of GDP); 5) number of Internet users (% of population, who used the Internet at least once a week); 6) share of researchers in total employment (%); 7) number of researchers (per million of inhabitants); 8) share of student in age group 20-29 years (%); 9) employment in high technology service (% of total workforce); 10) exports of high technology products as a share of manufacture product exports (%); 11) exports of high technology products as a share of total exports (%); 12) employment in high-tech and medium-high-technology manufacture (% of total work force).

The first eight indicators characterize the knowledge economy on the "input" that reveal the amount of R&D expenditures, the level of science development, and population involvement in research as well as to higher education. Other indicators show the level of the knowledge economy development on the “output” in other words they characterize knowledge intensive industries.

All the above mentioned indicators were used to determine the level of Ukraine knowledge economy development in comparison with EU countries. In order to do that integral coefficient of the knowledge economy development was calculated using equation which was fully well-founded by Kulynych R.O. [1]:

$$S_j = \sum_{i=1}^{n} \left(\frac{X_{\max} - X_{ij}}{X_{\max} - X_{\min}}\right) + \sum_{i=1}^{n} \left(\frac{X_{ij} - X_{\min}}{X_{\max} - X_{\min}}\right), \qquad (1),$$

where S_j – integral coefficient of the knowledge economy development j-country, $X_{\min}$ and $X_{\max}$ – minimum and maximum values of the initial indicators.

The coefficient was calculated for Ukraine, all EU countries and EU partner countries (Iceland, Norway, Switzerland) (Figure 1). Table 1 shows the integral coefficient of the knowledge economy development, as well as standardized values of all the indices.

The state provides minimal financial resources to support R & D system in working condition, but lack of funding leads to a deterioration of the human and technological capital, to worsening the ability to respond to the real needs of the economy and provide innovative strategies for economic growth.

According to the result of calculation, Ukraine, leaving behind Cyprus and Romania, ranked twenty-ninth place on integral coefficient of knowledge economy development. The integral coefficient ranges from 1.454 in Cyprus to 9.528 in Finland. For Ukraine its value is 2.020, which is 1.4 times more than the minimum and 4.7 times less than the maximum. In obedience to the evaluation results the level of knowledge economy development in Ukraine is similar to the level of the former socialist states and South European countries.

Table 1 – Integral coefficient and standardized indicators of knowledge economy development

	1*	2	3	4	5	6	7	8	9	10	11	12	13	14
Finland	9,528	0,899	0,959	0,959	0,676	0,603	0,838	0,383	0,35	0,538	0,966	0,83	1	0,526
Sweden	8,649	0,975	0,737	1	0,677	0,578	1	0,268	0,271	0,385	1	0,638	0,7	0,421
Iceland	8,030	1	1	0,713	0,265	0,101	0,973	0,7	0,322	0,25	0,639	1	0,594	0,474
Switzerland	7,634	0,823	0,506	0,776	1	0,656	0,649	0,421	0,399	0,673	0,591	0,344	0,218	0,579
Denmark	7,271	0,911	0,622	0,666	0,467	0,552	0,892	0,264	0,223	0,25	0,861	0,558	0,69	0,316
Luxembourg	6,490	0,861	0,488	0,36	0,437	0,021	0,514	0,072	0,669	0,596	0,983	0,42	0,069	1
Germany	6,359	0,81	0,348	0,659	0,654	1	0,541	0,219	0,253	0,327	0,59	0,362	0,228	0,368
Netherlands	5,979	0,962	0,276	0,401	0,606	0,228	0,73	0,404	0,366	0,5	0,433	0,107	0,439	0,526
UK	5,969	0,823	0,279	0,435	0,28	0,478	0,784	0,343	0,321	0,5	0,408	0,429	0,416	0,474
France	5,696	0,722	0,355	0,505	0,32	0,557	0,676	0,362	0,308	0,288	0,452	0,335	0,343	0,474
Norway	5,680	0,911	0,567	0,382	0,285	0,297	0,703	0,355	0,043	0	0,785	0,603	0,696	0,053
Malta	5,671	0,468	0,048	0,044	0,038	0,589	0,351	1	1	0,923	0,044	0,165	0	1
Austria	5,480	0,759	0,368	0,662	0,38	0,569	0,351	0,155	0,213	0,346	0,67	0,42	0,271	0,316
Ireland	5,469	0,658	0,259	0,265	0,195	0,519	0,595	0,496	0,526	0,173	0,433	0,263	0,297	0,789
Hungary	5,378	0,608	0,113	0,167	0,04	0,758	0,432	0,447	0,432	1	0,066	0,228	0,455	0,632
Belgium	4,989	0,722	0,34	0,461	0,322	0,576	0,63	0,104	0,116	0,288	0,456	0,375	0,442	0,158
Czech Republic	4,846	0,595	0,231	0,347	0,024	0,891	0,459	0,236	0,277	0,75	0,145	0,223	0,248	0,421
Slovenia	4,549	0,57	0,281	0,319	0,071	0,913	0,405	0,062	0,073	0,192	0,219	0,241	0,782	0,421
Estonia	4,348	0,696	0,237	0,211	0,019	0,385	0,378	0,155	0,142	0,942	0,104	0,286	0,581	0,211
Slovakia	3,332	0,696	0,176	0,006	0,009	0,885	0,351	0,045	0,07	0,481	0,029	0,223	0,254	0,105
Italy	3,306	0,392	0,078	0,233	0,162	0,669	0,405	0,074	0,103	0,231	0,222	0,125	0,452	0,158
Spain	3,191	0,557	0,243	0,262	0,055	0,378	0,378	0,043	0,065	0,212	0,232	0,295	0,366	0,105
Lithuania	3,169	0,544	0,202	0,117	0,006	0,149	0,189	0,174	0,132	0,404	0,045	0,214	0,782	0,211
Latvia	3,074	0,62	0,116	0,047	0,013	0,036	0,351	0,083	0,073	0,75	0,034	0,152	0,693	0,105
Portugal	2,696	0,392	0,195	0,243	0,009	0,223	0,108	0,111	0,114	0,442	0,166	0,241	0,294	0,158
Poland	2,482	0,481	0,087	0,041	0,006	0,421	0,216	0,043	0,039	0,346	0,03	0,152	0,568	0,053
Greece	2,294	0,405	0,12	0,044	0,017	0,102	0,081	0,145	0,076	0,154	0,075	0,196	0,772	0,105
Bulgaria	2,103	0,304	0,056	0,013	0,002	0,374	0,405	0,072	0,049	0,5	0,003	0,031	0,241	0,053
UKRAINE	2,020	0	0,075	0,164	0	0,37	0,173	0	0	0,423	0	0,036	0,779	0
Romania	1,507	0,228	0	0,025	0,002	0,456	0	0,085	0,049	0,231	0,015	0	0,363	0,053
Cyprus	1,454	0,354	0,001	0	0,021	0	0,173	0,013	0,288	0,058	0,063	0,045	0,017	0,421

* The numbers in the table label follow indicators:

1) integral coefficient of knowledge economy development; 2) number of Internet users (% of population, who used the Internet at least once a week); 3) number of researchers (per million of inhabitants); 4) R&D expenditures (%, share of GDP); 5) number of patent applications to the European Patent Office (per million of inhabitants); 6) employment in high-tech and medium-high-technology manufacture (% of total work force); 7) employment in high technology service (% of total workforce); 8) exports of high technology products as a share of manufacture product exports (%); 9) exports of high technology products as a share of total exports (%); 10) expenditures for information and communication technology (%,share of GDP); 11) R&D expenditures per capita (euro per capita); 12) share of researchers in total employment (%); 13) share of student in age group 20-29 years (%); 14) index of comparative advantage of export of high-tech products (the ratio of the share of high-tech exports in total exports of the country to this indicator for the EU).

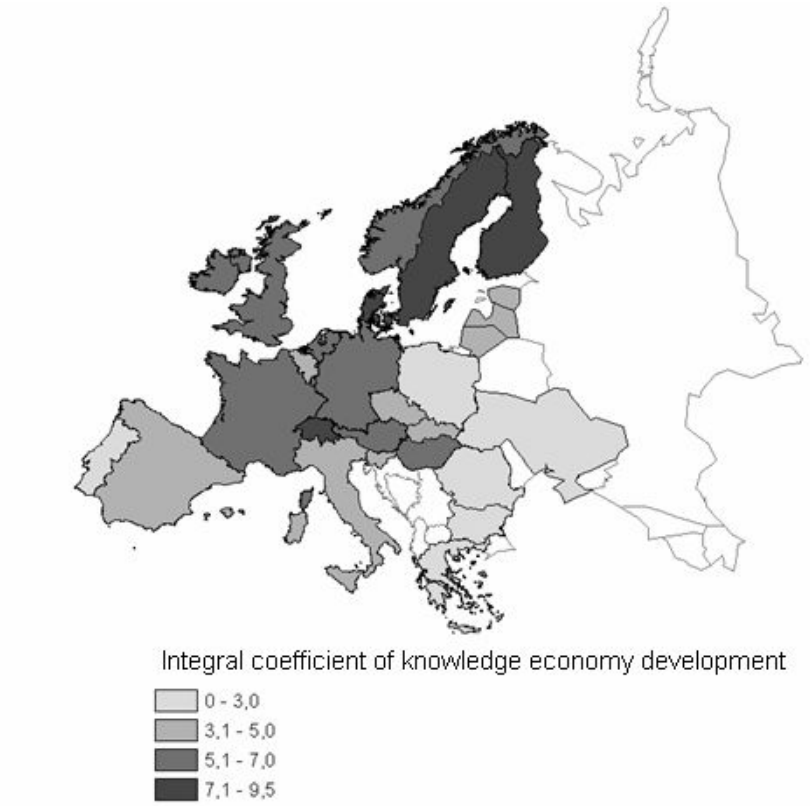

Figure 1 – Integral coefficient of knowledge economy development in Ukraine and EU countries

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GENDER RATIO IN LABOUR MARKET OF UKRAINE

Nataliia Mezentseva, Olga Kryvets
Taras Shevchenko National University of Kyiv< Kyiv, Ukraine
provotarnat@ukr.net, like_mila@ukr.net

Abstract. *Gender ratios at the labor market of Ukraine are characterized by disparities in wages, unemployment rates, representation in high-paid employment spheres and non-prestigious sectors, competitiveness and opportunities for career advancement. They have sectoral and territorial aspects and are changed under the influence of socio-economic factors. Results of the correlation analysis confirmed the close relationship of 20 socio-economic indicators with indicators of gender ratios at the labor market of Ukrainian regions. Using cluster analysis we identified 5 groups of Ukrainian regions by indicators of gender ratios at the labor market and offered their generalized regional characteristics. The analysis made it possible to determine that territorial differences of gender ratios at the labor market of Ukraine emerge as a result of: regional center status, place of residence, specialization of region and sectoral structure of employment, peculiarities of gender and age structure of the population, level of education and professional training of the employees, level of socio-economic development of regions, and incomes.*

Мезенцева Н.І., Кривець О.О. **Гендерні співвідношення на ринку праці України**. *Гендерні співвідношення на ринку праці України характеризуються диспропорціями в оплаті праці, рівнях безробіття, представництві у високооплачуваних сферах зайнятості та непрестижних секторах, конкурентоспроможності та можливостях для кар'єрного зростання. Вони мають галузеві та територіальні аспекти і змінюються під впливом соціально-економічних чинників. Результати кореляційного аналізу підтвердили тісний взаємозв'язок 20 соціально-економічних показників з показниками гендерних співвідношень на ринку праці регіонів України. З використання кластерного аналізу виділено 5 груп регіонів України за показником гендерних співвідношень на ринку праці та запропоновано їх узагальнені характеристики. Проведений аналіз дозволив виявити, що територіальні відмінності гендерних співвідношень на ринку праці України виникають з врахуванням: статусу регіонального центру, місця проживання, спеціалізації регіону та галузевої структури зайнятості, особливостей вікової структури населення, рівня освіти і професійної підготовки працівників, рівня соціально-економічного розвитку регіонів та доходів населення.*

Analysis of foreign publications on gender geography, international documents on gender equality confirms the necessity of social and geographical research aimed at defining regional characteristics of gender disparities in the labor market, in public administrations, socio-demographic field and the analysis of the reasons that cause them. The main disparities of gender ratio in the labor market of Ukraine, with sectoral and regional implications, are the following:

1. The determining factors of economic activity of men in the labor market of Ukraine are economic and demographic, and women – social and demographic. Women's economic activity level is affected by number of children and a level of education. Men's economic activity level is affected by income level. The economic activity rate of men is higher than women's in all regions.

The proportion of women out of total number of employed population of Ukraine is rather high. Women form almost half of the total employed population. Such trends are typical for Central and Eastern Europe. In particular, the proportion of women out of total number of employed population is 48% in Bulgaria, 46% in Slovenia, 45% in Slovakia and Poland and 44% in the Czech Republic, Hungary and Romania.

Ukrainian women have lower employment and higher unemployment rates. During the 2000s, the employment rate of Ukrainian men in Ukraine was 60%, women – 51-53%. The employment levels for Ukrainian women and men reach its maximum value at the age of 25-49 years. For women, the highest level of employment is at the age range of 40-49 years. The employment rate of women in Ukraine is higher than in the whole European Union, where it is 46-47%. Higher levels of female employment than in Ukraine are only in Denmark, Sweden and the Netherlands.

The highest unemployment rates are characteristic of the youngest age groups of men and women (15-24 years). The average duration of unemployment among women is higher than among men. This leads to an increased risk of "stagnant" unemployment of women. The presence of such discrimination in the labor market is due to the fact that the hiring preference is often given to men. However, women do not work only at the workplace but also do housework, spending on it 3-5 hours a day on average. This kind of job is not paid and not included in the pension system.

Using the method of ranking the rates of employment, unemployment, economic activity and economic inactivity we have made the next conclusion that there are three groups of Ukraine's regions with different levels of women activity in the labor market over the period from 2000 to 2011: high, medium and low activity levels. Territorial distribution of the rate is caused by a regional center status, specialization of the region, demographic characteristics and population income level.

2. In Ukraine the average women salary rate is 72.5% of average salary rate for men. Dynamics of the ratio of wages of men and women shows a steady wage gap decline. According to ILO data average wages of women in the world is 60-70% of the wages of men. The lowest difference in men and women salaries is typical for Scandinavian countries, where wages of women is 85% of the wages of men.

The difference between men and women wages in Ukraine is caused by inequality in the distribution of men and women in certain professions and industries (horizontal segregation) and inequality in wages within occupations and activities (vertical segregation).

A lot of jobs for women in Ukraine do not guarantee them sufficient financial support. Over time, it deepens the problem of female poverty. In particular, women occupy 80% of jobs in industries with low salaries rate (education, medicine, hospitality, catering, etc.) and men are much more prevalent in well paid sectors (government, business).

Men and women wages in the same industry in Ukraine are rather different. The most significant such a difference is in the information field (salaries of women is 60% of men salary), cultural services, industries, financial fields. The smallest

gender differences in wages are in agricultural, medical and educational sectors. Wage size depends on many factors: education and qualification, experience and seniority, position. However, despite their high professional standards, women occupy less prestigious and less well-paid positions in Ukraine's labor market.

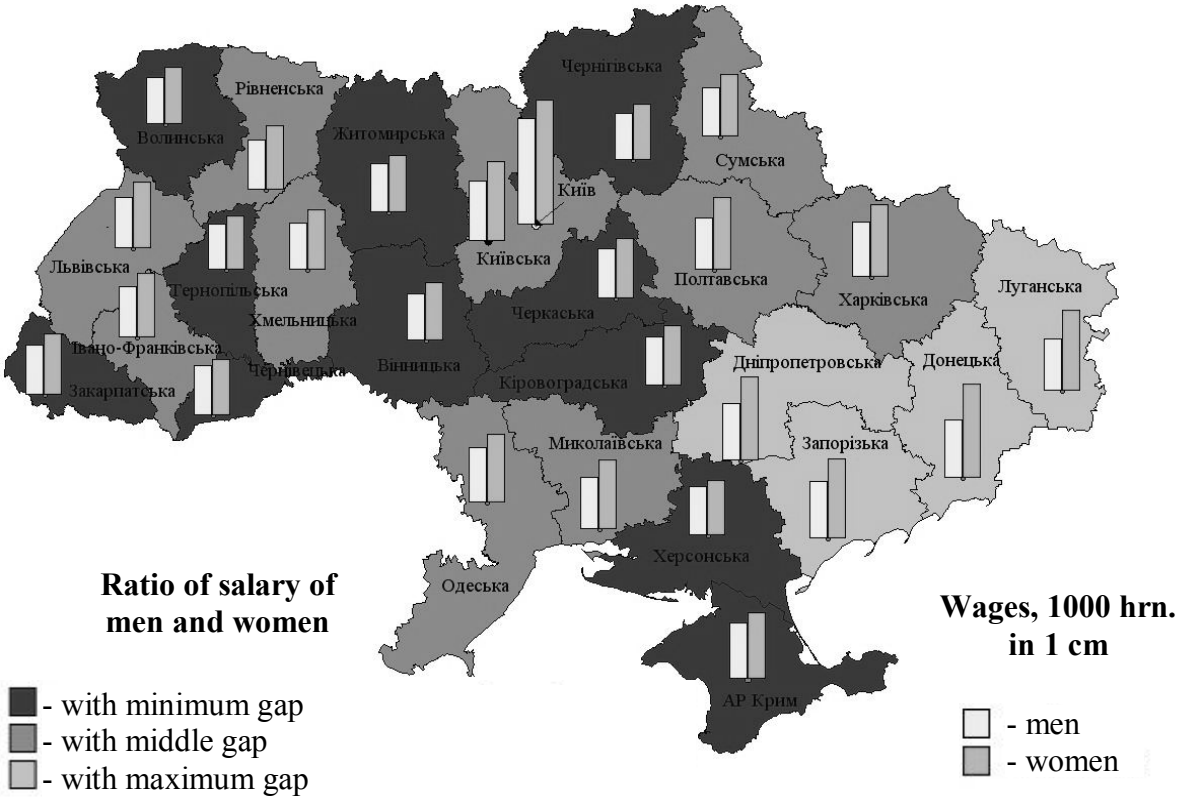

Figure 1 – Regional variation in ratios of salary of men and women in Ukraine

Gender differences in wages in Ukraine are geographically differentiated. Thus, for the western regions are characterized by small gender differences in wage rates. It is explained by population engagement in industries with low wages rate (agricultural and tertiary activity) which also causes less gender differences. In most industrialized regions of eastern Ukraine women's average wage is less than 70% of the average men's wage. Gender differences in the wages rate is also caused by the place of residence: as the size of the settlement decreases the size of the average salary also does.

Regional differences of gender disparities in wages rate in Ukraine are caused by: sectoral structure of employment, the level of socio-economic development of the region and population income, level of education and professional training of the employees and the age structure of the population.

3. Professional opportunities for women in Ukraine are limited by employment and career growth. Among all employees with higher education within all fields of economy of Ukraine women constitute up to 55%, but their career and professional growth are more limited than men's.

There are not a lot of women among the top managers in Ukraine. It depends on the industry and changes from the minimum 6% in constructions to maximum 50% in the restaurant business. Meanwhile in industry women head near 20% of the

establishments, due to light and food industries. In trade and tertiary activity this index grows up to 25%. Overall gender disparities in top management in Ukrainian industry are the following: 78% of enterprises are headed by men and 22% by women. Enterprises run by women are small in size, have little income, and usually are in the tertiary sector of activity (restaurants, hotels, shopping and other services). The more staff is in the company the less is the possibility that it will be headed by a woman. According to this women control 75% of enterprises employing up to 10 people, and only 6% of enterprises with more than 250 people.

4. Gender disparities are also present in business. 45% of entrepreneurs are women. Women entrepreneurs are mostly involved in small businesses. Men and women entrepreneurs ratio is different in different business fields. The highest number of women entrepreneurs is involved in restaurant service and trade (over 67%), the lowest one is in construction (10%), transport, agriculture, and industry. Share of women is less than 2% in large business.

5. The level of competitiveness of women in the labour market is lower compared to men, especially with regard to age and presence of children. Women face discrimination during job interviews when they are asked questions about family status, children, pregnancy planning, etc.. It is not customary to ask such personal questions when interviewing men. It is common in Ukraine to refuse hiring women based on their age the presence of children. In particular, discrimination in employment affect women with preschool children and women older than 40 years. Moreover, their level of education, experience and professional skills are not taken into account in the first place.

Correlation analysis was made to determine the degree of influence of socio-economic indicators on the gender ratio in the labor market in the regions of Ukraine. Twenty socio-economic indicators were used as factors. Indicators of gender relations that reflect the processes in the labor market have a close relationship with economic performance of regions, especially the volume of fixed capital expenditures and direct foreign investments per capita, gross regional product per person (all correlation coefficients to 0.96), the volume of sold services per person (0.9), people's expenditure and income per capita (0.98 and 0.9), the average monthly wage (0.96).

Women unemployment rate much depends on indicators of share of rural (0.9) and urban (-0.9, inverse relationship) residents, and average wages (-0.8, inverse relationship). The rate is closely connected to people's expenditure and income per capita, fixed capital expenditures per capita (at -0.7, inverse relationship) and the volume of sold services per capita (-0.6, inverse relationship). It is confirmed by the inverse relationship of women unemployment rate and the level of regions socio-economic development.

Clustering of Ukraine's regions with the consideration of indicators of gender relations in the labor market (unemployment rates and wages) identifies the following clusters (Figure 2): 1 – regionns with the lowest negative value of indicators ratio (city of Kyiv), 2 – regions with the lowest negative value of unemployment indicators ratio and the highest negative value of wage indicators ratio (Odessa, Kyiv, Kharkiv, Zaporizhzhya, Dnipropetrovsk, Donetsk and Luhansk

regions), 3 – regions with very low negative value of wage indicators ratio and the highest negative value of unemployment indicators ratio (Chernihiv, Cherkasy and Ternopil regions) 4 – regions with little negative value of wage indicators ratio and a significant negative value of unemployment indicators ratio (Kherson, Khmelnytsky, Zhytomyr, Poltava, Mykolayiv, Ivano-Frankivsk, Zakarpattia and Vinnytsia regions), 5 – regionns with low negative value of wage indicators ratio and middle-negative value of unemployment indicators ratio (Rivne, Sumy, Lviv, Chernivtsi, Dnipropetrovsk, Kirovohrad regions and Crimea).

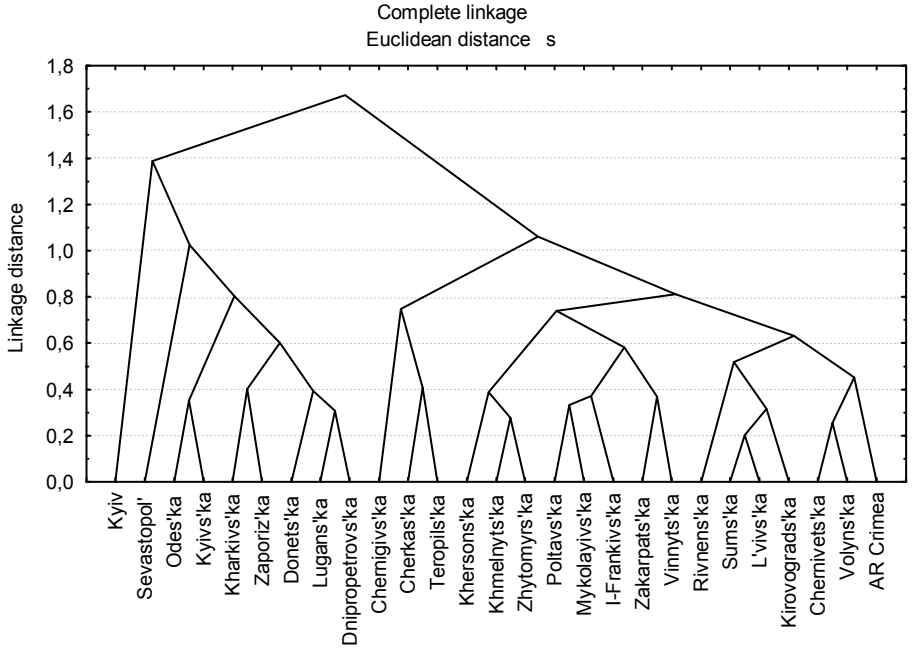

Figure 2 – Results of clusterization of Ukrainian regions by indicators of gender ratios at labor market

Defined clusters of Ukraine's regions with the consideration of indicators of gender relations in the labor market have the following generalized regional characteristics. There is less difference in the wages of men and women in regions with unfavorable age structure of the population, in underdeveloped and agro-industrial regions with lower professional qualifications of the population. Influence of the sectoral structure of employment and higher levels of income increases gender disparities in regions dominated by heavy industry. In the capital, a high level of education and the workforce, the concentration of advanced economies, international organizations positively affect the gender ratio of wages and unemployment.

Gender equality at work in accordance with the concept of Decent Work Agenda provides equal employment opportunities, equal remuneration for work of equal value, equal opportunities for professional and career development, fair balance of work and family life for men and women. Gender ratio in Ukraine's labor market is characterized by the following disparities: lower remuneration for women work, higher level of women unemployment, excessive representation of women in fields with low prestige and low remuneration, insufficient representation of women in certain promising and highly paid fields, lower competitiveness and career opportunities for women compared with men.

DEMOGRAPHIC TRANSFORMATION OF UKRAINIAN URBANIZED REGIONS (BASED ON THE EXAMPLE OF THE KHARKIV REGION)

Lyudmila Niemets, Kateryna Segida, Taras Pogrebskyi
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine
ggfekonom@yandex.ru, katochek@bk.ru, tarastimo04@mail.ru

Abstract. *This article analyzes the demographic transformation of the Kharkiv region as an urbanized region of Ukraine. The main temporal features and preconditions of the current demographic situation in the region are considered. The structural changes in the basic demographic processes are presented and explained. The dominant factors of demographic transformations in urbanized region of Ukraine are defined. Possible directions of the regional demographic development are defined.*

Нємець Л.М., Сегіда К.Ю., Погребський Т.Г. **Демографічні трансформації в урбанізованих регіонах України (на прикладі Харківського регіону)**. *У статті аналізуються демографічні трансформації у Харківській області як урбанізованому регіоні України. Розглядаються основні часові особливості та передумови нинішньої демографічної ситуації в регіоні. Розкрито структурні зміни в основних демографічних процесах. Виявлено домінуючі чинники демографічних трансформацій в урбанізованих регіонах України. Визначено можливі напрями демографічного розвитку регіону.*

In modern conditions of reorientation and formation of a new national strategy, focused on development of human potential, combined with unfavorable demographic trends of reproduction in Ukraine, relevance of demographic researches of society is increasing. Individual components of current demographic processes in Ukraine have been formed over decades, before current political and socio-economic changes took place. A public reaction to new life conditions is manifested by changes in demographic behavior, in fertility decline, in transformation of family structure and functions, in reassessment of views on marriage and family relations [3, 5]. Determination of a demographic transformation in Ukraine and its regions remains a major problem of socio-geographical research.

Regional differentiation of demographic situation in Ukraine is caused by a set of socio-economic, political, environmental and other factors, in regular, long-term or temporary effects on the population change and its qualitative characteristics. Current demographic situation in Ukraine is caused not only by low fertility, but also by high mortality; the migratory movement of Ukrainian population is positive, though its volume is much less, therefore the overall decrease in population of Ukraine continues to occur. For the last fifteen years, population of Ukraine decreased by almost 6 million people and at the beginning of 2013 amounted 45.5 million people [1]. Considering features of Ukrainian settlement system and uneven regional development, trends of demographic transformations have certain territorial differences. Kharkiv region belongs to such regions of Ukraine, where demographic situation is very peculiar. The region has high socio-economic development, positive migration balance; people in working age dominate in the age structure; at the same time, unfavorable demographic trends are observed.

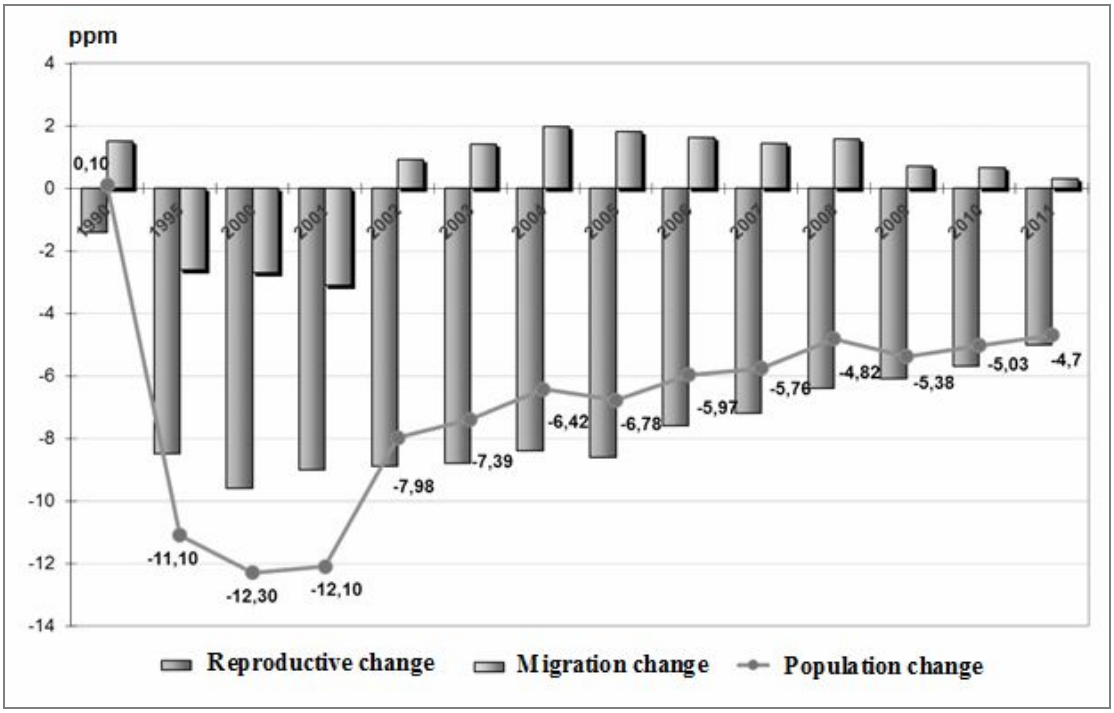

Figure 1 – Population change of the Kharkiv region, 1990-2011(from [2])

Over the last twenty years, population of Kharkiv region declined by more than 400 thousand people and to 01.01.2012 it was 2742.18 thousand people. [2] Demographic changes in Kharkiv region indicate domination of certain trends.

1. Decrease of the population is caused by natural decline from 1991, main cause of which was a decline of the birth rate.

2. Birth rate in the region, as a result of political, economic and socio-psychological impact, was decreasing till 2000 (from 8 ‰ to 6,7 ‰ 1995-1999, respectively), followed by a gradual increase (9,9 ‰ in 2008, and stabilization at 9,5 ‰ in 2009-2011). Positive changes in birth rate are explained by the influence of endogenous and exogenous factors. The weightiest endogenous factors of fertility are sex and age structure of the population and age-specific features of fertility intensity. Conducted researches [6] show that structural changes in age and sex structure of population, in particular increase in quantity of reproductive age, contributed increase in birth rate for 2%. Changes in age-specific fertility rates have contributed to an increase in intensity of birth rate for 30%. It should be noted that degree of impact caused by changes in age-specific fertility intensity is most important for the Ukrainian population as a whole, as well as for the population of Kharkiv region, and can be explained by corresponding changes in urban areas, where fertility rates are traditionally lower, according to socio-economic improvements in the economy. An increase in birth rate is observed as a result of deferred births and late motherhood. Among the major trends also the spread of modern phenomenon of late motherhood should be noted. Exogenous factors of increase in birth rate are a certain stabilization of socio-economic development, a differentiated provision of material assistance at childbirth, etc.

3. Mortality rates have remained stable over the past 1995-2009 (16 ‰) that is a reflection of modern age structure. Since 2000 a decline have been observed in this level to 14,6 ‰ in 2011 [2]. It can be assumed that mortality rate remains at current level: contemporary cohorts of working-age population will move to the older age groups. As a positive factor we have to note tendency of changes in the structure of death causes. Diseases of the circulatory system, neoplasms and external causes of death were determining in a dynamic of death causes structure for decades. Decrease of infant mortality (from 16,1 ‰ in 1995 to stabilize at 9 ‰, starting from 2009) as well as increased life expectancy to 72 years were noted [2, 7].

4. Due to the political stabilization and improvement of socio-economic situation, since 2000, migratory influx of people into the region is observed, which, on the one hand, reduces decline rate of population due to the natural decline, and on the other hand it has a number of negative consequences. Decrease in the volume of internal migration is also observed, which also indicates stabilization of the socio-economic situation in the districts of the region and is a positive trend. The level of migration remains stable, its intensity is negligible, indicating stability of the current population structure in the region. [5]

5. It is worth to note proportionality of sex-age structure as the main internal factor of reproduction: relative equivalence in sexual reproductive age. Sex-age structure of population is characterized by an increase in the cohort of young people by increasing of birth rate, has a significant employment potential and even sex ratio of persons in reproductive age, that is creating favorable conditions for further revitalization of demographic behavior of the population, however, this age spread entails considerable demographic pressure in the coming decades.

6. A modern marriage and family structure of Kharkiv region transformed under the influence of changes in attitudes and socio-psychological aspects of demographic behavior, it is characterized by nuclearization of families and spread of consensual marriages. Latter led to a reduction in the marriage rate (an average from 6 to 8 ‰) and divorce rate (from 4,5 ‰ to 1,5 ‰) from 1995 to 2011, respectively. A change of attitudes and psychological aspects of demographic behavior occurred as a consequence of transformation in marriage and family structure [2, 4]. In addition, decrease of population in Kharkiv region, changes in the process of self-reproduction of the family, represented by a transition of reproductive behavior model from two-child to one child, caused a profound impact on economic, intellectual and social development. A significant transformation of social consciousness, economic and political system and social relations in the second half of the twentieth century undergone great changes under the influence, on the one hand, from the long-term effects of factors (such as changes in reproduction and its social controls), and on the other – from the short-term factors, such as crisis events in the country. A demographic catastrophe of the first half of XX century severely deformed quantitative and qualitative measures of reproduction, its age structure, a negative impact on social and economic development, and consequently, reduced reproductive capabilities of the demographic potential. [5] In summary, we have to note that the process of reproductive behavior of the population is multifactorial. It is influenced by the deep social and economic changes taking place in society, in

particular, economic crisis, changes in social and psychological stereotypes. A global transformation create a new social situation, emergence of a new human life orientation and values that make significant changes in the demographic behavior of the population and, consequently, in demographic development of Kharkiv region and Ukraine as a whole. On the basis of the research of major trends in development of demographic processes in the region, main problems and ways of improving demographic situation were identified.

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THE DEVELOPMENT OF ECONOMIC AGGLOMERATION IN TRANSITION ECONOMIES

Alexander Gladkey
Taras Shevchenko National University of Kyiv, Kyiv, Ukraine
gladkey@i.com.ua

Abstract. *The Eastern European countries, so-called transition economies, are now undergoing painful transformation of their functional structure and development of market economy. In many cases, their spatial evolution and economic growth depend on the level of development of urban territorial structures such as large cities and agglomerations. The rational territorial organization and sustainable development of agglomerations are now urgent for the countries of Eastern Europe. Nevertheless, most of them have irrational branch and territorial structure as a legacy of the Soviet regime. Ukraine has faced similar problems with development of large cities and agglomerations. Thus, large agglomerations are developed without any scientifically justified spatial concept, which worsens their economic parameters and human living conditions. To solve the problems mentioned above and to create the necessary prerequisites for social and economic growth, Ukrainian geographers have proposed the concept of economic agglomeration, which includes not only the urban settlement system, but also the complex of various human activities that also agglomerate with each other in a limited urban area.*

Гладкий О.В. **Розвиток господарських агломерацій у країнах з транзитивною економікою**. *Країни Східної Європи, так звані країни з перехідною економікою, в даний час зазнають трансформацій їх функціональної структури і розвитку ринкової економіки. У багатьох випадках, їх просторова еволюція та економічне зростання залежить від рівня розвитку міських територіальних структур, таких як великі міста та агломерації. Раціональна територіальна організація та сталий розвиток агломерацій в даний час є актуальними для країн Східної Європи. Однак, більшість з них мають нераціональну галузеву і територіальну структури, що дісталися у спадок від радянського режиму. Україна зіткнулася з аналогічними проблемами в розвитку великих міст і агломерацій. Тобто, великі агломерації розвиваються без науково обгрунтованої просторової концепції, що погіршує їх економічні показники та умови життя населення. Для вирішення вищевказаних проблем і створення необхідних передумов для соціального та економічного зростання, українські географи запропонували концепцію господарської агломерації, яка включає не лише міські системи розселення, але і комплекс різних видів людської діяльності, які також агломеруються одна з одною на обмеженій міській території.*

INTRODUCTION. The Eastern European countries, so-called transition economies, are now undergoing painful transformation of their functional structure and development of market economy. In many cases, their spatial evolution and economic growth depend on the level of development of urban territorial structures such as large cities and agglomerations. These produce more than 40-50% of a country's GNP and contain more than 60% of the total population (except Moldova). The rational territorial organization and sustainable development of agglomerations are now urgent for the countries of Eastern Europe. Nevertheless, most of them have irrational branch and territorial structure as a legacy of the Soviet regime. They encounter problems in settlement and transport networks, suffer from environmental pollution and depletion of resources as well as from predominance of heavy industries and a low level of development of the social sphere.

Ukraine has faced similar problems with development of large cities and agglomerations. Thus, large agglomerations are developed without any scientifically justified spatial concept, which worsens their economic parameters and human living conditions. To solve the problems mentioned above and to create the necessary prerequisites for social and economic growth, Ukrainian geographers have proposed the concept of economic agglomeration, which includes not only the urban settlement system, but also the complex of various human activities that also agglomerate with each other in a limited urban area. The investigation of the substance and general principles of economic agglomeration as well as of the methodology of their rational territorial organization would assist to stabilize the national economy of Ukraine and to give potential for further growth.

THEORETICAL FUNDAMENTALS. Nowadays, agglomerations appear to be the key form of territorial organization of human activities in transition economies. Indeed, they are not only the forms of human settlement. The majority of labor forces, enterprises and services are concentrated in relatively small parts of urbanized territory having definite benefits of their location. Most of advanced, progressive and internationally-oriented branches of economy are developing in agglomerations more intensely. Therefore, this form of territorial organization in transition economy gains a lot of social and economic advantages of location and development of various kinds of human activities in highly communicative and comprehensively integrated environment.

According to the above-mentioned assertions, the agglomeration is a complex form of territorial development that includes not only the urban settlement system, but also industrial enterprises and social institutions. So, the previous viewpoints on agglomerations seem to be imperfect. Most of the features of this territorial formation are described by the term “economic agglomeration”, proposed by Stepan Ischuk and Alexander Gladkey (2005). Economic agglomeration, in contrast to “urban agglomeration” or “industrial agglomeration”, includes all components of economic complex and infrastructure with labor forces and land/natural resources.

The economic agglomeration is known to be compact functional and territorial, technological and economic as well as social integration of enterprises and institutions for various kinds of human activities based on a concentrated urban settlement system, intensive communication and a number of relations (industrial, social, ecological and administrative). The economic agglomeration is characterized by integrated interdependent development and produces an additional socio-economic effect.

So, economic agglomerations integrate various industrial and agricultural enterprises, social institutions (general communal services, trade, cultural, educational, scientific, recreational and tourist spheres) as well as the infrastructure based on a united system of settlement, transportation and communication. An economic agglomeration includes the territory with a maximum concentration of the above-mentioned relations, developed around a large city or cities.

It is worth noting that development of economic agglomerations in a transition economy is based mainly on the functioning of industrial complex in large cities and their satellite towns. They are characterized by common use of the territory, natural

resources, industrial infrastructure and scientific basis as well as by close relations of industrial cooperation and combination. The key branches of industry gain a lot of additional advantages in economic agglomeration due to concentration and specialization processes. The auxiliary and attendant industrial branches, which are related to the main production cycle, are also developing fast. Their integration, interrelation, innovativeness (innovative character) and modularity are rising rapidly. Moreover, the development of the social sphere, especially in the non-profit sector, is hampered due to historical factors, economic reasons and lack of administrative resources. So, most of agglomerations in the Eastern Europe face economic and social problems described in the introduction. Their sustainable development should be based on the concept of "economic agglomeration" that includes all components of human activities in a highly urbanized territory.

Economic agglomerations determine the location of the main part of productive forces in transition economies. Their development has a key impact on the national economic complex, settlement system and population growth as well as on the scientific, cultural and intellectual potential. Therefore, investigation of rational territorial organization and sustainable development of economic agglomerations is becoming more urgent.

GENERAL LAWS AND PRINCIPLES. The development of economic agglomerations in transition economies is based on objective laws and principles. According to Pistun, M. (1989) and Sluka, N. (1994), we can define 5 laws determining the sustainable development of economic agglomerations.

1) The law of territorial concentration, which is followed by processes of enlargement and complication of agglomeration core and development of "sub-core" (suburb) zones based on centripetal and centrifugal communications. According to this law, the concentration of population, economic enterprises and resources takes place in a small area in the central city as well as in the nearest neighborhood. The environment of comprehensive economic integration, fast communications, highly transformed landscape and concentration of labor forces develops here. Such environment creates favorable conditions for development of various human activities.

2) The law of territorial diversification between main transport lines, which includes processes of concentration of populated places and various kinds of human activities near radial transport lines which provide communication between the core and suburbs. Certain industrial branches and economic activities that become unprofitable or non-economical in a highly-concentrated agglomeration core are driven out toward peripheral agglomerated settlements which are close to centripetal transport lines. These enterprises require large territorial resources for their development, which cannot be obtained in the central city. They also have low profitability and representativeness, imperfect technologies and obsolete equipment. They also belong to the branches which are non-specialized for central core of the agglomeration. Being located in the peripheral zone, these enterprises keep in touch with their partners in the central core via fast transport lines and fast communications but lose advantages of their profitable location.

3) The law of belt-and-sector differentiation of the territory, which consists in diversification of agglomeration territorial structure and in development of functional belts and sectors based on the central core, peripheral settlement and transport lines. Agglomeration belts are developed due to different functions of the central core (basic, representative activities) and peripheral zones (additional, attendant activities). The development of agglomeration sectors is based on radial transport lines connecting the peripheral zone with the central core. They involve transport lines and nearby territories, settlements and industries closely connected with the core. Consequently, the integration processes described by the first two laws are normally accompanied by territorial differentiation processes. The central core and the peripheral agglomerated settlements gradually acquire the same common characteristics and are divided into different belts according to these common characteristics. These belts and sectors have different specialization and trends of development, although they preserve the united organization structure and administrative system, they still maintain specific functional subordination between different parts of agglomeration.

4) The law of territorial conglomeration. This law describes the development of the relations between different structural elements of economic agglomeration and creation of a united and complex functional system on the basis of complementarity, interconsistency and ecological compatibility. These relations determine the agglomeration development. Their direction and intensity also determine the territorial borders of agglomeration, level of complexity and proportionality, effectiveness of economic development and location of different kinds of human activities.

5) The law of territorial and complex-proportional organization consists in creation of dynamic balance between natural, social, industrial, settlement and infrastructural elements of agglomeration. This balance is created on the basis of effective regional management of agglomeration. The development of regional management in transition economies is very important for sustainable development of agglomerations and other elements of territorial structure.

The analysis of general laws makes it possible to formulate the following main characteristics of economic agglomerations:

1) compactness of the territory and development of belt-sector structure with the central core, peripheral zone and sectors based on radial transport lines with nearby and distant agglomerated settlements;

2) concentration of urban settlements and economic enterprises near the central core (this process leads to enlargement and complication of the central core and development of the suburb zone);

3) high urbanization and population densities influencing the way of human life and processes of economic growth;

4) multi-structural economic activity and concentration of different functions and human activities in a small territory;

5) development of small highly-specialized closely related enterprises (so-called modularity);

6) development of different kinds of human activities of complementary character and processes of interosculation;

7) comprehensive integration of population and economic activities with a united purpose and social co-ordination;

8) high dynamism of development, communicativeness and intense communications influencing the intense development of agglomeration and quick response to various changes;

9) progressive character of economic development, having higher rates of growth than the other parts of the country;

10) high level of new natural landscape development and growth of environmental problems.

These features produce a great socio-economic effect in economic agglomerations. This effect consists in creation of highly-integrated and communicative environment of economic agglomeration, which is called "agglomeration synergy". However, agglomerations in transition economies have the unbalanced structure and insufficient resources for their economic growth. For a long period of time they were developing according to the rules of the command-administrative system rather than to the rules of the market economy. Therefore, most of them have irrational territorial structure, unbalanced economic system and underdeveloped synergetic effect.

There are some principles of agglomeration development in the scientific practice of transition economies and highly-developed countries can promote decreasing the negative consequences of the Soviet administrative system. According to Deelstra, T. (1998), Geenhuizen, M., Nijkamp, P. (1995) and Pistun, M. (1989), one can formulate 10 principles of rational territorial (sustainable) development of economic agglomerations.

1) Disposition of economic enterprises with due regard for their functional destination, optimal location, highest profitability and social needs.

2) Limitation of excessive concentration of economic activities in the central core of agglomeration. The core contains a lot of raw-material-consuming, power-consuming and environment-polluting industries, transit transport systems and developed industrial infrastructure. All of them have been developed in the central core of large economic agglomerations in transition economies during the Soviet period of time.

3) Development of high-tech and science-intensive industries as well as of the institutions of the social sphere in the central core of economic agglomerations. These kinds of human activities are required in the centre of agglomeration for sustainable development, balanced and rational territorial organization.

4) Redistribution of functions between central and peripheral territories of agglomeration. According to this principle, the economic and social activities which have excessively developed in the central part of agglomeration can be moved to the peripheral zone with insufficient economic development.

5) Maximum adaptation of branch and territorial structure of suburban agricultural complex for the needs of the central core and urbanized regions.

6) Regional development of industrial, social, ecological and administrative relations between different belts and sectors of agglomeration. This principle is a basis of rational and sustainable development of agglomeration territory.

7) Improvement of human living conditions and development of the social complex.

8) Integration of central and peripheral administrative systems in economic agglomeration. This principle shows that administration of central city/cities of agglomeration and administrations of other agglomerated settlements should develop a united strategy of regional management. According to this strategy, each administrative unit of agglomeration should coordinate its regional development and economic activities with common requirements of agglomeration.

9) Maximum use of the achievements of scientific-and-technical progress. All technical innovations should be adopted and used for agglomeration development.

10) Rational use of natural resources and environmental protection.

METHODOLOGY. Various methods and methodological approaches are developed for investigation of economic agglomerations. The common methods are the systematic approach, structural analysis and synthesis, socio-geographical modeling, statistical method, generalization, etc. Most of them can be used in our investigation.

The method of territorial zoning can be used to analyze all the components of agglomeration development. This method consists in delimitation of specific belts and zones in agglomeration territory with different functional structure and communication intensity. Each zone (belt or sector) of agglomeration concentrates specific industries and human activities. Therefore, according to Ischuk, S. (2005), they are delimited by different indices of urban concentration, industrial, social and infrastructural development, distribution of transport and communication system and take into consideration administrative and territorial division of the territory. We do not describe all indices of agglomeration zoning. All readers interested in them may find complete information in our monograph "Kiev Economic Agglomeration: the Experience of Regional Management" by Ischuk, S., Gladkey, A. (2005). This method of territorial zoning and above-mentioned theoretical fundamentals permit us to explore the territorial structure of the Kyiv Economic Agglomeration and to distinguish general problems and trends of its development in Ukraine.

TERRITORIAL STRUCTURE OF KYIV ECONOMIC AGGLOMERATION. According to the investigations carried out by Ischuk, S., Gladkey, A. (2005) at the Taras Shevchenko National University of Kyiv, the Kyiv Economic Agglomeration has a completely developed belt-sector structure. There are 7 functional belts with unique specialization and territorial location (Table 1). Each belt includes different human activities and has specific problems of regional development. There are 5 belts located in the city of Kyiv and only 2 are located in peripheral zone. Indeed, the capital of Ukraine has developed as a highly urbanized and concentrated area. Kyiv has a high level of development of communications and profound integration of various human activities. Therefore, Kyiv has got a more complicated territorial structure that its suburbs.

Besides belts, Kyiv Agglomeration has some functional sectors. There are 5 sectors in the city of Kyiv and 7 in its suburbs (Fig. 1). City sectors have developed due to internal differentiation of Kyiv. Their borders correspond to economically-planned areas of the capital of Ukraine. Peripheral sectors are based on 7 radial transport lines converging from different directions to Kyiv. Below, we will consider the territorial structure of the Kyiv Economic Agglomeration by dividing it into separate components.

The historical core of Kyiv occupies 3.6% of total city area and includes 5.2% of total population. This territory has a high level of development of domestic and international political, administrative, public management and diplomatic functions. The Supreme Council (Rada) of Ukraine, Government, President Administration and representative offices of international organizations, embassies and consulates are located here. The historical core fulfils various religious, cultural, educational, scientific, tourist, public and business functions. A lot of historic places and architectural monuments from 11th to 20th century are located here. Some of them are under protection of UNESCO (Kyiv-Pechersk Monastery "Lavra", St. Sophia's Cathedral).

Furthermore, the historical core carries out industrial functions such as machine-building and light industry. Residential areas have also developed in it.

The functions of public management including all national, regional, municipal and local authorities are concentrated here in excess. Among scientific institutions, there are plenty of humanitarian academic institutes, design centers, information and archival centers as well.

Nowadays, the Kyiv center has a highly developed network of elite mercantile businesses which is displacing the everyday and regular services. The historical core is overcrowded with transport and traffic jams arise everyday. The historical core continues to fulfill its industrial, transport and research-and-production functions being non-peculiar for them. The representational and metropolitan functions are still insignificant here. Moreover, some local authorities and institutes of secondary education should be removed from the city center and moved to other parts of the city.

The central belt of Kyiv *(includes 4.9% of total area and 9.8% of total population)* contains those institutions of science, education, trade, tourism and culture which were displaced from the historical core. A lot of specialized academies, technical universities and high schools are located here. Research institutes, design offices, construction and technical institutes are also situated here.

The industrial sector is represented by the precision engineering, shipbuilding and instrument-making industries as well as light and food industries. The east side of this belt has recreational functions based on resources of the Dnieper river. Only a few separated areas in the central belt contain historical monuments and public places. A lot of outdated industries, ramshackle housing and uncovered roads can be found throughout this area. The central belt of Kyiv requires complex reconstruction and development of representative, internationally-oriented functions in the territory of ex-industrial zones. Currently, the problem of irrational transport development and communications between the Dnieper banks has become urgent.

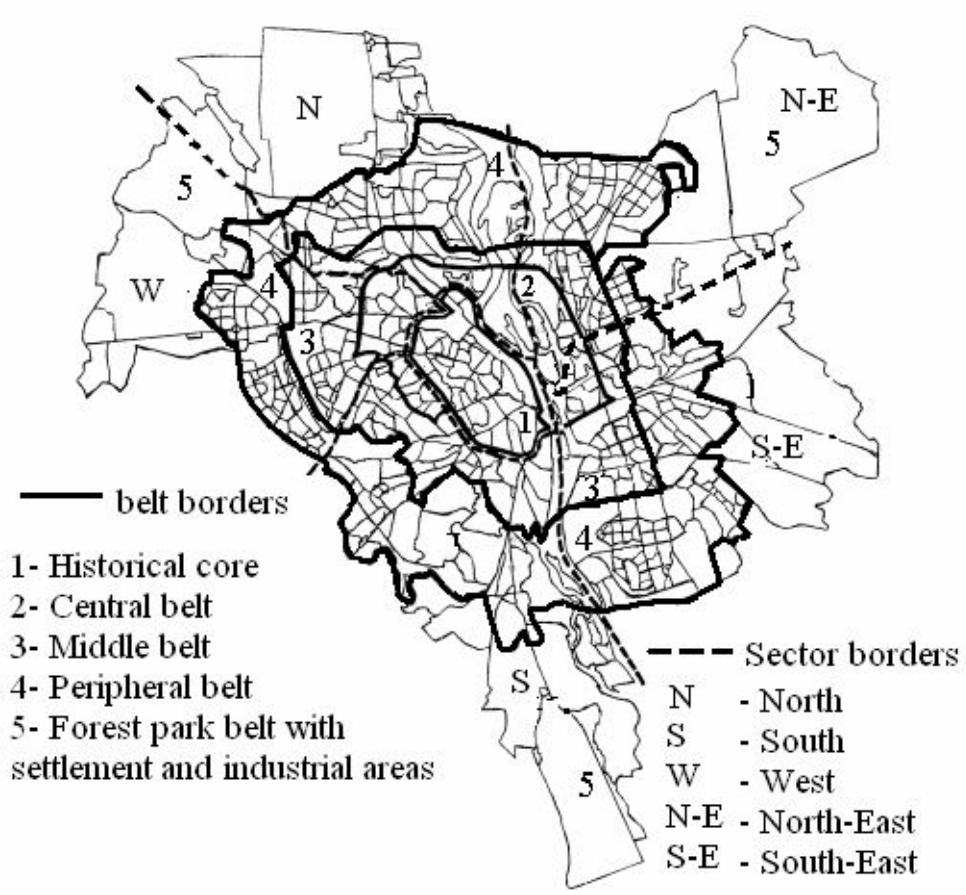

Figure 1 – Territorial structure of the city of Kyiv

The middle belt of Kyiv *(includes 12.7% of total area and 29.1% of total population)* has a highly developed industrial sector, especially machine-building, transport-building, precision instrument-making, computer-making, machine-tool, electrical engineering industries as well as radio electronics, light and food industries. There are several research institutes and also institutions of secondary and specialized education.

The main function of this belt is settlement. About 30% of total population is living here. Therefore, most territorial resources in this belt are residential areas. The main problems of this belt are insufficient municipal improvements, low quality of general communal services, environmental pollution and traffic congestions.

The peripheral belt of Kyiv *(includes 29.68% of total area and 55.12% of total population)* is the most populated area in the capital. More than a half of Kyiv citizens are living here. The dominant functions are settlement, general communal services and education.

There are a few industrial plants in this belt. They are located in several industrial centers specializing in heat and power supply, machine-building and general engineering, chemical and pharmaceutical industries, production of commodities and consumer goods. Some scientific research institutes are located near the industrial zones and form metropolitan technopolis. The functions of public services, medical care and general communal services are highly developed in the peripheral belt. Nevertheless, most of them are of a very poor quality and the

number of services is small. Furthermore, the main problems of the peripheral belt are environmental pollution, transport congestion, overpopulation as well as insufficient municipal improvements.

The forest park belt with settlement-and-industrial areas *(includes 49.0% of total area and 0.7% of total population)* has a low level of economic development and population density. This belt keeps in reserve natural landscapes of the buffer environmental protection area and contains additional recreational, medical and sanitary facilities. The density of industrial development and population settlement is limited by sanitary standards.

Kyiv has 5 sectors of its territorial structure developed in the urban territory. We will not consider each of them in detail, but will only indicate their specialization. The northern sector is specialized in settlement function and in machine building. The western sector is also developed as the settlement area and has a lot of educational institutions. The southern sector is predominantly industrial and scientific. This is the main area of Kyiv technopolis development. And two eastern sectors also concentrate most of population and develop chemical, pharmaceutical, power supply and food/light industries.

The suburb zone of the Kyiv economic agglomeration has 2 functional belts.

The first agglomerated belt (*includes 17.7% of total agglomeration territory together with Kyiv and 74.76% of total suburb zone population*) has the most intense economic, labor, cultural and recreational relations with the metropolitan city. The main functions of this belt are decongesting the urban areas, supplying the agricultural and food industry products and developing the recreational green zones and parks. Many industrial enterprises of this belt (powder metallurgy, machine-building and instrument-making industries, power supply, chemical industry, production of building materials, glass, timber, wood, pulp and paper industries) have close relations with the metropolitan ones in the field of science, applied research, logistics, commercial functions, etc. There are international transport system, innovation and scientific-research organizations, educational and recreational centers in the first agglomerated belt. The latter is characterized by a high level of urbanization and a high population density.

So, the first agglomerated belt is somehow a sequential part of Kyiv. It has intensive relations with the capital in a variety of ways. The first agglomerated belt has a lot of problems. Most important of them are environmental pollution (especially near the thermoelectric power station), outdated equipment, development of unprofitable businesses, poor living conditions, lack of municipal improvements and a low level of general communal services. Insufficient development of the social sphere leads to the growth of so-called “pendulum migration” (or migration of labor forces) from this agglomerated belt to Kyiv. According to Ischuk, S. (2005) and Pistun, M. (1989), about 200,000 of the first belt inhabitants come to Kyiv for work every working day.

The second agglomerated belt (*includes 82.30% of total agglomeration territory and 26.23% of total suburb population*) is specialized in suburban agriculture, food, machine-building, chemical, timber, wood, pulp and paper industries. It plays auxiliary and attendant role in the agglomeration’s economy.

This belt is at a lower level of development than the rest of the agglomeration territory. Many industrial enterprises make no profit or are closed at all. This is a predominantly agricultural and depressive region. Most of progressive industrial enterprises and social institutions were moved to Kyiv or to nearby suburbs. In this belt, the process of rapid depopulation, labor migration to the central core and a decrease of economic activities is taking place. Most of the northern territories of this belt suffer from radioactive pollution after the Chernobyl disaster. Inhabitants living in this belt have a very low income and many of them are unemployed. The territory of the second agglomerated belt needs structural economic and social changes.

There are 7 structural sectors in the suburban zone of Kyiv agglomeration. The three northern sectors are specialized in chemical industry, powder metallurgy, timber industry and agriculture. They have environmental problems and suffer from radioactive contamination. The western and eastern sectors are predominantly agricultural. They also have food and light industries. The most developed are the southern and the south-western sectors. The first is specialized in power supply and drastically pollutes the environment; the second is a region of high-tech industry and know-how, instrument-making industry, precision engineering, aircraft building and electrical engineering. This is part of Kyiv technopolis.

CONCLUSIONS. So, we have analyzed territorial structure of Kyiv economic agglomeration and revealed specific problems of its sustainable development. These problems are the same as those in other metropolitan agglomerations of Eastern-European transition economies. Indeed, these countries encounter similar processes of privatization and commercial growth, development of postindustrial activities as well as optimization of urban territorial structure based on market economy (rather than on command-administrative system). The government support of these processes is highly required for further European integration of these countries, for development of innovative and progressive human activities as well as for improving living conditions. The concept of economic agglomeration and its rational sustainable development is one of those scientific projects which could be used by the state authorities to provide the above-mentioned measures for highly urbanized metropolitan areas. The results of the present investigations will help rationalize the territorial organization and provide better conditions for sustainable development of the key regions of economic and social growth in transition economies.

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CENTER-PERIPHERY RELATIONS AND CONNECTIONS: REGIONAL DIMENSION

Ihor Pylypenko
Kherson State University, Kherson, Ukraine, Kherson, Ukraine
pilipenko11@i.ua

Abstract. *Historical experience shows uneven socio-economic and territorial development of countries and regions at different scale, the objective existence of geographical contrasts "center – periphery". There is some universal cyclic recurrence of events influencing the emergence, strengthening or leveling-off of these contrasts. Stages and territorial center-periphery concept in contemporary geographical science is more developed at the global and macro-regional scale. However, the "center - periphery" relations is quite clearly evident at the national and regional level. The paper reflects the spatial features of "center-periphery" relations and connections at the regional scale. Ukrainian Black Sea Region (excluding Crimea) with high level of spatial connectivity is used as a key model. The peculiarities of the spatial differentiation of the territory be the "center-periphery" characteristics are revealed. A set of diagnostic indicators for space dividing into central, peripheral and transitional areas is offered.*

Пилипенко І.О. **Центро-периферійні відношення та зв'язки: регіональний вимір**. *Історичний досвід свідчить про нерівномірність соціально-економічного, територіального розвитку країн і регіонів різного масштабу, об'єктивне існування географічних контрастів типу «центр – периферія». Існує і певна цілком універсальна циклічність подій, що впливають на виникнення, посилення або нівелювання цих контрастів. У сучасній географічній науці більшою мірою розроблені стадіальні та територіальні центро-периферійні концепції розвитку для світу в цілому та окремих макрорегіонів. Разом з тим, відношення типу «центр – периферія» досить яскраво простежуються і на рівні окремої країни та її регіонів. У статті відображені просторові особливості «центро-периферійних» відношень і зв'язків на регіональному рівні. В якості моделі виступає Українське Причорномор'я (за виключенням Автономної Республіки Крим), яке відрізняється високим рівнем зв'язності території. Виявлено особливості просторової диференціації території за ознаками «центр-периферія». Запропоновано групу діагностичних показників для поділу простору на центральні, периферійні і перехідні території.*

The rearrangement of social and economic space requires rapid administrative solutions based on reliable scientific and practical approach. In the majority of modern programs of region and state development the control objects (of region, district, city) are generally considered as simple simplexes, inherently homogeneous objects. At the same time the spatial organization of administrative units belonging even to the lowest rank are notable for complexity, multifunctionality, essential internal differentiation. Modern general conception of state management must be oriented to solve objective issues of social and economic inequality both in public (social stratification) and space aspects.

Modern geographical science enlightens prevailingly phasic and territorial conceptions of central and peripheral development for separate macroregions and the world in general. Additionally, the "center – periphery" links can be easily observed on the state and regional levels. In Ukraine modern theories and conceptions of social geography are prevailingly addressed to the issues of regional development. During the analysis of geospace differentiation one always deals with fundamental study and assessment of internal natural, economic, scientific, labour potentials of each region. Such research shows the universal character of "center – periphery" type of models in order to describe the polarization of geographical space and its separate components.

Great scientific interest in studying the center-periphery relations and the relations presented in the theoretical scientific work (Friedmann (1979), Heidenreich (2003), Raagmaa (2003), Leyzerovich (2006), Kagansky (2004), Zubarevich (2008), Artobolevsky, Baklanov, Treyvish (2009), Nefedova (2009), Mezentseva (2001), Topchiev (1988, 2005), Pylypenko (2008-2009)) and studies that studying specific regions (Hukalova (2009), Malchikova, Pylypenko (2009), Mezentsev, Gladky (2009), Pylypenko (2006), Gritsai, Joffe, Treyvish (1991)).

The following provisions can be regarded as the starting point of conceptual perception of "center – periphery" type of systems:

1) "Center – Periphery" is a fundamental category which characterizes the set of hierarchical order of geographical objects and explains the heterogeneity of geospace. The internal (genetic) order of geospace triggers the hierarchy of geographical objects concerning their spatial organization. Thus the "center – periphery" category can be considered as an extent of geospace hierarchy.

2) The "Center – Periphery" category has topological character. The main topological character of geographical objects in geospace is a location. Geospace is a sum (integral) of locations. Location differentiation triggers its hierarchy which is reflected in central and peripheral organization of geospace. From genetic point of view the Center is an advantage in location system, and the Periphery is a disadvantage. Thus Center and Periphery are topologically based.

3) The development and interaction between Center and Periphery are accomplished according to the rules of self-organization and synergetics. The difference of locations of geographical objects triggers their interaction. According to the system conception it's the self-organization of set of geographical objects which is reflected in forming geosystems and geocomplexes. Thus central and peripheral organization of geospace is the result of self-organization and extent of its development.

4) From genetic point of view topological category "Center – Periphery" acquires metric characteristics during its development: original Centers and Peripheries fix the difference of locations, show the extent of order and self-organization of geospace; afterwards they are changed as a result of superposition of such metric characteristics as demographic, infrastructural, economic, social potentials etc.

5) One should differentiate Center and Periphery between basic (natural, geospatial) and derivative (artificial, administrative). The first one is a result of

topological and, consequently, metric heterogeneity and self-organization of geospace, while the second one is a result of socially conscience converting the locations with certain topological and metric characteristics into those having central or peripheral functions. It's noteworthy that in case of discrepancy of artificial and natural Centers and Peripheries the latter option often requires the intensification of administration and the use of specific social, economic, politic control levers.

6) Multifunctionality and hierarchy of geospace triggers the multifunctionality of "Center – Periphery" type of system. It also causes the issue of superposing functions in locations with certain topological, metrical and administrative characteristics. The prime cause of such a problem is the specific diversity of Centers and Peripheries, the specific intensity of geospace relatively its location. Such a superposition can be constructive and destructive, and in case of constructive superposition one can often observe synergetic effect in the system development.

Analysis of this material and fulfilled research of periphery concept allows the author to define a *social and economic periphery* as a part of geospace, within the limits of which the speed of social and economic processes is minimal or their vector doesn't coincide with the vector of development of social nuclei. In addition, such nuclei first of all include big and middle cities.

On the other hand social and economic center is thought to be a part of geospace, which has functional relations with its development base (first of all periphery), and in contrast to other parts it is notable for social attractiveness, high concentration of social processes and phenomena which constantly get more complex. Besides, the important property of the Center is correspondence of its features to the specific distinct features of geotaxons or geosystems of objective or subjective character.

To identify the spatial features and regularities of "Center – Periphery" systems on the region scale we chose Ukrainian Black Sea Region. The main method of spatial analysis was topological approach. The essence of such an analysis is based on the following provisions:

1. *Topological analysis provides the greatest result in social and economic research when applied to topological geospaces with high level of coherence.* The example of such a geospace is Ukrainian Black Sea Region and neighboring regions. The research covers such regions as Odessa, Mykolayiv, Kherson Regions and their neighbours Vinnytsia, Kirovograd, Dnipropetrovsk, Zaporizhya Regions. Despite the fact, that the Autonomic Republic of Crimea in the majority of Ukrainian regionalization schemes, together with Mykolayiv, Odessa and Kherson Regions, is generally included into the same taxon (Black Sea or Southern economical/social geographical area), in this paper we exclude it from the research area. Such approach is determined by the specificity of this Ukrainian administrative territorial unit, especially by its geographical peninsular location. The significant transport geographical isolation of the AR of Crimea develops the specific communication type with mainland Ukraine. Actually, we can observe the decrease of communicativeness between mainland Ukraine and the AR of Crimea. The uniqueness of natural conditions and resources, the original settlement history of these territories together with the specific character of geographic location permit us

to state the aimlessness of including the AR of Crimea in the research area, primarily due to the considerable differences in geospatial structures between the mentioned regions and the AR of Crimea.

2. *Selection of operational territorial units for research*. As operational territorial units (OTU) we selected administrative territorial units - districts of the regions and towns of regional subordination, totally 196 units.

3. *Selection of metric characteristics of analysis and their transformations*. In terms of assessing the complex of social and economical characteristics comprising different blocks of the "quality of population life" category (by I. V. Hukalova), we ranked the administrative territorial units. We selected the following main characteristics of social development: migration balance as the indicator of social economic attractiveness of operational units, population amount per 1 worker, rate of the average employees' salaries, investment to fixed assets (per 1 person), number of small enterprises (per 1000 people) and unemployment rate (%), retail turnover (per 1 person) and volume of services supplied to the population (UAH). The mentioned indices were further ranked, besides the highest rates corresponds to the 1st rate, the next one – to the 2^{nd}, the lowest – the 196^{th}. We took into consideration the equality principle of the selected social and economical indices, that's why on the basis of received ranks we deducted the integral social development rank formed by the influence of the above mentioned factors (the arithmetical mean of the rank coefficients of the operational units due to above mentioned indices). Thus, we got the nominal metric geospace at this research stage.

4. *Reasoning of the compound analysis methods of nominal geospatial properties and geospatial topological characteristics*. Taking into consideration the such topological geospatial property as coherence and results of the previous research stages while reasoning of such methods, we determine the following basic statements: a) topological distance (the neighborhood rank) appears as a space unit; b) the complex of OTU of the same topological distance forms topological "stripes": Center – prime stripe, the 1^{st} rank neighbours – the 1st stripe and topological "stripes"; c) the topological stripe gets the value of integral social development rank as an arithmetical mean of OTU analogous comprising values. Thus, the offered approach allows to combine benefits of topological and metric geospatial measurement. The results of the topological analysis are presented in tables 1 and 2.

Table 1 – Social development rank indices of the administrative units at different topological distances from region centers

Region	Center Develop-ment rank	Generalized social development rank indices of the administrative units at different topological distances from region centers						
		Distance 1	Distance 2	Distance 3	Distance 4	Distance 5	Distance 6	Distance 7
Vinnytsia	5	38	104	111	102	92		
Dnipropetrovsk	10	11	69	95	67	134		
Zaporizhya	12	58	109	142	116	90		
Kirovograd	20	21	137	112	114	124		
Mykolayiv	3	65	122	112	104	188		
Odessa	1	14	66	101	152	158	82	158
Kherson	17	40	72	136	134			

Table 2 – Change of social development ranks through peripheral region stripes

Directions	Social development rank at the topological distance												
	Center	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
Odessa-Vinnytsia	1	31	167	109	195	171	168	129	88	59	38	5	
Odessa-Mykolayiv	1	9	41	78	3								
Mykolayiv-Kherson	3	47	51	17									
Kherson-Zaporizhya (right bank)	17	51	70	118	65	149	50	12					
Zaporizhya-Dnipropetrovsk	12	50	95	11	10								
Dnipropetrovsk-Kirovograd	10	11	101	131	100	124	21	20					
Kirovograd-Vinnytsia	20	21	99	182	112	174	74	79	154	61	79	38	5
Kirovograd-Mykolayiv	20	21	136	93	186	71	47	3					
Kherson-Zaporizhya (left bank)	17	29	104	135	113	156	132	73	50	12			

5. *Topological analysis of "Center – Periphery" systems.* According to the results of the previous research stages, a topological geospace transforms itself morphologically from the net structure into linear one, where the topological distance is a unit of distance. The further research of "Center – Periphery" multilevel geosystems is possible in directions of the analysis of the following parameters of periphery changes (as transition parameters from Center to Periphery), among which we should emphasize: a) the description of the morphology of social economical indices *outline* in administrative territorial units, implemented in "Center 1 – Center 2" directions through the peripheral area; b) *capacity* – the number of "spheres", "stripes" of administrative territorial units comprising Periphery; c) *gradient* (changes of a peripheral index per distance unit).

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ONE EUROPE, BUT DIFFERENT PATHS: TYPOLOGY OF THE COUNTRIES FROM THE VIEWPOINT OF SUSTAINABLE DEVELOPMENT

Iryna Gukalova
Institute of Geography of the National Academy of Sciences of Ukraine, Kyiv, Ukraine

Abstract. *The current positions of 37 European countries, including Ukraine, in the space of four categories, which describe their development, are analyzed. Among these categories: economic competitiveness, social welfare, environmental performance and entry of postmodern tendencies. The multidimensional typology of European countries by the specifics of their position in the amplitude of four integral indices.*

Гукалова І.В. **Одна Європа, а які різні долі: типологія країн у координатах сталого розвитку**. *Аналізується сучасне положення 37 європейських країн, у т.ч. України, у просторі чотирьох категорій, що характеризують їх розвиток: конкурентоспроможності економіки, соціального благополуччя, екологічних досягнень і проникнення постіндустріальних тенденцій. Увазі пропонується багатомірна типізація європейських країн за особливостями їх розташування у просторі чотирьох інтегральних індексів.*

During last decades, the world witnessed an unprecedented growth of material well-being. Behind the average statistic data on income, environmental performance and social changes, there is a large inequity gap among the countries. Modern Europe is dynamic and multi-dimensional: its countries, especially in different geographic sub-regions, differ substantially by the degree of territorial exploration and human potential. The above mentioned differences are indicated in a variety of typologies, based on integral indexes and international estimates of the countries' position in various directions of economic, environmental and social sustainability. Despite a somewhat 'spoiled' reputation of many international ratings and indexes, often perceived as tools of manipulation of vested interest holders and corporate community, they still remain an important benchmark for visual profile assessment of current development of the countries. Analysis of some ratings shows Ukraine is coming down in assessments of its environment and development. Sustainable development is a multi-dimensional and controversial process that cannot be described within single-dimension schemes and concepts. Countries of the European region have developed within different socio-cultural dimensions – inside a broader civilization system of coordinates, which defined priorities, values, mechanisms and standards of constructing the economy and social sphere. These systems have manifested themselves in environmental policies, in understanding the mission and goals for development of individual countries. If one of the dimensions would acquire prominence due to peculiar conditions or historic circumstances, other dimensions may become less developed. In order to uncover the essence of sustainable development, researchers first of all pay attention at the system's ability to develop within a long-term perspective [1, p.14].

Let's consider the situation in European countries within a framework of *four integral indexes*: Global Competitiveness Index, calculated by the World Economic Forum methods; index of social well-being, calculated by the author's own method; Environmental Performance Index, developed by experts at Yale and Columbia Universities; and index of 'penetration' of post-industrial tendencies, calculated with the use of the author's method.

Competitiveness of national economies can be defined as a combined indicator that shows the degree of effectiveness of the national production in attracting investment resources and competitive investors, as well as the ability of innovation and drawing qualified work-force. One of the recognized indicators is a Global Competitiveness Index developed by experts of the World Economic Forum that is calculated annually for more than 140 national economies. In 'Global Competitiveness Report for 2011-2012' [2], the global competitiveness index is formed by the three groups of indicators: 1 – Basic requirements indicators, 2 – Efficiency enhancers; and 3 – Innovation and sophistication factors.

According to the competitiveness rating, three top places went to Switzerland, Sweden and Finland in 2011-2012. In the same years, Ukraine was ranked 82nd in a global competitiveness among 142 world countries and 33rd out of 37 countries in Europe. Among the leading factors, that impeded successful business development in Ukraine, respondents mentioned: corruption, misbalanced tax systems, growing costs of the work-force, and several financial components, that can only partially be caused by general crisis in its economy. Ukraine's competitiveness rankings are largely influenced by political and, to a less extent, by social factors, which reveal weak and short-sighted nature of the country's economic policy, and impact negatively on the country's image abroad. Despite going up by 9 positions in 2012-2013 ratings [3], ahead of Romania, Greece and some other Balkan states, this was achieved only at the expense of progress in innovations, but not because of reforms in spheres where country competitiveness is formed and which require change.

Assessment of the *social well-being* of the countries' development may be obtained by integrating five main components that characterize the state of development and use of human potential. The resulting indicator (index of social well-being) differs from a known human development index, in the view of the author, because it incorporates at least the following indexes: I_{pop} – index of provision of population by territorial resources; I_{vc} – vital capacity of the nation (calculated by multiplying the birth rate by the average life expectancy); I_{GDP} – index of GDP per population person according to the parity of purchasing capacity; I_{life} – index of life conditions of the population; I_{saf} – index of social safety. Index of social well-being is calculated as an arithmetical mean of five component indexes (accordingly by eight indicators of social development of countries):

$$I_{SOC.WELL-BEING} = 1/5\ (I_{pop} + I_{vc} + I_{GDP} + I_{life} + I_{saf}) \quad (1)$$

Among 37 countries of Europe under consideration, Ukraine has moved up by social well-being index in 2011 and was placed on a higher (compared to its place in competitiveness rating) 26th position, which went ahead even of some EU members – Hungary, Romania, Poland, Lithuania and Latvia, that in recent years registered

very low even for Europe birth-rates. First places were predictably taken by Island, Norway and Luxemburg.

Environmental dimension of countries development is quite adequately described by index of *environmental "achievements*" or EPI – Environmental Performance Index, compiled by scientists from Yale and Columbia universities [4]. For calculation of this index, 25 representative indicators are being used, that comprehensively characterize the state of the environment and vitality of eco-systems of countries. EPI in fact determines the ability of a given country to protect its environment today and in the perspective, coming from institutional, social and other possibilities and efforts of national and global resistance to environmental violations. Among the analyzed countries in Europe, first positions are occupied by Switzerland, Latvia, and Norway. In these countries the issues of rational use of the nature environment are made social and government priority, which reflects these nations' responsibility of the state of the environment. Ukraine holds 33rd place among 37 European countries and is not included into first one hundred "clean" countries of the world, having only 102nd place in the world rating.

One more important aspect of contemporary development of societies is the degree of *'penetration' of post-industrial tendencies and Internetisation of society*. These processes may be adequately described by data of population employed in service sector, which is a recognized indicator to identify post-industrial tendencies, and by proportion of Internet users in the whole population. It is clear that domination of the service sector is not a sufficient criterion to indicate progress in post-industrial development, because not all service sectors create economic or political advantages for a country, and can be directed into the needs of production or tourism. But higher employment in service sphere definitely requires more effort to improve institutional structures, mechanisms of organization that facilitate market activities, promote division of labour and enhance economic development. Service sector involves types of activity that are more connected with innovations and cost reduction of social benefits.

Regarding 'Internetisation' of society, this factor is also important because it means faster and better access to information and technologies that relate to all spheres of social life – from employment to choosing vacation destination, shopping and people's private lives. According to our calculations, from the European countries analyzed, the first three places are taken by Luxemburg, Island and Denmark which occupy especially high levels of Internet development and coverage of the population. Ukraine occupies one of the last places in this indicator among European countries analyzed, having the smallest proportion of employed in service sector and lowest Internet population coverage rates [5]. Only one third of Ukraine's population currently uses the Internet.

TYPES	COUNTRY	Competitiveness Index	Index of social well-being	Environmental Performance Index	Index of "penetration" of post-industrial tendencies	Average Competitiveness Index	Average Index of social well-being	Average Environmental Performance Index	Average Index of 'penetration' of post-industrial tendencies
I	Iceland	0,828	1,000	0,864	0,941	0,869	0,937	0,893	0,936
	Luxemburg	0,876	0,857	0,902	1,000				
	Norway	0,902	0,953	0,912	0,866				
II	Austria	0,895	0,744	0,899	0,811	0,939	0,721	0,881	0,889
	Belgium	0,906	0,683	0,822	0,897				
	United Kingdom	0,939	0,689	0,897	0,913				
	Germany	0,943	0,653	0,872	0,863				
	Denmark	0,941	0,713	0,829	0,931				
	Netherlands	0,943	0,764	0,856	0,914				
	Finland	0,953	0,709	0,840	0,879				
	France	0,895	0,682	0,900	0,885				
	Switzerland	1,000	0,834	1,000	0,875				
	Sweden	0,977	0,735	0,897	0,920				
III	Ireland	0,831	0,723	0,765	0,767	0,778	0,653	0,737	0,835
	Malta	0,754	0,630	0,633	0,823				
	Slovenia	0,749	0,607	0,812	0,916				
IV	Albania	0,707	0,513	0,859	0,611	0,751	0,548	0,817	0,730
	Bulgaria	0,725	0,550	0,734	0,641				
	Greece	0,683	0,557	0,783	0,717				
	Croatia	0,711	0,524	0,837	0,727				
	Hungary	0,760	0,540	0,745	0,736				
	Portugal	0,767	0,550	0,752	0,713				
	Spain	0,791	0,587	0,786	0,772				
	Estonia	0,805	0,587	0,731	0,778				
	Italy	0,772	0,607	0,898	0,749				
	Czech Republic	0,787	0,617	0,845	0,738				
	Slovakia	0,730	0,568	0,869	0,786				
	Lithuania	0,768	0,490	0,854	0,725				
	Poland	0,777	0,534	0,828	0,706				
	Latvia	0,739	0,444	0,918	0,815				
V	Bosnia and Herzegov	0,667	0,441	0,479	0,613	0,695	0,496	0,587	0,599
	Macedonia	0,706	0,473	0,612	0,651				
	Moldova	0,678	0,497	0,590	0,552				
	Russia	0,733	0,668	0,592	0,584				
	Romania	0,711	0,539	0,630	0,560				
	Serbia	0,676	0,451	0,602	0,716				
	Ukraine	0,697	0,545	0,604	0,514				

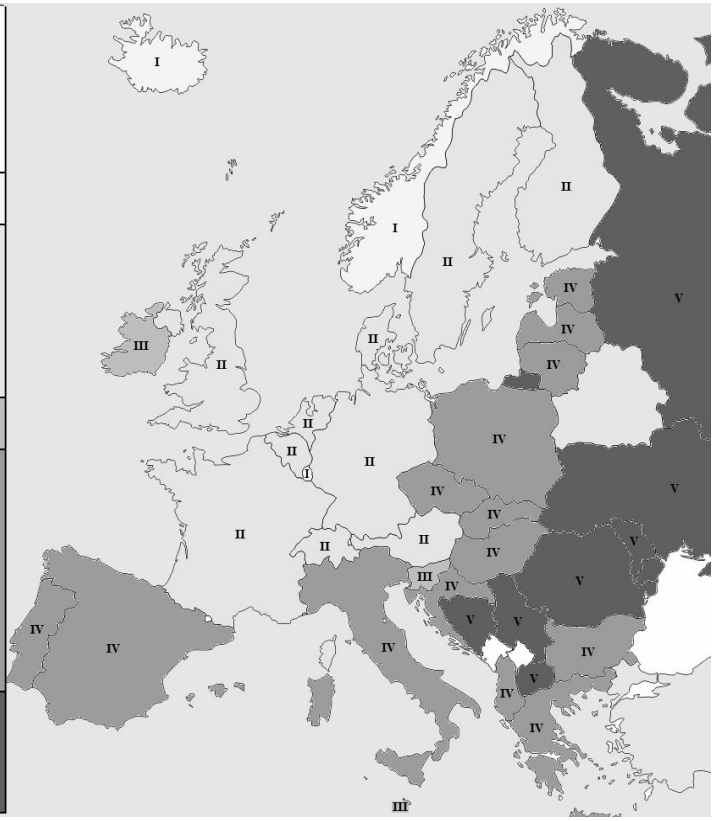

Figure 1 – Types of European countries within the coordinates of four "development" components

Thus, for different European countries, within the four dimensions described above, the corresponding indexes were calculated with the maximum (best) value, equaling 1. In countries with predominantly liberal political systems and strong economic base higher indexes mean free economic competition, sufficient social well-being, healthy environment and progress of post-industrial tendencies. The cluster analysis that was undertaken by the multi-dimension clusterisation algorithm, allowed to identify five types of European countries according to their development within the coordinates of four components (*fig. 1*).

I type of countries includes three stable European countries – Island, Norway and Luxemburg. These countries are characterized by high index values and balanced development in all dimensions.

II type of countries covers ten developed countries situated mainly in Western Europe, all of which, except for Switzerland, are EU members. Calculated indexes indicate the competitive development of this type of countries, combined with moderate deficit in social well-being. The social deficits of these countries are determined by lower on the average GDP per capita, in comparison to I type countries, and by lover provision of territory, as population density in these ten countries is very high. The latter regards Luxemburg, which got included into I type because of high for Europe indicator of GDP per capita. This is related to a higher number of employed populations in the economy of Luxemburg, daily contributing to the country's economy, who are not always reside in Luxemburg and come to work from closely situated countries with similar linguistic background. All other indicators, characterizing, for instance, high vital capacity of society and relatively

low unemployment level, are compatible for both types of countries. The main part of Type I and II countries includes countries with high level of environmental health and low greenhouse gas emissions per capita [6, p.80].

III type of countries (Ireland, Malta, Slovenia) – are countries with strong post-industrial tendencies of societal development, but with stronger social and environmental deficit. These smaller countries also lack living space, have less GDP per capita levels, and higher official unemployment levels. This type of countries also has lower, in comparison with the first two types, indexes of environmental performance.

IV type covers the remaining 14 EU countries, situated in Southern, Eastern and South-Eastern Europe. They are characterized as countries with misbalanced development and significant deficit of social well-being. These countries are quite different in the level of their economic development, but all of them demonstrate a visibly lower vitality of society (related to lower life expectancy), high levels of unemployment and relatively low GDP per capita. In 2011, several years after the onset of the world economic crisis, the economic recession became especially acute in Greece, Latvia, Spain, Italy and others.

V type includes the most problematic countries of Europe that form a symbolic European "Anti-seven": Bosnia and Herzegovina, Macedonia, Serbia, Moldova, Romania, Ukraine and Russia (Belarus, which is characterized in some UN reports as a country with high social well-being indicators, was not analyzed due to lack of other indicators). The above countries are characterized as countries with misbalanced development, weak penetration of post-industrial tendencies, presence of several social and environmental threats. The latter are determined by high level of anthropogenic pressure on the environment and the highest in Europe contamination of atmospheric air.

Our analysis has shown that in Europe majority of countries belong to the epoch of the 'second' wave of industrial society with a weak penetration of post-industrial tendencies, and focus mainly on overcoming economic and financial deficits, environmental overload, social problems, or territorial development imbalances. And only a small number of countries is on the rise of the 'third' wave. Among them are countries with biggest and longest investment into social sphere and human capital, and into environmental projects. The largest divisions among the countries are in the social dimension of development.

Based on the results of Ukraine's position in hierarchy of international and author's own assessment of achievements of environmental-economic and social sustainability, we can conclude about a low-level of country's effort towards progress in different spheres of social life. The sphere of penetration of post-industrial tendencies and social and environmental components are at especially low level. Despite of the above, Ukraine possesses some prerequisites that are sufficient to overcome environmental, social and economic challenges and building up resistance mechanisms to global challenges. These prerequisites may be defined using the above presented interpretation of a sustainable development as a system of multiple dimensions. Its material wealth and intellectual human potential need to be preserved for new generations of Ukrainian people as a basis for its development.

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DEVELOPMENT OF GREEN ECONOMY IN UKRAINE AS A DISPLAY OF TRANSFORMATION PROCESSES

Olena Kononenko
Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

Abstract. *The essence and factors of formation of the Green economy are discovered. The opportunities and prospects of Ukraine relative to Green Economy as a new paradigm of economic growth are defined. The indicators of greening of economic activity are offered. The obstacles to attraction of Ukraine into the European movement of greening of social activities are detected.*

Кононенко О.Ю. **Розвиток зеленої економіки в Україні як прояв трансформаційних процесів**. *Розкрито сутність і фактори формування „зеленої" економіки. Визначено можливості та перспективи України щодо розвитку „зеленої" економіки, як нової парадигми економічного зростання. Запропоновано показники «озеленення» економічної діяльності. Визначено перешкоди на шляху залучення України до Європейського руху „озеленення" соціальної діяльності.*

Ukraine announced its willingness to join the process of the sustainable development in 1990th. But the analysis of the experience of Ukraine on passing to the sustainable development model, over a period of 1992–2012, has shown a slow pace and low efficiency of this movement. Five years were needed after subscription of Rio Declaration on environment and development to form the National committee of sustainable development of Ukraine. The concept of the sustainable development of Ukraine is not adopted yet, and the complex program to realize on the national level the resolutions approved by Worldwide summit of sustainable development has been adopted in 2003.

Ukraine is outwardly oriented in the sustainable development policy and regional ecologic policy. The main mechanisms and instruments are recommended by UNO (United Nations Organization), EU (European Union), interstate organizations. Pulses for realizing the national policy became the subscription of regular declarations, for example, Frame Convention on protection and sustainable development of Carpathian (signed in 2003 and ratified in 2004 by the law of Ukraine). In 2007 the Strategy to fulfill tasks of Frame Convention on protection and sustainable development of Carpathian has been adopted, but Protocols on sustainable forest management and sustainable tourism have been signed only in 2011. In the same situation are National plan of quotas distribution and the implementation of trading system in Ukraine for air emissions and water pollutions. The World Bank offers 5 million dollars for these purposes and demands appropriate financial accounts and auditing.

It is clear that the shortage of resources (finances – in the first place) cannot be the main reason for a slow transition of Ukraine to sustainable development model. So, in the Declaration of financing and investing into sustainable development (Karlsruhe, 2011) is noted that the changes in public opinion, political sphere, the network of institutions are important conditions to succeed in the sustainable development. It is necessary to achieve a high level of the interaction between all the participants of the transition process to sustainable development model what will stimulate, at the minimum, the acceleration for administrative cycles.

The new stage of ecologization for public activities is to separate from national economics "the green economics" which is aimed to improve the welfare and social equality. At the same time the green economics contributes to minimize risks for the environment and to decrease the ecological deficit. The global new green course is grounded by UNO Program on the environment in 2008. This idea as a clarification of the sustainable development concept met with support from Germany, Great Britain, Japan, Korea and other countries on the national level. The new course distinguishes from the previous course because it does not approve the limitation of resources consumption and of economical growth generally, but on the contrary it approves the stable growth within the scope of new prospective markets: innovations, resource-saving technologies, utilization of wastes, recycling, green tourism, ecological insurance and so on. Leaders of economical growth and exporters of finished products become the leaders in these markets and Ukraine has to move in this direction. Every sector of economics has special purposes and tasks related to the greening, as well as mechanisms to assist in this transformation. On the basis of these indications we propose to mark out three groups of branches (kinds of activity).

The first group named "brown" combines branches: mining industry, preliminary processing of raw materials, coal and gas stations, housing and communal services, transport, water industry. Their ecological-economic characteristics are not satisfactory. It applies to the power efficiency, recycling and utilization of wastes, keeping prescribed limits for dangerous substance emitted to the atmosphere and water pollutions. For these branches the indicators of greening are:

- the decrease of the energy intensity of production;
- the reduction of air emissions and water pollutions of dangerous production;
- the increase of the part of production made with using of innovation technologies.

The second group includes branches and industries which produce ecologically clean production and services. Taking into consideration the natural and social conditions in Ukraine such sectors are green tourism, organic agriculture and alternative energy sources. It is important for our state to define legislatively the priority of these fields and to encourage them.

The stimulation of these sectors favors the greening of economics and allows to enter new markets, to increase the competitiveness of enterprises and economics in whole. The indicators for this group are all the indices of the development of green sector industry:

- the volume of produced goods and rendered services;
- the number of employed workers;
- the cost of main means of production.

The third group includes the spheres of services which are the infrastructure of green economics: science, education, finances, institutional support. The development of mentioned fields creates the necessary environment for the green economics. Developing the infrastructure we have no universal criteria for the greening of education, science, public and business organizations. In the first place is the positive dynamics of the development of respective spheres and the part in the whole number of ecologically oriented projects. In Ukraine there are no legislatively supported criteria to form the green economics but there are quantitatively defined ecological policy purposes the part of which are related to the greening of economic activity and takes place in the Strategy of state ecological policy of Ukraine for the period until 2020. In the table we presented three groups of branches of the green economics, the purposes of state ecological policy and the instruments of mechanism of green economics formation. So, it is seen that not all the branches of green economics are in a zone of attention of the state. In addition, for some branches (green tourism) the definite criteria are absent.

The main reasons for the slow-pace inclusion of Ukraine into the global process of social activity greening are:

- the priority of economic purposes over ecological ones is evident in the directions of budget financing and investments as well as in the activity of state institutions;
- the high level of outward orientation in the ecologic policy of Ukraine and the absence of own purposes, motives and innovation base;
- the low efficiency of the mechanism of the governance in whole;
- the imperfection of mechanisms for the attraction of the general public to the ecological information, and the deficiency of adopted administrative decisions.

Table 1 – Purposes and mechanisms of the development of green economics in Ukraine

Branches of green economics	Purposes of the state ecologic policy in Ukraine	Mechanism of green economics formation
Group I. Brown economics		
Coal and gas stations, transport, housing and communal services, building activity, energy- and material-intensive industries.	- reduction of pollutants in exhausted gases to the levels Euro-4 and Euro-5; - reduction by 15 percent pollutants in discharged substance; - ecologically safe disposal of town wastes on specialized polygons; - increasing by 1.5 times the stocking, utilization and application of wastes as secondary raw materials; - increasing by 50 percent the energy efficiency of production.	Limitations, quotas, standards, fines, state control, investments.
Group II. Producers of ecologically clean production and services		
Organic agriculture, renewable energy, green tourism.	- increasing by 55 percent the amount of renewable and alternative energy sources; - increasing until 7 percent the part of areas with organic farming;	Tax remissions, credits, grants, technical support
Group III. Infrastructure of green economics		
Education, science, financial organizations, trade, public and business structures with ecological orientation, organs of state administration and local self-government.	- elaboration of the program to support public ecological organizations; - elaboration and realization of the Strategy of ecological education; - creation and implementation of the mechanism to provide for the general public the ecological information and the participation in the decision-making; - deployment of the systems of ecological management and reinforcing the state environmental monitoring of tourism and recreation objects.	Elaboration of programs, government financing, exchange of experience, technical support

FOODSTUFF SECURITY AS COMPONENT OF ENVIRONMENTAL SECURITY IN CZECH REPUBLIC

Tomáš Ulbrich, Eva Lukášková
College of Business and Hotel Management, Brno, Czech Republic
ulbrich@hotskolabrno.cz; lukaskova@hotskolabrno.cz

Abstract. *Recent decades have witnessed a rapid and globalized socio-economic development that has brought many negative and ecologically interdependent problems related to the environmental food production security. Terms defined in the article, foodstuff security, food safety and food self-sufficiency, significantly influence ensures the foodstuff security in the Czech Republic. There are also the problems of food self-sufficiency in the country including the problems which are connected with safety and healthy, harmless food for consumers (for example Methanol case). There are a lot of problems with production of poor quality food and its import to central European region, which could influence sustainable environmental development.*

Ульбрих Т., Лукашкова Є. **Продовольча безпека як складова екологічної безпеки у Чеській Республіці**. *В останні десятиліття ми стали свідками швидкого і глобалізованого соціально-економічного розвитку, який приніс багато негативних і екологічно взаємозалежних проблем, пов'язаних з екологічною продовольчою безпекою. Визначені у статті безпека продуктів харчування, продовольча безпека та продовольче самозабезпечення, суттєво впливають на забезпечення продовольчої безпеки в Чеській Республіці. Також суттєві проблеми продовольчої самозабезпеченості країни, включаючи проблеми, пов'язані з безпечністю, користю для здоров'я, нешкідливістю продуктів харчування для споживачів (наприклад, у випадку вмісту метанолу). Існує низка проблем, пов'язаних з виробництвом неякісних продуктів харчування і їх імпортом до Центральноєвропейського регіону, які можуть вплинути на сталий екологічний розвиток.*

INTRODUCTION. Recent decades have witnessed a rapid and globalized socio-economic development that has brought many negative and ecologically inter-dependent problems related to the environmental food production security. The environment, together with socio-economic stability, plays a key role in the maintenance of food nation´s production.

In order to ensure national security and economic sustainable development of society it must be understood that ensuring of sufficient supply of food is a basic social need. Equally important is also to ensure food safety in terms of their health because the breach of health standards can cause very serious diseases. Food is an important indicator of economy, agriculture, international agreements and law. It reflects the state of the economy, trends in time, but also the historical development of the region. Consumers are keenly interested in the food quality and health integrity.[3]

[3] FUKSA, I. Vláda podporuje české zemědělce a potravináře na více frontách. *Potravinářská revue*, 2011, roč. 7, č. 2, s. 4 – 5. ISSN 1801-9102.

At present, can be seen two fundamental problems on which are especially focused attention in the paper. The first issue is to ensure food security in terms of securing a sufficient number of high-quality and safe food, the other is the possibility of the economic approach to quality food for all consumers. In the context of a number of cases that disrupted one or more aspects of food safety (health risk foods disproportionate price of eggs, food self-sufficient state, and methanol case) becomes the issue up to date and attractive.

1. DEFINITION OF FOODSTUFF SECURITY AND FOOD SELF-SUFFICIENCY. *„Food security exists when all people, at all times, have physical, social and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.“* [4]

We define food security at two levels. The first level shall be defined as the country's food security, i. e. the required level of productive resources in relation to the domestic consumption in the longer term. It is basically the rate of coverage of domestic consumption, domestic factors in the case of emergencies, unexpected events (wars, natural disasters, and failure of international trade).

The second level of food security refers to various social groups of the country and expresses the degree of risk of certain social groups in terms of quantity and nutritional value of food.[5]

The accessibility on the national level (macro level) is influenced by inquiry, which is determined by home production, commercial imports, foodstuff help and foodstuff reserves. On regional level the accessibility is influenced by regional foodstuff production, foodstuff reserves, distribution system and on the household level by foodstuff production on this level, by market and by foodstuff for work acquisition type. Access to the foodstuff is determined by general incomes of the households and usability means foodstuff wholesomeness.[6, 7]

In the late 90s of the 20th century, the EU saw several incidents of consumer health, leading to reducing of confidence in the system of protection against the dangers of food. Therefore, the EU has started to address the issue comprehensively protect consumer health from the dangers of food. It began to appear the concept of "food safety", which featured a comprehensive system for protecting consumers from dangers originating from food. As "the safe food" was defined food that will not cause harm the consumer when is prepared or ingested in accordance with the intended effect. The basis of a uniform system of food safety has become a "White Paper on Food Safety" published by the EU Commission in January 2000. At the same time had been established the European Food Safety Authority - EFSA, which

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[4] *World Food Situation* [on line]. [cit 2011-04-28]. Dostupné z WWW: http://www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/

[5] DOUCHA, T. Výhled zemědělské politiky ČR do roku 2010 ve vztahu k výživovým trendům. In *Sborník semináře Strategie rozvoje zemědělství a výživy do roku 2010.* Praha: Ministerstvo zemědělství ČR, 2000, s. 28-41.

[6] KONOLD, F. *Bangladesh Government Food Security Policy and Strategies* [on line]. Brusel: RESAL, 1999, 28 s. [cit. 2002-6-15]. Dostupné z WWW: < http://www.resal.org >.

[7] ROGERS, J. *Food Security: from Global to Universal* [online] Roma: FAO, 2002. 16 s. [cit. 2002-6-15]. Available: WWW: < http:// www.resal.org>.

is focused on the entire food chain and evaluate situations that can directly or indirectly affect food safety, including issues related to health, welfare and plant health . Crucial step in the area of food safety was the decision of the European Parliament and Council Regulation No 178/2002 on the general principles and requirements of food law. The strategy to assure food safety in the Czech Republic after accession to the European Union enshrined in the Government Resolution No. 1277 of December 15th 2004.

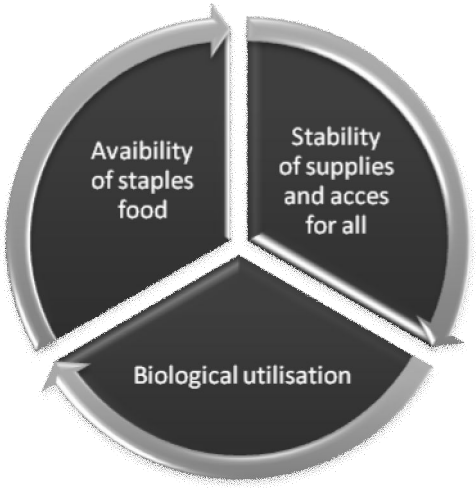

Figure 1 – Basic Dimension of Foodstuff Security

At the national level is the issue of food security generally defined in the Strategy of Security for the EU Common Agricultural Policy. The most important instruments for ensuring food safety are good agricultural practice (GAP), Good Manufacturing Practice (GMP), good hygiene practices (GHP) and Hazard Analysis Critical Control Points (HACCP).

The strategy of the security from 2011 is the basic document security policy of the Czech Republic to which follows sub-strategies and concepts. This is a government document, which perceives safety issue comprehensively defines the security interests of our country, as well as its security environment. Part of the strategy is also food security. The strategic interests are, including the provision of energy, raw materials and food security of the Czech Republic and adequate strategic reserves. One of the threats to security is defined functionality of critical infrastructure, which is also necessary for ensuring food security. The Security Strategy also mentions the growing importance of food security and access to drinking water. In the strategy of prevention and repression of security threats is explicitly stated that with regard to the cultivation of energy crops creates utilizable Czech conditions for the cultivation of those commodities so as not to compromise food security of the country. It maintains an adequate supply of strategic important agricultural products and food commodities. The Czech Republic pays attention to strategic reserves of groundwater for supplies of drinking water, as well as potential

sources of surface water.[8] Diagram of importance food safety strategy is shown in Figure 2.

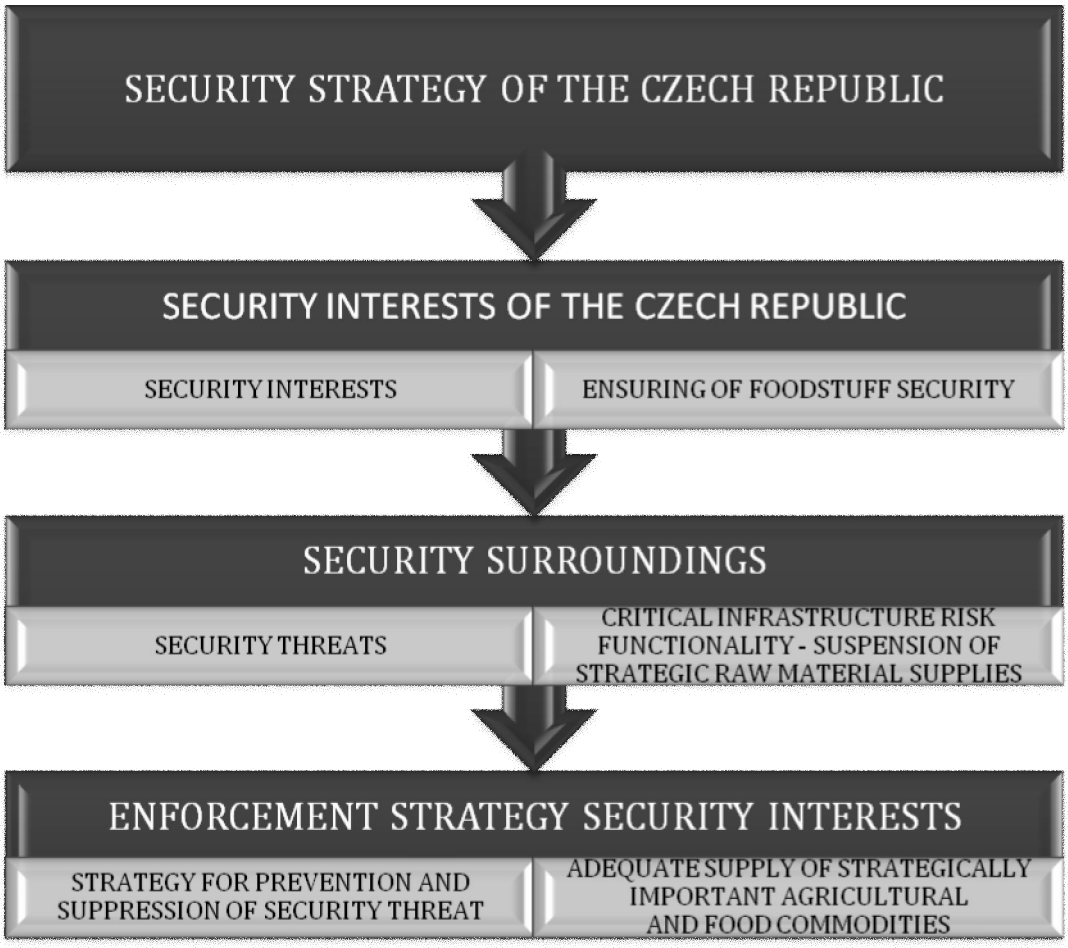

Figure 2 – Importance of Ensuring Foodstuff security in Security Strategy of the Czech Republic

2. FOOD QUALITY AND AFFORDABILITY. In the context of food security, it is necessary to mention the fact that in developed countries is currently a lot of attention paid to food safety with regard to their health. The quantity of foodstuffs in the EU and other developed countries is not a problem so far. To the increased focus on ensuring the safety of foodstuffs contributed recurring problems caused by the spread of unhealthy food and feed (feed safety is an integral part of food security)[9], food accidents (dioxins, PCBs), infections of farm animals (BSE / TSE) and ecosystem contamination by foreign substances, and thus the food chain

[8] ČESKO. MINISTERSTVO ZAHRANIČNÍCH VĚCÍ. Kolektiv autorů: Bezpečnostní strategie České republiky 2011. ISBN 978-80-7441-005-5 [online]. © 2011. [2012-06-26]. Dostupné z WWW:http://www.mzv.cz/jnp/cz/zahranicni_vztahy/bezpecnostni_politika/bezpecnostni_strategie_cr/bezpecnostni_strategie.html

[9] PROKOP, V. *Vytvoření databáze informací o legislativě EU, týkající se identifikace rizik a bezpečnosti potravin* [Zpráva Vědeckého výboru výživy zvířat]. Praha: Vědecký výbor výživy zvířat, 2002.

(as a result of environmental pollution and increasing industrialization developed use of chemicals in agriculture).[10]

Strategy to Assure Food Safety in the Czech Republic is a strategic document approved by the Government of the Czech Republic (Government Resolution No. 1320/2001) in accordance with the principles of the White Paper on Food Safety of the European Union. The main aim is to ensure the effective protection of the health and promoting the interests of consumers in relation to food, through the production of safe food and feed. The original document of the Ministry of Agriculture "Food Safety Strategy in the Czech Republic" (Prague 2002), briefly describes national strategy to achieve goals through science-based health risk assessment, management, development of communication between the components of our society and to promote awareness and education of all interested parties.[11]

Especially since the beginning of 2012 can be seen obvious trend of increasing concern about food quality and affordability. On the Czech market is also criticized poor quality both high price of food and offer of supermarket chains with category of very cheap food in a low quality that is unacceptable in Western countries. In the last years is the consumer at a disadvantage for his declining purchasing power. Meanwhile the food is more expensive and many of foodstuffs are indeed harmless but their quality is low. A consumer purchasing other types of foods than three years ago, this is not the substitution of higher quality, but on the contrary, lower price accompanied by low quality food. The proof of the above is the increasing falsification of food with the intention to harm consumers. Examples are the substitution of more expensive raw materials for cheaper to obtain a competitive advantage in the market.[12][13]

While the food safety in terms of their health is for a long time in the Czech Republic on a very good level and frequency of defects found is relatively small, in the case of food quality control are some of the results of Czech Agriculture and Food Inspection Authority (CAFIA) in 2011 quite alarming. Among the most problematic foods include spirits, wine, jams and honey, meat products and fish products.[14]

Among the most serious violations of food safety in recent months is for example selling Polish food containing technical salt, as well as poor chicken also from Poland and German pork. As for the economic availability of food, then we can mention a case of inadequate egg prices supposedly linked to the introduction of changes in the breeding cage hens and failure to comply of European standards,

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[10] Regulation (EC) No 178/2002 of European Parliament and of the Council, laying down general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety.

[11] *Strategie zajištění bezpečnosti potravin* [on line]. [cit 2011-05-16]. Dostupné z WWW: http://eagri.cz/public/web/mze/potraviny/bezpecnost-potravin/strategie-zajisteni-bezpecnosti-potravin/

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[13] VAVROŇ, J. PTÁČNÍK, S.: *Statistiky potvrzují: Češi šetří i na jídle.* Právo. 12. 4. 2012

[14] PTÁČNÍK, S.: *Potraviny jsou bezpečné, horší je to s kvalitou*. Právo. 6. 1. 2012.

which consequently caused a temporary lack of eggs in the Czech market and the extreme increase their prices.

Sadly positive example could be seen in 2012, when the very serious case occurred in the Czech Republic. More than 30 people died and many others were seriously injured of poisoning by bootleg spirits. These poisonings have raised questions about the effectiveness of EU and Czech safeguards against bootleg alcohol, which still has plagued the Czech market.

However, as illustrated research from November 2012, the Czechs access to hard alcohol after the methanol case has changed significantly. Nearly 70 percent of Czech liquor drinkers are now more interested in its brand and origin. 81 percent of consumers especially hard liquor purchases for reliable merchants. Over 61 percent buys only proven brand from traditional Czech and foreign producers, which represents about one-third increase compared to the situation before the methanol scandal. From a health point of view it is positive that almost a quarter of consumers (24.2 percent) from a concern about their health rather hard liquor denies completely.[15] Nowadays customers are more interested where and how alcohol is purchased. Rather also give priority to proven brand from traditional Czech and foreign producers, than less expensive alcohol of unknown origin.

CONCLUSION. The issue of food safety and food quality is extremely broad. In the article were identified fundamental factors that affect food security in the Czech Republic at present. It is possible to say some positive effects: food security is seen as an essential part of security of the Czech Republic, is currently sufficient quantities of healthy food. However, it is possible to say some negative phenomena such as harmless to health food does not always mean good food, access to quality food in terms of their prices are more difficult for some groups of consumers. Newly is necessary to define the concept of food - not to confuse the terms "harmless to health" and "good food". Furthermore, it is necessary to evaluate a wide range of factors that affect food safety the Czech Republic.

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THE COMPETITIVENESS OF UKRAINIAN REGIONS IN EUROPEAN CONTEXT

Sergiy Zapototskiy
Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

Abstract. *The paper is dedicated to the creation of regional competitive development, which would be provide through the effective use of territorial competitive advantages, highlight just "unique" advantages of each individual territory and provide their combination in virtue of international competitiveness taking into account requirements of the market. The analysis of level of the Ukraine regional competitiveness was carried in the context of integration into the European Economic Area. The types of regions were characterized by the criteria of competitiveness and the prospects of competitiveness increase of the Ukraine regional economy.*

Запотоцький С.П. **Конкурентоспроможність регіонів України у європейському контексті.** *Стаття присвячена обґрунтуванню регіонального конкурентного розвитку, який має бути забезпечений за рахунок ефективного використання територіальних конкурентних переваг, врахування "унікальних" переваг кожної окремої території і забезпечення їх поєднання для посилення міжнародної конкурентоспроможності з урахуванням вимог ринку. Аналіз рівня конкурентоспроможності регіонів України проведено в контексті інтеграції до європейського економічного простору. Типи регіонів охарактеризовано за критеріями конкурентоспроможності та перспектив підвищення конкурентоспроможності економіки регіонів України.*

The urgent task of the state rebuilding and economy flourishing is integration of Ukraine into the international economical space. Tough competition between goods producers, swift technological and innovational progress, constantly growing customers' demands become a push to forming of indivisible economical space in the international level by means of the integration of individual enterprises, branches, regions and even states. The dynamics of world economic processes in conditions of globalization and revivifying requires substantiated and suspended actions of every member of international relationships and as a natural result puts question about the competitiveness at all levels, from goods producers to territories and the state. The competitiveness of territorial institutions puts efficiency of their management on the first plan, and in conditions of effective mechanism of regional power motivation is able to provide competitive regional development. In such conditions it is important to understand that the competitiveness has to be considered not only as an indication of a region, its peculiarity, but the most important is a process of competitive regional development.

The basis of providing the competitiveness of the territory is the way of processes of regional development, which aim is to use competitive potential of the territory, its "unique" features in the most effective way, to provide complex development on the basis of rational specialization of economy, adapted to the changes of the internal and world state of affairs. A competitive region must have available high intellectual potential; developed innovative investment constituent, developed business environment, all types of the infrastructural providing.

The important condition of competitive development of the territory is the objective estimation of present terms and resources which in a prospect will determine possible priorities of such development.

From the other side the geographical approach in the conditions of revivifying requires forming of effective control system and motivation of all participants of realization of the competitive edges within the region, as the integral formation.

So, according to the social-geographical meaning, the best determination of competitiveness of region will be one which includes such basic aspects as:

• the efficiency of functioning of the economic complex of the region (competitiveness at the market of goods or competitiveness, provided by production);

• the investment attractiveness of the region (competitiveness at the capital market or competitiveness of finances);

• the innovative activity of the region (competitiveness at the market of innovations or competitiveness, provided by scientific researches);

• the necessity of the achievement of high standard of living of population (competitiveness at the market of labour or competitiveness which is provided by population);

• the efficiency of the mechanism of region management (competitiveness of infrastructures of business development, or competitiveness, provided by the government);

• the comfort of dwelling of population (competitiveness of social development or competitiveness which is provided by the government and population).

Today the state of crisis and negative tendencies, which have been observed in national economy during many years, delay the acceleration of processes of including Ukraine to the world economic association. These obstacles are: at first, large specific gravity of physically and morally ramshackle equipment in composition of capital production assets (over 60%), that has become the result of the predominance of extensive methods of economic development, and above all things its basic industries; the second is that there are disproportions in the system of self-provision of key industries of vital functions of the country (almost complete external fuel and energy branches dependence, satisfaction of the requirement in electrical engineering and cable ware branches, products of textile, cellulose-paper and medical industry only in half, absence of the production of rubbers, products of organic synthesis, equipment for the light industry, processing industries of the agricultural complex etc.; the third, non-balanced particular branch structure of industry from the point of its social orientation (the potential of industry is almost on 90% formed by heavy industries, specific gravity of production of the articles of consumption is about 30%, while in the developed countries it arrives at 50-60%) [1].

Such situation is reflected in the world ratings of competitiveness of Ukraine. So, according to the researches of the World economic forum (VEF) in rating of global competitiveness 2012-2013 Ukraine took the 73rd place from 144 countries [2].

According to the researches of the Fund «Effective management» in Report on the competitiveness of regions of Ukraine 2012, it is marked that among the factors which positively influence the development of the competitiveness in regions and Ukraine, there is a high level of technological readiness to introduce innovative technologies. The retentive factors of competitive development of Ukraine are, first of all, weak (state) institutions. According to the experts' data, in relation to such constituents of competitiveness as efficiency of labour-market, higher and primary education, health protection, all regions of Ukraine have got estimations which are higher than average ones in the world. In previous period Ukraine has shown the substantial growth of the index of infrastructure development, however it still occupies the 114th place in the world in such constituent of competitiveness, as a financial market [3].

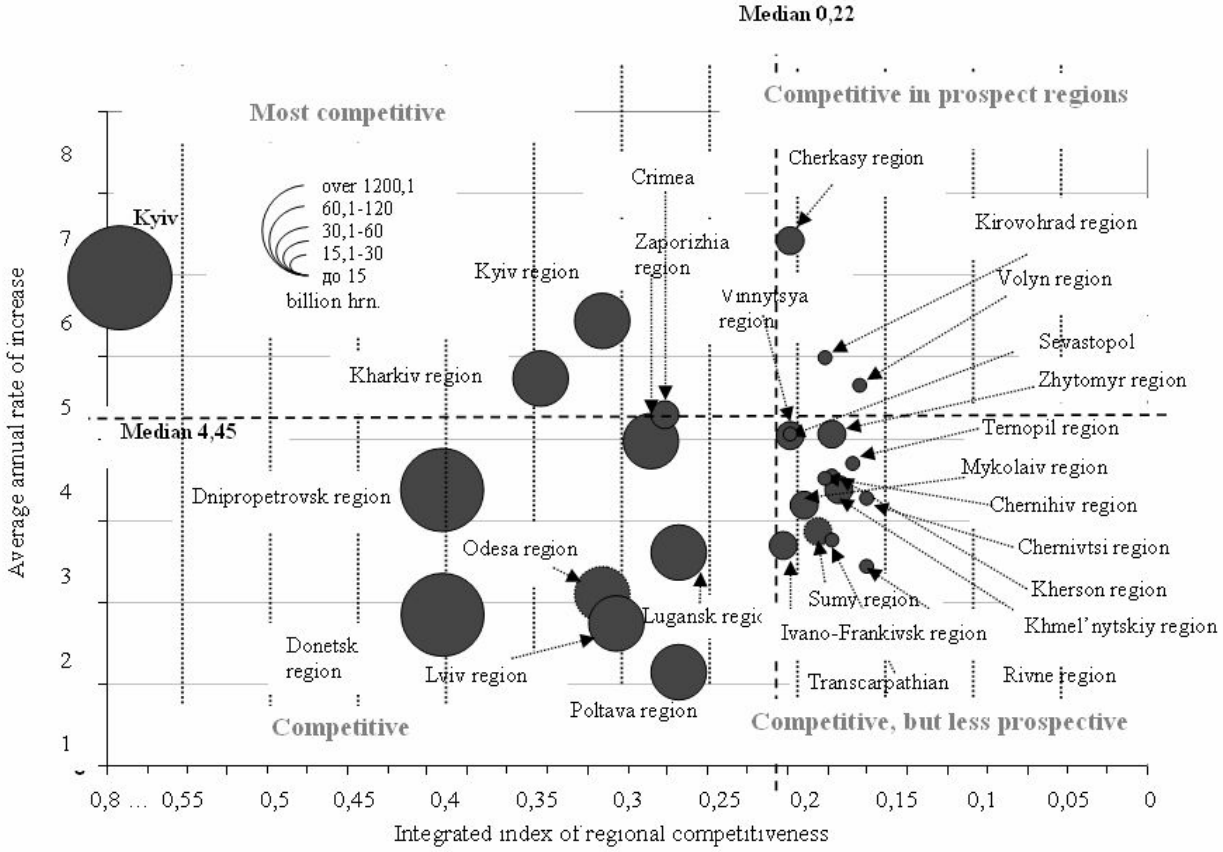
For the estimations of regional competitiveness level there is a question of determination of groups of areas with general strong descriptions of competitiveness. As results of the analysis conducted by us testify, the regions of Ukraine show different levels of competitiveness, determine different types of competitive edges and weak competition positions and that is why they require different strategies of stimulation of development processes. The adaptation of the matrix of Boston consulting group (BCG of matrix) for the analysis of regions level of competitiveness and level of the economy growing allowed to carry out separating the regions of Ukraine according to their level of competitiveness (pic. 1).

In accordance to the resulted segmentation the following regions were put to the first type of the **«Most competitive»**: Kyiv City, Kyiv and Kharkiv regions. They can be described as highly competitive regions which provide the greatest rates of social and economic development, have great innovative potential, high yield of

the production, considerable financial potential, are highly attractive for investors as regions with the developed infrastructure and advantageous geographical position.

So the main directions of subsequent development for these regions will be the maintenance of the attained level of competitiveness, the maintenance of investment attractiveness of the regions, stimulation of the development of the most perspective industries of economy (innovative activity, telecommunications etc.), increasing of foreign trade of goods and services, especially the products of intellectual property.

The group **«Competitive»** consists of Dnipropetrovsk, Donetsk, Lviv, Poltava, Odesa, Zaporozhia, Lugansk and Ivano-Frankivsk regions and Crimea. They are characterized by the high level of competition positions and relatively low rates of the economy growing. They are well provided with natural resources, developed infrastructure, have high potential of labor resources and high indexes of the productivity. Their main feature is that these areas are industrial regions with the developed industry and considerable indexes of gross production.



* size of the diagram represents the amounts of regional GRP

Figure 1 – The matrix of Ukrainian regions types according to the level of competitiveness

The majority of such regions use present advantages of high investment attractiveness. Therefore the strategic tasks in relation to the development of these regions are the maintenance and strengthening of factors of competitiveness, stimulation of foreign investments in a highly technological production, establishing the leadership in the development of competitive positions.

Cherkasy, Kirovohrad and Volyn regions belong to the third type of **«Competitive in prospect regions»**. The main features for them are high rates of

social and economic development at medium and low competitive edges. So these regions have high possibilities to hasty growth of competitiveness, substantially require financial investment resources for development of highly effective agriculture, innovative sphere, market infrastructure, business environment.

The strategic tasks of policy of increasing the competitiveness for these regions is the increase of volumes of foreign investments due to the intensive aggressive marketing of investments, they need the priority state support in increasing of the investment attractiveness of regions, creation of effective infrastructure and increasing of the level of efficiency of the present social use and economic and natural resources, as a necessary important pre-condition of improvement of the competitive edges. As the specialization of these regions substantially depends on the development of the agricultural sphere, the most important here is its priority through growth of the efficiency of production, level of profitability, development of the organic production.

The fourth type **«Competitive, but less prospective»** (Transcarpathian, Zhytomyr, Vinnytsya, Mykolaiv, Rivne, Sumy, Ternopil, Kherson, Khmel'nytskiy, Chernivtsi and Chernihiv regions) is characterized as regions with the low level of competitive attractiveness and low indexes of social-economic development, the low level of the development of business environment, low level of incomes and competitiveness of enterprises, insignificant indexes of financial potential and foreign economic activity.

For these regions the expedient thing is the introduction of measures, directed on non-admission of rolling up of the business activity, the maintenance and stimulation of activity of foreign and domestic investors, by influencing those factors which have a decisive value for the increasing of regional competitiveness. The most important thing here is a change of a particular branch priorities to support the development of competitive industries and productions.

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SPATIAL PROCESSES IN KYIV METROPOLITAN REGION: GLOBALIZATION OR POST-SOVIET TRANSFORMATION

Kostyantyn Mezentsev, Tatiana Klyujko
Taras Shevchenko National University of Kyiv, Kyiv, Ukraine
mez@univ.kiev.ua, t.kl@ukr.net

Abstract. *Transformation processes in Kyiv Metropolitan Region (KMR), stimulated by globalization and post-Soviet changes, are overlapping. Different parts of KMR have a different degree of globalization impact and intensity of the transformation processes. Gentrification, deindustrialization, tertiarisation and functional fragmentation have the most essential importance for development of the metropolitan city. During the last decade, transformation of public spaces in Kyiv was significant and characterized by their commercialization, sacralization and increasing role of indoor public spaces (malls). Issues of brownfields revitalization and formation of new business center (Kyiv-City) broadly discussed, but require strategic and practical implementation. Is the implementation of mega-projects evidence of globalization of the city? What the global events (Euro Cup-2012 in particular) give to Kyiv? These and other questions will be discussed as well. Modern tendencies of metropolitan area development are construction of the gated communities (cottage settlements), multi-storey blocks for commuters in satellite towns, development of the logistics centers and complexes, new plants construction (especially in food industry and building materials production).*

Мезенцев К.В., Клюйко Т.І. **Просторові процеси у Київському метрополітенському регіоні: глобалізація чи пострадянська трансформація**. *Процеси трансформації у Київському метрополітенському регіоні (КМР), викликані глобалізацією і пострадянськими змінами, взаємнакладаються. Різні частини КМР мають різний ступінь впливу глобалізації та інтенсивності процесів трансформації. Джентрифікація, деіндустріалізація, терціаризація і функціональна фрагментація мають найбільше значення для сучасного розвитку міста. Протягом останнього десятиліття трансформація публічних просторів в Києві була значною і характеризувалася їх комерціалізацією, сакралізацією та підвищенням ролі «закритих» публічних просторів (молів). Проблеми ревіталізації забруднених індустріальних територій та формування нового ділового центру (Київ-Сіті) широко обговорюються, але вимагають стратегічного та практичного вирішення. Чи є реалізація мега-проектів свідченням глобалізації міста? Що глобальні події (зокрема проведення Євро-2012) дають Києву? Ці та інші питання розглядаються в статті. Сучасними тенденціями розвитку метрополітенської території є будівництво закритих поселень (котеджних містечок), багатоповерхових житлових будинків у містах-супутниках для потреб працюючих у Києві, розвиток логістичних центрів і комплексів, будівництво нових промислових підприємств (насамперед, в галузях харчової промисловості і виробництва будівельних матеріалів).*

In the context of the chosen topic we can distinguish two aspects of urban research: (i) studies of the transformation of city and metropolitan area (primarily due to the globalization and post-Soviet changes) and (ii) studies of integration of the city into the global network. In this paper the main emphasis is on the first aspect – the analysis of transformation processes in Kyiv Metropolitan Region (KMR), however, it's clear that we should take into account the consequences of the process of the integration into the global network, causing structural and functional changes. Different parts of KMR have a different degree of globalization impact and intensity of the transformation processes.

Metropolitan city. Gentrification, deindustrialization, tertiarisation and functional fragmentation have the most essential importance for development of the Kyiv city. In the last decade due to the lack of a clear spatial development strategy of Kyiv chaotic construction in all free areas in the city exists (in the central zone as well as in the semi-peripheral and peripheral neighborhoods). The economic crisis resulted in a temporary reduction in construction in 2009-2010 (e.g. 347 sq. m of housing per 1,000 residents in 2009 and 368 sq. m in 2010 in compare with 528 sq. m in 2008), which resumed in 2011 (533 sq. m). Building density in the central historical part of city is growing. The maximum of the nighttime population density is observed in the nearest middle zone (fig. 1).

Verticalization is a typical process for Kyiv: new skyscrapers emerged in CBD and inner city (housing complex 'Klovsky descent 7a' /168 m/, business centers 'Gulliver' /141 m/, 'Sail' /131 m/), or additional floors on the old buildings are constructed (including the historical buildings, which consequently lose their historical value). At the same time, some buildings are destroying, public gardens and parks are cutting down to free land for new buildings construction.

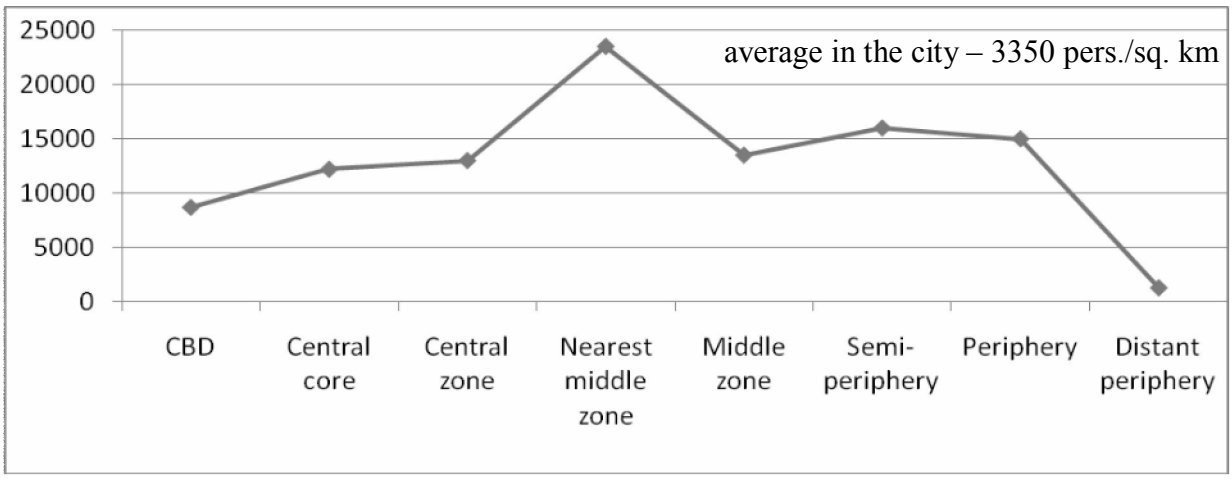

Figure 1 – Nighttime population density in Kyiv neighborhoods, pers./sq.km (2011) (*Source:* author's calculations)

Process of the central part reconstruction is accompanied by gentrification. During the 2000s population of the city center has changed significantly, in particular due to the replacement of the top managers by ones from other regions. Although separate areas with high-income and low-income dwellers certainly

emerge in Kyiv, increase of the social stratification did not cause significant spatial segregation. In particular, ethnic segregation is absent in city.

Transformation in the employment structure of city is essential and results of the deindustrialization and tertiarisation processes. In period from 2001 to 2009 share of services in employment structure in Kyiv increased from 71.6% to 81.6%, while share of industry decreased more essentially (-6.6%). The maximum increase was in trade, hotel and restaurant activities, public administration, and financial services. At the beginning of 2010, 52.7% of FDI into Kyiv was directed in finance activity (for instance at the beginning of 2005 – 23.2%).

Some of industrial areas of former plants in Kyiv are transformed into a shopping and entertainment centers (mall 'Bil'shovyk' on the territory of former plant 'Bil'shovyk'), housing complexes ('Comfort town' on the territory of former plant 'Vulkan'), or fragmented polyfunctional zones (former plant 'Arsenal'). But industrial zones where production stopped, but the revitalization does not occur, still exist (closed shipyard 'Lenin's Smithy' or distillery 'Stolycnyi standard').

Most of the administrative institutions of both state and municipal authorities historically are concentrated in the central part. New office centers emerge also mainly in the CBD and inner city. As a result, the central part is overloaded by administrative and office centers that are randomly embedded in historical buildings, distorting the image of the city. In addition, lack of parking areas results in cars parking on the roadways and sidewalks, creating traffic jams and inconvenience for pedestrians.

As a result of deindustrialization, gentrification and revitalization during the 2000s functional fragmentation became more detailed and mosaic: originally integrated functional zones was dissected into smaller areas with different functions.

During the last decade, transformation of public spaces in Kyiv was significant and characterized by their commercialization, sacralization, separation and increasing importance of indoor public spaces (malls) due to a significant reduction in the role of squares and parks. Commercialization manifests in the location of retail and restaurant establishments on the squares, public gardens, parks territories. If previously public spaces were the recipients of investment and encouragement from the local authorities, in the last decade they have become a source of private profit by sidewalks selling for advertisement placing.

Sacralization of public spaces manifests in new construction or renewal of churches, thus transforming formerly available to all spaces onto spaces for adherents of a particular denomination (sometimes putting in force restrictions on dress, behavior and the like). In 2000s around 70 new churches were built in public gardens, parks, territories of hospitals, universities, near railway stations, markets. More than quarter of them are temporary wooden churches or so called 'churches-tents'.

In the parks, embankments, some streets and lanes gated communities appear. Public access to them is impossible or limited (for example, gated housing complex 'Oasis' at Obolonsky embankment).

Modern trend is development of public centers in the indoor (sometimes underground) public spaces (malls). At the same time squares serve as places of

communication, territorial identity and recreation in less degree. Malls in Kyiv appeared in 2001 during the reconstruction of streets and squares in the central part. Now about 20 malls are located mainly ring around central zone due to the lower land prices in peripheral areas, lower level of building density and lower concentrations of various institutions, organizations and businesses that provide services in compare with central part. Malls localization on the outskirts of the city is mainly dependent on higher level of transport accessibility; therefore most of them are located near transport communications.

Realization of mega-projects and host of the global events is the important marker of city globalization. Final stage of the UEFA Cup 2012 that was held in Kyiv stimulated the development of sports and transport infrastructure – reconstruction of Olympic stadium (2008-2011), construction of new metro stations (10 in 2000s), reconstruction of the fast tram (2010) and development of city train (2011), construction of new terminals at Boryspil International Airport (terminal F in 2009-2011 and terminal D in 2008-2012). However, for instance, launching of the city train hasn't significantly changed the functioning capacity of the city highways because it's inconvenient to communicate with other modes of transport, inconvenient by speed and traffic, and consequently, is unprofitable. In order to improve the accessibility of the airport state authorities carry out in practice the national project 'Air Express', which will provide an electric train connection line between airport and main railway station.

Other 'mega-projects' in Kyiv are the new Podilsko-Voskresensky bridge (1993-2013?) and new business district Kyiv-City. In order to release the center from business and administrative functions various place options are offered for a new downtown. In 2005 such project was proposed on Rybal'sky peninsula (so called Fisher's island) instead of industrial zone and residential area, but the project failed to realize firstly because of failing to take into account the transport accessibility of the peninsula. Presently, there are several options for Kyiv City location, most likely of which are Northern Osokorky (on the left bank of the Dnieper instead of private small villas) and Lower Telychka (on the right bank of the Dnieper instead of an industrial area). The most difficult point in both projects is to free the areas from private buildings or industrial plants.

Another line of transformations is development of the exhibition infrastructure. Kyiv has the most of exhibition centers in Ukraine, both in number and in size, although the city is behind the leading European exhibition centers. Half of all exhibitions and three-quarters of the international exhibitions in Ukraine are held in Kyiv.

Metropolitan Area. Modern tendencies of metropolitan area development are construction of the gated communities (cottage settlements), multi-storey blocks for commuters in satellite towns, development of the logistics centers and complexes, new plants construction (especially in food industry and building materials production).

KMR has a belt-sector structure. Analysis of the accessibility of Kyiv from the surrounding settlements with regular bus and train routes allows delimitating belts of one, two and three hours accessibility to local bus and railway stations of the city.

Every belt can be divided into seven sectors, which were formed along major transport routes, each of which is characterized by specific development of the transformation processes.

Over the last decade (from 2001 to 2010) a slight increase of urban population was observed only within the first belt (2.4%). Urban population of the second belt fell by 2.1%; of the third one fell by 3.0%. Rates of rural population declining are significantly higher: 12.2% within the first belt, 15.3% within the second belt, and 14.4% within the third belt.

Two towns with over 50 thousand inhabitants (Brovary and Boryspil) are located within the first belt and have population growth. Among 9 towns with over 20 thousand inhabitants five settlements experience increase of population number and four – decrease. All towns with population growth have high transport accessibility and, consequently, significant share of their population commute to Kyiv. Among 5 towns with up to 20 thousand inhabitant only one settlement experience increase of population number (Ukrainka, which specialization is determined by Trypil'ska thermal power station). The number of population of the overwhelming majority of 'urban-type settlements' (a transitional form of settlements between town and village – 'small town' or 'urban village') decreases.

An important indicator of the metropolitan area development is dynamics of putting into service of housing. The area with the high intensity of residential construction over the past 5 years (average annual value more than 300 sq. m per 1,000 inhabitants, and in two districts – more than 1000 sq. m) coincides with the area of the first belt of KMR (Fig. 2). Meanwhile all other areas of KMR have low intensity of residential construction (less than 100 sq. m in the majority of districts), especially in the north and northeast, where the highest rate of depopulation. The above mentioned processes show growing social polarization of settlements within the KMR.

Modern tendency is the construction of the cottage settlements ('gated communities') around metropolitan city. Intensification of the cottage settlement construction began in the 1990s, when on the territory of former dachas ('dacha' is the summer house that is seasonally used by city dwellers) gated communities have been organized. A new wave of the city expansion into suburban greenfields started in mid-2000s, and was associated with the developing of new areas, especially along the Dnieper River and the motorway to Zhytomyr. Distance from Kyiv to the new cottage settlements gradually increases. But seasonal use of cottages is rather high. The slowdown of gated communities construction and new projects development was in 2008-2010 as a result of the global financial crisis. Expansion of cottage settlements around Kyiv has areal shape and largely depends on three factors – transport accessibility, availability of natural recreational landscapes (rivers, lakes and forests) and social environment. It should be noted that environmental factors do not affect as limitative.

In the second half of the 2000s logistics centers, complexes and parks were built close by the main motorways on the urban fringes. We can find two areas with the higher concentration of logistic activities: in the western sector along the motorway to Zhytomyr and further to western border of Ukraine (which is also

located closely the cottage settlements) and in the north-eastern and south-eastern sectors along and between the motorways to Chernihiv/Moscow and Kharkiv.

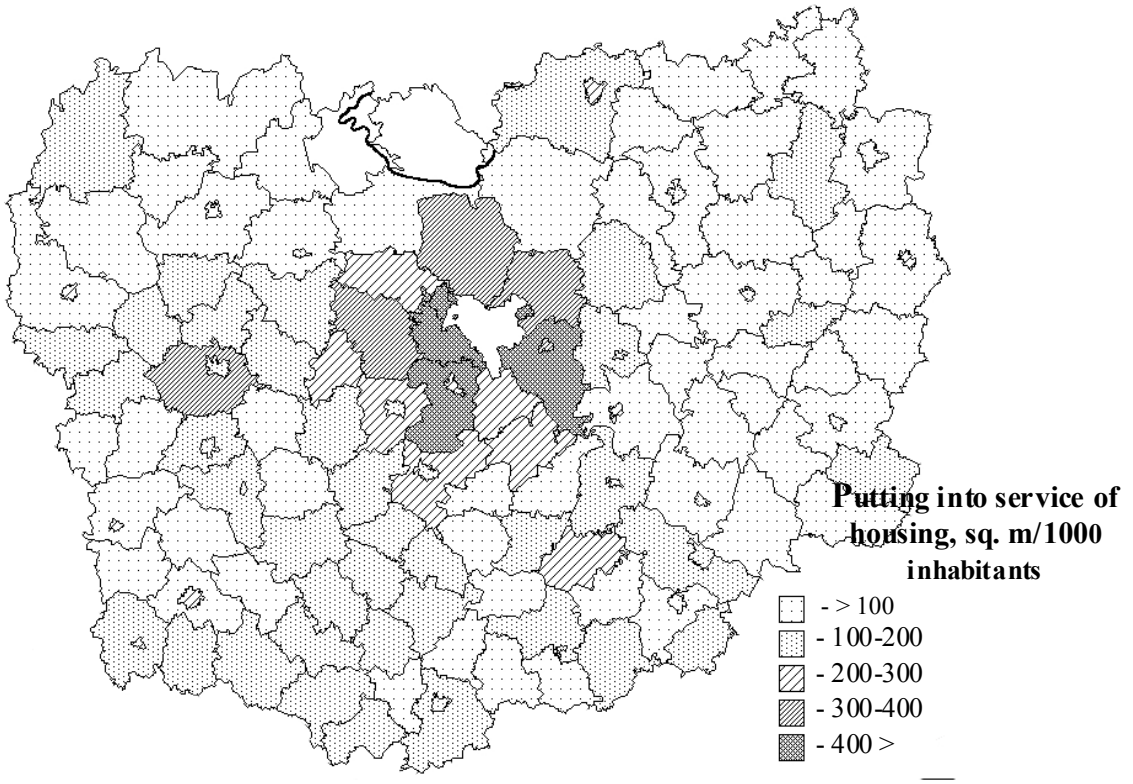

Figure 2 – Average annual putting into service of housing in Kyiv Metropolitan Region in 2005-2009 (*Source:* Statistical Yearbooks of Kyiv, Zhytomyr, Vinnytsa, Chercasy, Poltava, Cherigiv and Sumy regions)

In post-Soviet period in conditions of prolonged economic crisis industrial production in KMR dropped significantly. Some industrial enterprises were liquidated, and other part – temporarily not functioned. During the 2000s, industrial production increased and industrial specialization was changed. In particular, it concerns the development of enterprises in various branches of the food industry, building materials production, chemical, engineering, woodworking, furniture, pulp and paper, and printing industry. However, the share of the high-tech industries is insignificant. Production capacity of the poultry farms around Kyiv significantly increased. Floriculture, cultivation of mushrooms also developed. Industrial production in rural areas essentially expanded. Not only food and building materials production, but also chemical, machinery plants was built in villages not far from Kyiv.

On the whole, Kyiv metropolitan area is characterized by functional fragmentation with combination of industrial, agricultural areas, logistics and storage complexes, cottage residential and recreational zones.

So, transformation processes in Kyiv Metropolitan Region, stimulated by globalization and post-Soviet changes, are overlapping. Uniform transformation processes in Kyiv (as in other cities) are deindustrialization, gentrification of the inner city neighbourhoods, verticalization, development of the new office centres,

hotel chains, exhibition centres, growth of the role of financial services, development of the transportation infrastructure, construction of the malls and logistic complexes in the city outskirts and urban fringes, gated communities in the rural hinterland, functional fragmentation, realization of the mega-projects. At the same time we can see specific processes, such as sacralisation of the public spaces, weak socio-spatial polarization, absence of ethnic or religious polarization.

RETHINKING THE FORM AND FUNCTION OF CITIES IN POST-SOVIET COUNTRIES: A SUMMARY

Souleymane Coulibaly
The World Bank, USA
Scoulibaly2@worldbank.org

Abstract. *Eurasian cities, unique in the global spatial landscape, were part of the world's largest experiment in urban development. The challenges they now face because of their history offer valuable lessons to urban planners and policymakers across the world from places that are still urbanizing to those already urbanized. Today, Eurasian cities must respond to three big changes: the breakup of the Soviet Union, the return of the market as the driving force of society, and the emergence of regional powers such as the European Union, China, and India that are competing with the Russian Federation for markets and influence in its former satellites. Several methods of analysis indicate an imbalance across Eurasia, implying a need to readjust Eurasia's urban structure. National policies in Eurasia are still preoccupied with spatial equity. But the concentration of economic activity in large cities is fundamental to national competitive advantage: they foster innovation through their diversity of industries and reduce production costs through their economies of scale. This paper suggests some ideas on how policymakers can harness the economic power of cities to drive national economic development, by focusing on four themes: planning, connecting, greening, and financing cities.*

Кулібалі С. **Переосмислення форм та функцій міст у пострадянських країнах**. *Євразійські міста, унікальні у глобальному просторовому ландшафті, були частиною найбільшого в світі експерименту в сфері міського розвитку. Виклики, які стоять перед ними внаслідок їх історії, дають цінні уроки для містобудівників та політиків по всьому світу від місць, які ще урбанізуються, до тих, які вже урбанізовані. Сьогодні, Євразійські міста повинні відповісти на три великі зміни: розпад Радянського Союзу, повернення ринку як рушійної сили суспільства, поява регіональних сил, таких як Європейський Союз, Китай чи Індія, які конкурують з Російською Федерацією за ринки і вплив на колишніх сателітів. Кілька методів аналізу вказують на дисбаланс по всій Євразії, що визначає необхідність корегування міської структури Євразії. Національні політики країн Євразії все ще спрямовані на просторову справедливість. Але концентрація економічної діяльності у великих містах має фундаментальне значення для національних конкурентних переваг: вони стимулюють інновації шляхом диверсифікації галузей промисловості і знижують виробничі витрати за рахунок ефекту масштабу. Ця стаття пропонує кілька ідей щодо того, як політики можуть використовувати економічний потенціал міст для забезпечення національного економічного розвитку, фокусуючись на чотирьох темах: планування, зв'язування, «озеленення» та фінансування міст.*

This paper[16] is about new realities of cities in 12 of the 15 Former Soviet Union countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. We call that region Eurasia.

Three major events that happened during the last two decades are fostering profound changes in Eurasia: (1) the breakup of the Soviet Union; (2) the return of market as the main driving force of society; and (3) the emergence of new regional powers such as the EU, China, India and Turkey that are contesting Russia leadership in the region.

One of the legacy of the Soviet era that is most affected by these changes is the form and the function of cities. Indeed Eurasian cities, unique in the global spatial landscape, were part of the world's largest experiment in urban development. To be viable in a market economy, Eurasia's urban structures have to be rethought. The book builds on the insights in the 2009 World Development Report Reshaping Economic Geography to inform this rethinking. It argues that looking ahead policy makers need to promote the changes to make Eurasian cities main drivers of growth.

They can do so by rethinking the form and the function of cities to better plan, connect, green and find new ways to finance the changes needed.

Why cities need to be rethought? More than three-quarters of the built environment in Eurasian cities was developed after 1945 in a centralized fashion. From a spatial point of view it became clear that many Eurasian cities were developed in places where they should not have been, like beyond the permafrost line. To populate sparsely inhabited territory, Soviet planners pushed urban development toward the heart of Siberia. Many of the resulting cities had no rural hinterland to rely on for daily food needs and had to depend on subsidized goods and services.

Since the breakup of the Soviet Union, Eurasian cities are reorganizing. With agglomeration and dispersion forces interacting, some cities are growing while others are shrinking. A diverse portfolio of places is emerging in Russia and Ukraine, while the rest of Eurasia faces a simple consolidation of core-periphery differences between the capital city and the rest of the country. Some regional hubs—Almaty, Astana, Kiev, Minsk, St. Petersburg, and Tashkent—are also emerging, while Moscow seems to be the only Eurasian city with the potential to become a global city like London, New York, Paris or Tokyo.

What does it mean to better plan cities? Planning cities better means promoting policies to develop land and housing markets and improve public service delivery.

For land market, the main legacy of the Soviet Union is the widespread use of prime land for industrial location while market forces would have allocate it for higher return purposes such as Class A Business Districts. Policymakers need to modernize and enforce land use regulations and building codes, lower the costs of

[16] This paper summarizes the World Bank Policy Research Working Papers No. WPS6292 of the same author titled "Rethinking the Form and Function of Cities in Post-Soviet Countries". The references of this working paper are reported at the end. The findings reported in this paper are those of the author alone, and should not be attributed to the World Bank, its executive director, or the countries they represent.

land transactions, use public infrastructure development to guide land development strategically and sustainably, and build the institutional capacity to redevelop brownfields.

For housing market, the main legacy of the Soviet Union is a homeownership rate too high the level of development of Eurasian countries. Policymakers need to unlock rental markets, revitalize homeowner associations, create and enforce rules for using public spaces, and lower the costs of property transactions, such as buying an apartment block.

For public service infrastructure, the main legacy of the Soviet Union is the amenities vacuum due to cities initially built for narrow purposes such as hosting the workers of a large plant. Policymakers need to continually upgrade and maintain utility networks, adjust tariffs to ensure system sustainability, encourage and enable interjurisdictional cooperation to provide such services as regional sewage and water management systems, and maintain and extend public transit networks.

What does it mean to better connect cities? Connecting better cities means pursuing in parallel intra-urban, regional and international connectivity according to the city's prospects on domestic, regional and global markets.

To foster interurban connectivity, policymakers need to upgrade the transit system in large cities, improve the energy-efficiency of private vehicles by introducing market prices for gasoline, introduce or adjust gasoline taxes where needed, and encourage walking and biking through the redesign of city centers.

To foster regional connectivity, policy makers need to leverage the hub function of Moscow on air and rail connectivity to substantially reduce the cost of transporting goods and people across and beyond Eurasia. And they need to reinforce the connectivity of emerging regional hubs by developing the institutional framework to support road transport and ensure smooth cross-country connections.

To foster international connectivity, policy makers need to anchor Eurasian cities in the digital era by participating in regional and global information and communications technology (ICT) initiatives. Indeed, a seamless ICT infrastructure is essential to promote economic and social connectivity. Regionalization contributes towards the creation of seamless infrastructure. And regionalization creates opportunities for trade, investment, industrialization.

What does it mean to green cities? Greening Eurasian cities means ensuring their sustainable development through strong markets and institutions that encourage the efficient use of resources, address pollution and build livable cities.

To use resources efficiently, policymakers need to put in place adaptation and mitigation measures. Policymakers need to scale up interventions to address immediate pollution problems. They need to promote the planning of greener cities in new developments and brownfield redevelopments, which will help Eurasian cities in the global competition for investments and skilled labor.

Cities offering a high quality of life—through better air and water quality, less congestion, more green space, and other amenities—will be better positioned to attract skilled workers and innovative firms.

How to finance these changes needed? By reforming sub-national finances and exploring new ways to finance cross-country connectivity.

On subnational finance, policymakers first need to improve the technical and economic efficiency of public utilities. Only then will it make sense to explore ways of making people who benefit from public service infrastructure pay by increasing taxes. This could include increasing personal income tax rates in big cities; taxing agglomeration rents; improving the administration of property tax; and increasing tariffs and fees through enforcing the payment of housing maintenance fees, raising water tariffs, expanding metering, and raising public transport tariffs to at least cost-recovery levels.

On the cross-country connectivity side, several Eurasian countries have been encouraging more private sector investment in transport and other infrastructure investments, reflecting the global trend that started in the 1990s. But private sector investments have been limited because the financing of cross-country infrastructure is affected by externalities and coordination failures. Depending on the public good, policymakers could consider different means of financing: purely private (some telecom infrastructure is commercially viable); public-private partnerships using, say, tolls to partly recover costs; richer/leading countries' subsidies of infrastructure for poorer countries if this reinforces network externalities in their own country; contributions from a reputable regional development bank, leveraged with funds raised on international markets.

With these reforms, when a new "Silk Road" emerges, it will be biaxial: along the North-South axe connecting Russia and India through Eurasia; along the East-West axe connecting China and the EU through Eurasia. Policymakers need to promote changes that will make Eurasian cities the main drivers of growth along this new Silk Road.

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ВОЗМОЖНОСТИ И БАРЬЕРЫ ПРОСТРАНСТВЕННОГО РАЗВИТИЯ РЕГИОНАЛЬНОЙ МЕТРОПОЛИИ: ГЛОБАЛЬНЫЙ КОНТЕКСТ И ЛОКАЛЬНАЯ СПЕЦИФИКА

Александр Дружинин

Северо-Кавказский НИИ экономических и социальных проблем Южного федерального университета, Ростов-на-Дону, Россия

Abstract. *In over-polarized and re-integrated space of post-Soviet Russia regional metropolises play key role. Their social and economic potential is not equivalent, and privileged positions in the system of territorial organization are selective, based on a fragile economic, demographic and infrastructural "foundation", correspond to the many historically inherited and new problematic situations, deficiencies and risks. Regional metropolis subordinates periphery (the village and "semi-rural" small and medium-sized towns, and also large cities – "failed" metropolis) through agricultural integration, wholesale and retail, direct and portfolio investment, a variety of services (affiliation of service structures, including banks and insurance companies, universities, etc.), development of the "suburban" (rural) recreation, including such spread in Russia its institution as a country "garden" cottage, 'dacha'. Strengthening of the leading urban centres and agglomerations position is accompanied by compression of colonized space, the first of all in rural areas, expansion of peripheral and marginal zones. Following global trends, the space of the largest Russian cities expands as "oily spot" parallel becoming "multi-layered" and fragmentary (due to a variety of multi-level centres, social stratification, unequivalent ability of some layers of city to 'colonization' of urban space, barrier character of the existing administrative boundaries). In a situation of severe gentrification, polycentricity of the 'cores' 'following' behind the new quarters of housing construction, areas of consumption, in particular outside the city proper becomes more tangible, as illustrated by the example of the emerging "Big Rostov".*

Дружинін А.Г. **Можливості та бар'єри просторового розвитку регіональної метрополії: глобальний контекст і локальна специфіка**. *У надполяризованому та рентоорієнтованому просторі пострадянської Росії ключове місце посідають регіональні метрополії. Їх соціально-економічний потенціал є нерівнозначним, а привілейовані позиції в системі територіальної організації суспільства є вибірковими, спираються на хиткий економічний, демографічний та інфраструктурний «фундамент», кореспондують з безліччю історично успадкованих і нових проблемних ситуацій, дефіцитів, ризиків. Регіональна метрополія підпорядковує собі периферію (село і «напівсільські» малі та середні міста, а також великі міста – метрополії, що «не відбулися») через агропромислову інтеграцію, оптову, дрібнооптову і роздрібну торгівлю, прямі і портфельні інвестиції, різноманітні послуги (філіалізацію сервісних структур, включаючи банки та страхові компанії, вищі навчальні заклади та ін.), розвиток «приміської» (сільської) рекреації, включаючи такий поширений в Росії її інститут як заміський «сад», дача. Посилення позицій провідних міських центрів і агломерацій супроводжується стисненням освоєного простору, в першу чергу сільського, розширенням периферії і маргінальних зон. Наслідуючи глобальні тренди, простір найбільших російських міст розростається за принципом «маслянистої плями», паралельно стаючи «багатошаровим» і фрагментарним (завдяки різноманіттю різнорівневих центрів, соціальної стратифікації, нерівнозначної спроможності окремих верств городян до «освоєння» урбаністичного простору, бар'єрності існуючих адміністративних кордонів). У ситуації вираженої джентрифікації все відчутніше проявляється поліцентризм «наступних» за масивами нового житлового будівництва «ядер», ареалів споживання, в тому числі таких, які розміщуються поза міськими територіями, що ілюструє приклад несформованого «Великого Ростова».*

В сверхполяризованном и рентоориентированном пространстве постсоветской России ключевое место занимают центры субъектов Федерации или (если следовать всё более укореняющейся в терминологической практике новации [1-4]) – региональные метрополии, в совокупности концентрирующие 50,3 % городского населения страны. В них стабилен (либо развивается) рынок труда; заработная плата в подавляющей части региональных центров на 20-40 % выше, чем средний её уровень по «своему» региону; ввод жилья на одного жителя, как правило, в 2-3 раза превышает показатели по остальной территории. В силу позиционных, демографических, структурных, институциональных, имиджевых и иных обстоятельств социально-экономический потенциал отдельных региональных метрополий, тем не менее, неравнозначен. И дело не только в «массе» (из 84 региональных метрополий России лишь 34 насчитывают более 500 тыс. жителей), но и в «качестве» города, его экономики. Статус «регионального центра», при этом, сам по себе не избавляет ни от социально-экономического застоя, ни от депопуляции, ни от деградации инфраструктуры. В этом отношении показательно, что по итогам 2010 года в 38 региональных метрополиях душевой ввод жилья не превысил минимально приемлемый рубеж для простого воспроизводства жилого фонда (0,5 кв. м). И только в 19 региональных центрах (включая два города-миллионера – Ростов-на-Дону и Екатеринбург) достигнутый объём жилищного строительства (более 0,7 кв. м на одного жителя в год) индицирует поступательную социально-экономическую динамику, реальную (хотя и не лишённую проблем) модификацию городского пространства.

В 1990-е годы мейнстримом кризисных тенденций стала деиндустриализация и последовавшее за ней резкое снижение жизненного уровня (и потребительского спроса) основной части городского населения. Новая регионализация России (обретшая более-менее чёткие формы к концу 1990-х гг.) инициировала стратификацию региональных центров по позиционным и иным возможностям их дальнейшего (в том числе пространственного) развития. Одни метрополии оказались в зоне интенсивной депопуляции (регионы российского севера и северо-востока). Иные (в Центральной России, на Северном Кавказе) – напрямую столкнулись с проблемой несоответствия собственного масштаба (зачастую ориентированного ранее на межрегиональные, общесоюзные функции) и ресурсного потенциала «подпитывающей» их территории, а также с усиливающейся конкуренцией других региональных центров, «перетягивающих» к себе инвестиционные, трудовые и иные ресурсы. Большинство региональных метрополий оказались, при этом, вне новых доминирующих осей и полюсов развития, «центров прибыли», важнейших товарно-логистических и финансовых потоков. Нарастающая поляризованность российского социально-экономического пространства (приобретшая к началу 2000-х годов сложившиеся, гипертрофированные черты), а также разворачивающаяся экспансия крупного бизнеса в регионы ознаменовали собой частичную «деметрополизацию» региональных метрополий (фактическую утрату ими контроля над собственными ресурсами,

активами, источниками роста) и, в итоге, – несамостоятельное социально-экономическое развитие (в надежде на повышенное внимание федеральной власти и крупных корпораций, особый статус, финансово-инвестиционные и имиджевые дивиденды нечастых мегасобытий).

Трансформационный кризис региональных метрополий (лишивший крупнейшие города их доминирующей ранее индустриальной миссии) в 2000-е годы оказался (в основной массе ситуаций) дополнен кризисом аутсайдерской, зависимой позиции. Доминанта инорегиональных корпораций и превалирование финансовой сферы над реальным сектором обнажили дистанцию между отчуждаемым результатом экономической активности и возможностью воспроизводства «человеческого капитала», инфраструктуры, природной среды, а также благоприятствовали дальнейшему «проматыванию» накопленного ещё в советский период, но в последующем недоиспользуемого (и «недофинансируемого») инфраструктурного, кадрового и интеллектуального потенциала ведущих городских центров. К примеру, даже в сравнительно «благополучном» Ростове-на-Дону современные (1 % в год) темпы обновления городских сетей (водоснабжение, канализация) позволяют обеспечить необходимое их воспроизводство только через сто лет; очевидно, что это равносильно отсроченной на время самоликвидации базовых элементов городской инфраструктуры.

Как свидетельствует мировой опыт, преодоление последствий деиндустриализации, сохранение позиций ведущих городов как приоритетных экономических центров – не только необходимо, но и теоретически возможно на основе обновления основных фондов в реальном секторе, укоренения «новой экономики», основывающейся на знании, инновациях, сервисе[5-11]. Для большинства же региональных метрополий Российской Федерации, несмотря на внешние проявления терциаризации (так, к примеру, в г. Ростове-на-Дону только за 1995-2005 гг. в третичной сфере было создано не менее 150 тыс. новых рабочих мест [12], что эквивалентно трети городского рынка труда), полноценная, конкурентоспособная (нацеленная, в том числе, на внешние рынки) постиндустриальная экономика продолжает оставаться преимущественно стратегической целью, отчасти –иллюзией. Сервис развивается, но он ориентирован не столько на производство, сколько на потребление, причём, преимущественно, внутреннее, в лучшем случае – в пределах метрополии, зоны её непосредственного влияния. И лишь немногие крупнейшие города реально выполняют межрегиональные функции (в частности, в сфере образования – Москва, Санкт-Петербург, Новосибирск, Самара, Томск, Екатеринбург, Ростов-на-Дону, Воронеж, Нижний Новгород, Красноярск [13]). Параллельно нарастает противоречие между стагнирующей (в ряде случаев и деградирующей) градообразующей базой метрополий и завышенными социальными ожиданиями локализованных в них горожан, в том числе и «новых» (до 20 % современного населения Ростова-на-Дону мигрировали в город уже в постсоветский период; в Москве таковых – до 40 %; в урбанистические центры в 1990-е гг. переселился каждый пятый обитатель сельской местности республик Северного Кавказа и т.п.).

Ещё сложнее и медленнее (в жёсткой конкуренции с зарубежьем, с другими крупными городами России, с иными сферами хозяйственной активности, с собственными пригородами) в региональных метрополиях протекает реиндустриализация. В настоящее время лишь в десяти региональных центрах (Санкт-Петербурге, Омске, Челябинске, Перми, Уфе, Туле, Калининграде, Калуге, Липецке и Великом Новгороде) душевой объём производства продукции обрабатывающих производств выше среднего по России. Позитив «возвращения» промышленности в крупные города (в том числе и «столичные») зачастую вступает в противоречие с усиливающимся дефицитом территорий, а также, естественно, дополнительными экологическими рисками. Основу же современной градообразующей базы всех без исключения крупных городских центров, при этом, в существенной мере составляет перераспределяемая в форме межтерриториальных трансфертов (бюджетных, корпоративных, внутрисемейных) природно-ресурсная рента.

Для всех региональных метрополий России в настоящее время характерны выраженные экономико-институциональные барьеры дальнейшего территориального развития. Городские территории (и, в целом, недвижимость) обрели ипостась гигантских инвестиционных «пирамид», чьё необходимое для развития метрополии расширенное воспроизводство поддерживается не только устойчивым притоком составляющих спроса (люди, их труд, финансовые инвестиции, городские товары и услуги и др.), но и предложения (территории для дальнейшего освоения, поглощения, капитализации, приватизации).

Превращение размещения в городском центре в элемент престижного потребления инициирует и стимулирует джентрификацию. Одновременно наблюдается пространственная экспансия периферийной многоэтажной застройки, дополняемая формированием в её массиве крупных торгово-сервисных и культурно-досуговых ареалов и зон, а также всё более заметный «выплеск» за границы доминирующего города не только промышленных активов, но и торговли, логистики, жилищного строительства. В данном контексте возрастает интерес к «поглощению» городом-метрополией сопредельных территорий (например, находящийся в стадии реализации проект «Большой Москвы», обсуждаемые – «Большого Екатеринбурга», «Большого Ростова» и др.). Соответствующим образом растут радиусы ежедневных трудовых поездок. Пространство региональной метрополии, в итоге, «расширяется», параллельно становясь «многослойным» (за счёт взаимодействия метрополий, «взаимонапластовывания» ареалов их влияния) и, вместе с тем, фрагментарным (благодаря многообразию разноуровневых центров, социальной стратификации, барьерности существующих административных рубежей).

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METROPOLITAN REGIONS IN LITHUANIA – TRENDS OF SOVIET URBAN SYSTEM TRANSFORMATION

Donatas Burneika[1], Ruta Ubareviciene[1,2]

[1]Lithuanian Social Research Centre, Vilnius, Lithuania; [2]Delft University of Technology, Nedherllands

donatas.geo@gmail.com; ruta.ubareviciene@gmail.com

Abstract. *Lithuanian urban network was strongly affected by the soviet central planning system and the state remains the only small country without clear dominance of one city in western world. Quite balanced settlement system and relatively even urban spaces are under change now. The resistance and transformation of such artificial network in free market economy, decrease of one areas and metropolization of another is the main object of this paper.*

Бурнейка Д. **Метрополітенські регіони у Литві – тренди трансформації радянської урбосистеми**. *Литовська міська мережа суттєво постраждала від радянської системи централізованого планування, держава залишається лише маленькою країною без чіткого домінування одного міста в західному світі. Досить збалансована система розселення і відносно рівномірні міські простори нині змінюються. Супротив та трансформація такої штучної мережі у вільну ринкову економіку, занепад одних територій і метрополізація інших є головним об'єктом даної статті.*

Introduction. The general trends of the post-communist transformations are quite similar in the Eastern European countries. One could hardly deny that different societies tend to create different spaces, thus the transformation from quite even socialist country into highly fragmented liberally organised capitalist one should result in certain spatial consequences. However, these changes do not happen in an empty space. In many cases this means conflict between old and new socio-spatial structures. The older one tends to resist the changes causing both positive and negative consequences. It can reduce or facilitate the growth of the regional differences at the country level or prevent fragmentation and ghetto formation inside the cities. It can also paralyse development of the economy in the certain spaces or block conversion of "grey" Soviet spaces into more pleasant ones. The different background can cause significantly different outcomes of the same processes in various countries.

The aim of this paper is to reveal the main trends of the transformations of the Lithuanian urban network, which were taking place during the last decades of unstable economic growth. The urban network of the country was centrally planned and a balanced urban system was created during the Soviet period. It means that instead of the clear dominance of a capital city (in terms of population and economy) a well-developed network of regional and sub-regional centres was established in Lithuania. This is the opposite to what is found in many Western European capitalist countries of the same size. According to the simple logic and having in mind widespread trends of concentration and metropolisation in the world, guided by liberal economic policies, the situation in Lithuania is subject to change. Lithuanian cities, planned for the socialist economy and "even" communist society, should reorganise themselves into capitalistic ones with fragmented economic and residential spaces. It is yet difficult to predict how the inherited Soviet structures will withstand these pressures in the future. We have tried to explore the main trends of these processes in order to make some assumptions of the further development of the urban system in Lithuania.

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Transformations of inherited urban network. Economic development of Lithuania experienced a lot of disturbances during the last two decades. Recessions that appeared prior to 2008 have resulted in huge misbalances of economy between different regions (Burneika, 2007). This resulted in different trends of growth and decline of various urban areas across the country. We suggest that these misbalances of the development are the result of the previous management of urban network, at least to some extent.

Lithuanian settlement structure was influenced to the extent like no other country in post-Soviet Europe. The Soviet policy wiped off the majority of granges and small villages concentrating their residents to bigger villages and towns of several hundred residents. In parallel, the prevention of the development of the biggest cities, especially Vilnius, and expansion of medium sized towns into cities,

giving them regional functions were carried out. It was implemented according to the locally modified ideas of W. Christaller. Thus Lithuania became the land of medium towns and cities and it remains the only small and medium sized European country without clear dominance of one metropolitan region. Artificially constrained urbanisation and metropolisation during the Soviet period might be one of the main reasons why the proportion of emigration in Lithuania is the highest among the EU member states. Present process of the rapid decline of the population and its spatial redistribution within the country is a continuation of the artificially constrained and reshaped processes. This led to the reorganization of the whole urban system in Lithuania. Moreover, the bigger cities themselves were planned in such a way that now they mainly consist of vast areas of blocks, where there is no space for development of small scale businesses and other economic activities. Lithuania is still widely perceived as a country of 5 big cities in the local media and it was quite a shock when recent population census found that Panevezys lost its status of big city.

According to the statistics, the shrinkage of medium sized cities was one of the main features of the development of Lithuanian urban network during the last two decades (Statistics Lithuania, 2013). Vilnius city lost 7.6% of its population in 1996-2012, while all other cities lost more than 20% (Lithuanian average - 16%). However, the statistical data shows that the relative population increase of Vilnius city was quite slow compared to the distribution of the population within the country (the share of the residents of Vilnius city increased from 16% in 1996 till 17.8% in 2011 (Statistics Lithuania, 2013)). On the other hand, municipalities surrounding the biggest cities were the only areas gaining population during the analysed period; therefore the real increase in the metropolitan regions was higher.

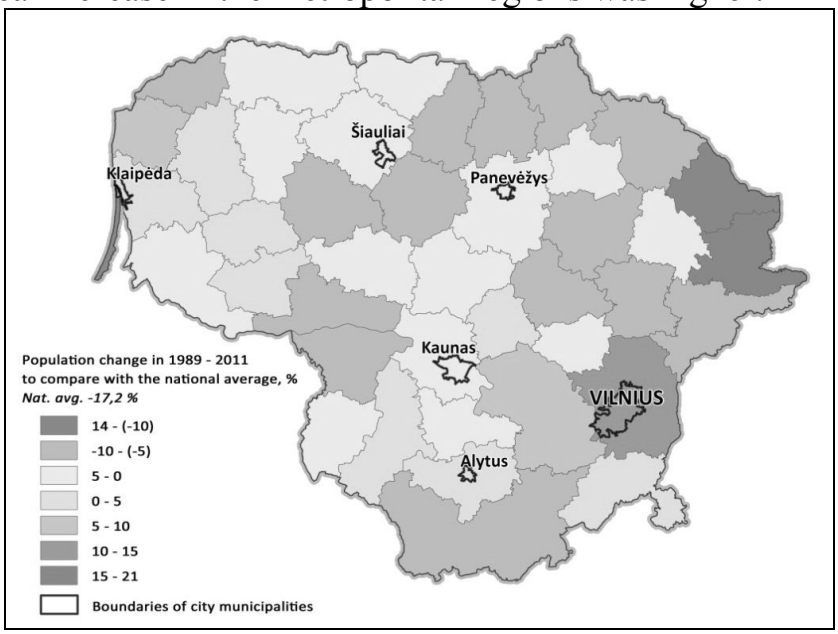

Figure 1 – Differences of trends of population change in municipalities in 1989-2011 (According to the Lithuanian census data)

The hidden internal migration. The trend of the population concentration is obvious, but the pace of this process is under question. Moreover, the reliability of

statistical data might also be questioned. Many residents actually living in the cities officially declare different place of residence. It can be illustrated by the secondary data. The redistribution of gathered income tax of physical persons, which is carried out according to the declared place of residence, shows that 76 thousands or some 28% of Vilnius's tax payers officially live in other municipalities (for comparison, it is approximately the total number of employees in Klaipeda) (Fig. 2). Therefore, one could estimate that the real number of population in Vilnius is bigger by at least some 100 thousand residents (or even more, having in mind students and other non-tax payers). Hidden metropolization is also common for Kaunas and Klaipeda, though the extent is much lesser.

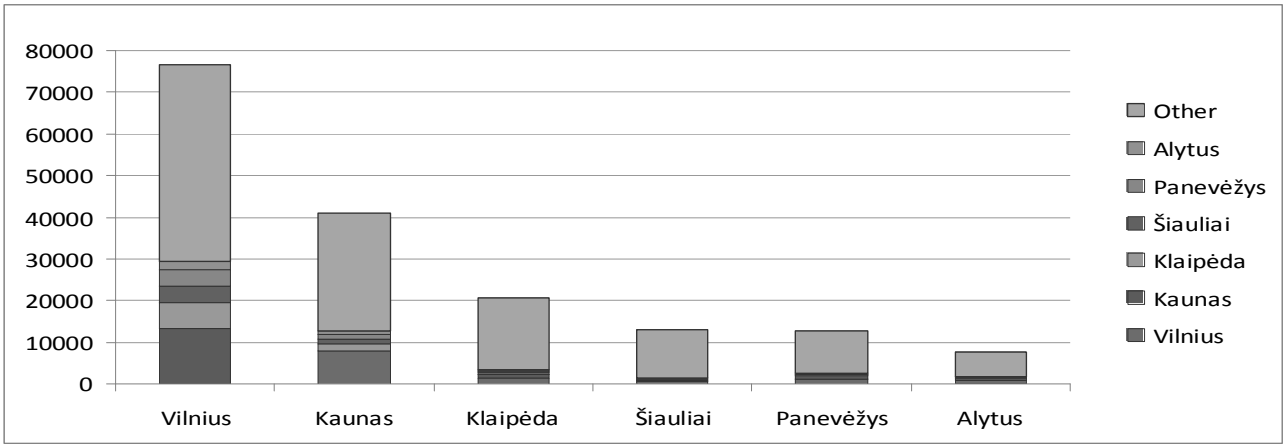

Figure 2 – Approximate number of employees in the biggest cities officially residing in other municipalities in 2012. (According to State Tax Inspectorate, 2013)

The data on the redistribution of income tax could illustrate the spatial pattern of recent migrations inside Lithuania, while no other data on this phenomenon is available. This could also be an indicator of ongoing processes of concentration and metropolization as well as shrinkage of peripheral settlements. Although data illustrates both commuting flows and longer migrations and does not indicate accurate numbers, the general trends are obvious. It is clearly seen that Vilnius city is the destination for migrants from all over the country. Meantime, Kaunas and Klaipeda plays important role in the middle and western parts of the country. Other cities have only small regional impact (Fig. 3).

The metropolization of economy One of the main drivers of described trends is obviously related to the differences of economic development. The degree of metropolization of the economy of the country is much higher, what once again confirms the hypothesis that social and economical phenomena changes much faster than the space. More than 45% of the total income tax of Lithuania is gathered in Vilnius city, while officially city has 17,8% of country population (Fig. 4). Kaunas city, which at present (statistically) is home for 10% of Lithuanians, gathers 3 times less income tax than Vilnius. Similar proportion is common for Klaipeda, while other cities gather less tax per capita than is Lithuanian average (Statistics Lithuania, 2013; State Tax Inspectorate, 2013). The disproportion in gathered profit tax is even bigger. One could expect that metropolization will continue in the future, because

cities offer very different opportunities for people. Lithuania has already become country of 3 big cities instead of 5, as is still being perceived in media.

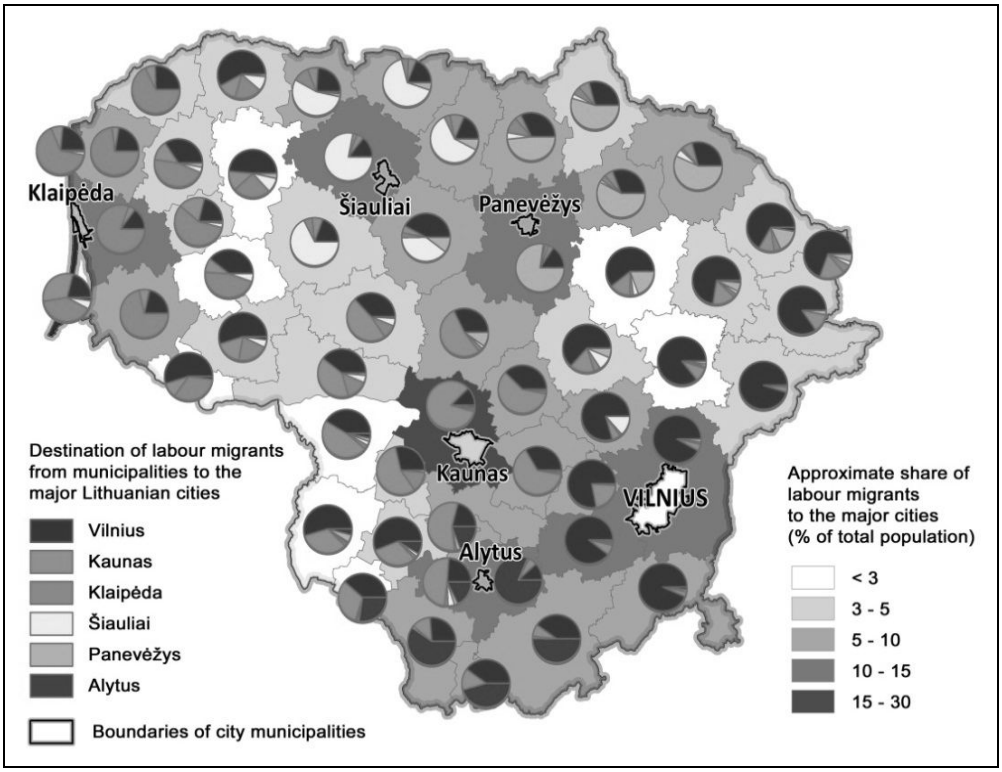

Figure 3 – The detination of labour migrations to the city municipalities (according to State Tax Inspectorate, 2013).

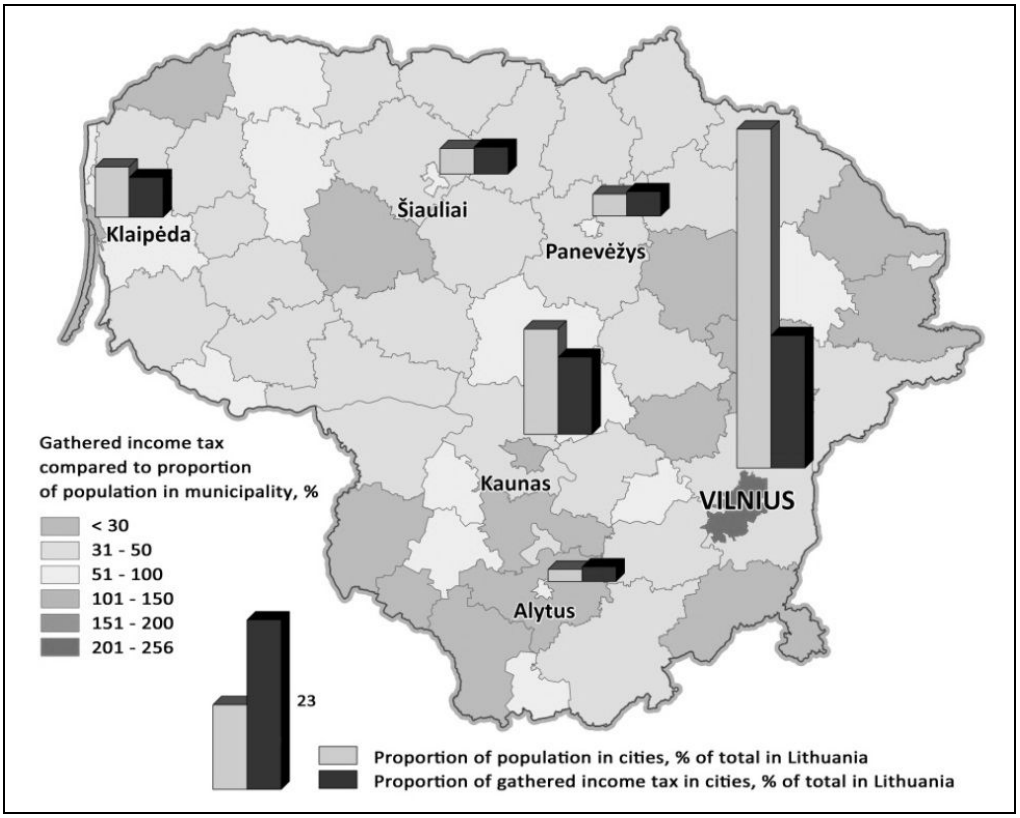

Figure 4 – Gathered income tax and proportion of population in municipalities (Lithuanian tax inspection, 2013; Statistics Lithuania 2013)

Transformations of the inner urban space is another, even more complex, phenomenon happening in the post-Soviet cities. Preliminary analysis shows, that urban structure of post-Soviet city of Vilnius has relatively high degree of resistance to ongoing transformations of economy and society. In general, trends of the transformations in the Vilnius urban region mostly correspond to those in other capital cities of the post-communist Europe (Gentile, Tammaru, van Kempen, 2012; Bachler, Downs, 1999; Smith, Timar, 2010; Boren, Gentile, 2007). Industrial areas in the central part and derelict or empty areas have been transformed very fast, while residential (especially Soviet planned) neighbourhoods demonstrated a strong resistance to the change of any kind.

The sprawl of Vilnius city was the most characteristic feature of ongoing transformations, which finally resulted in the formation of the wider Vilnius urban region (Ubareviciene, Burneika, Kriauciunas, 2011). The transformation of "even" Soviet urban city into "fragmented" capitalistic one is more hideous process. Growing social differences and fragmentation of the society redistribute population inside the cities. However, due to the lack of reliable statistical data, the degree and particular pattern of these processes are not clear in Vilnius. Such phenomena like rise of gated communities (Krupickaite, Pociute, 2008) can be regarded as a typical example of segregation of urban space. However it seems that inherited structure of the city plays crucial role in keeping the city less segregated than most Western cities are. Generally one could speak about some isolated atolls of social exclusion (e.g. in former factory workers' hostels, which are scattered all around the city) or gated wealth, instead of wider seas of poverty or prosperity inside the city.

Conclusions. The present trends show that Lithuania will have one even more dominant metropolitan region in the nearest future and difference in number of residents between two biggest city regions will be counted by times instead of percents. However the pace of ongoing processes will not be fast. Inherited urban structure with peripheral position of capital city, which is not a sea port, like in all other small seaside countries, suggest that metropolization in Lithuania will not reach the degree of other countries of the Baltic sea region and remaining Europe. The difference of ongoing socio-economic changes and transformations of settlement structure will cause various social, economic and psychological tensions in Lithuania. Such a situation and inherited polycentrism of the country will cause bigger emigration flows than in the other post-socialist countries. Therefore the trends of the metropolisation will be expressed more via shrinkage of secondary cities than by expansion of capital city-region. Having in mind prevailing opinion of the majority of the population and the policy of ruling parties, which mostly rely on the support from the smaller cities and towns in periphery, it would be hard to predict that principles of the management of regional development of the country, oriented to support peripheral centres, will be revised. Any attempts to prevent metropolisation by seeking to keep population in medium cities and towns will fail or will further facilitate even stronger emigration flows from the country. The management of the urban network should be based on the idea of solidarity and unity, but not on the uniform settlement network of the country.

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TERRITORIAL COHESION OF A METROPOLITAN AREA – MEASUREMENT METHODS (THE CASE OF LODZ METROPOLITAN AREA)

Bartosz Bartosiewicz
University of Lodz, Lodz, Poland
b.bartosiewicz@geo.uni.lodz.pl

Abstract. *The paper presents a pattern of conduct and research tools that make it possible to determine most precisely and objectively the degree of territorial cohesion of metropolitan area, based on the strength of spatial linkages (e.g.: synthetic measures of transportation, social and ecologic linkages, as well as local spatial policies compliance and socio-economic situation) that exist between the core and the hinterland.*

Бартосевич Б., Боровська-Стефанська М. **Малі міста Центральної Європи: 20 років після трансформації у контексті функціонального та просторового розвитку**. *У статті представлено алгоритм проведення та засоби дослідження, що дозволяють найбільш точно і об'єктивно визначити ступінь територіальної єдності метрополітенського регіону, ґрунтуючись на силі просторових зв'язків (наприклад, синтетичні засоби перевезення, соціальні та екологічні зв'язки, а також місцева просторова політика відповідності, соціально-економічна ситуація), які існують між ядром і хінтерландом.*

Introduction. Choosing or establishing a territorial cohesion measurement method comes up against many problems, the most serious of which is the lack of agreement as regards terminology. With no precise, generally accepted definition of territorial cohesion, there have appeared numerous study approaches, depending first of all on the conception assumed by individual authors; one may take a scalar or vector approach to the study of cohesion. The literature of the subject presents mostly the former approach, not only because it is generally considered to be the prevailing one, but also due to an easier access to the descriptions of the phenomena and processes occurring in territorial units, systematically collected by specially constituted institutions (territorial administration offices, national statistical offices, the UN, World Bank). As regards the study of territorial cohesion based on relations (their types, range and strength), the data mostly comes from individual research projects. Considering its limited time and spatial range, it does not warrant conducting a full study on the chosen scale.

Internationally, the study of spatial cohesion has been conducted on a large scale for many years, under the auspices of the European Union. It is supposed to help identify regional disparities and optimize the activities which aim at eliminating them. A search for a universal, easy to interpret synthetic indicator – the European Spatial Cohesion Index (ETCI) was conducted within the framework of ESPON [Pielesiak 2012]. The project included the data concerning competitiveness, social cohesion and sustainable development; it was to be modeled on the Human Development Index (HDI). The ETCI was to be relatively simple, correctly constructed from the scientific point of view, and at the same time potentially usable in the development policy. In reality, these assumptions proved to be difficult to reconcile. The main obstruction in the project was the lack of statistical data, especially as regarded the regional level (the relatively easiest to obtain was the information regarding the economy) [*Spatial Scenarios* … 2004, 2005, 2006]. Another problem was the fact that the index was sensitive to manipulation [Farrugia, Gallina 2008; Prezioso 2008].

Another territorial cohesion measurement method, different as regards the range of the studied phenomena, but also applied on the macro-scale, was presented by Farrugia and Gallina [2008]. In their studies, they took into account the descriptions of the transport system, energy networks, telecommunications, education, health care system, and other significant services, as well as various types of disparities, obtained from the World Bank and United Nations data bases. The algorithm of the cohesion measurement included the normalization of the partial indexes values, the calculation of the mean value for each of the seven main categories, the second normalization putting the value of each of the seven components within the range of <0.1>, and finally constructing the spatial cohesion measure, without grading the individual components.

Polish attempts to devise a territorial cohesion evaluation method are largely a response to the EU policy of strengthening the cohesion of the Member States. A significant work in this field was published by the Ministry of Regional Development in 2009. Its authors suggested considering the endogenous potential of

a given territorial unit, measuring the territorial influence of European Union policies, as well as defining the target value of territorial cohesion indicators.

The territorial cohesion measurement methods presented above refer to the macro-scale and may not be directly applied when we study this phenomenon on the sub-regional scale. At the same time, there is a lack of examples of research, which would be conducted in this particular way. As regards Polish studies of territorial cohesion in the sub-regional aspect, it is worth mentioning the significance of the project developed at the Poznan geographical centre [Churski 2009]. The space cohesion measurement on the sub-regional level was conducted taking into consideration the urban settlement system, the transport infrastructure and the flows it generated.

Measurement method. The study of the metropolitan area territorial cohesion is based on the assumption that it is determined by the relations among the basic administrative units (in the case of Poland, they are municipalities). It is also assumed that the measurement method should be universal, and it should be applicable for any metropolitan area, and it should have a module structure, which makes it possible to increase or decrease the number of the studied variables at any time, without constructing a new measure. This allows the researchers to extend the range of study or possibly verify the measurement indicators at each stage.

Based on these assumptions and in accordance with the inductive approach, the first stage of the measurement of territorial cohesion is the analysis of the directions and strength of the intra-metropolitan linkages (focusing on their identification and description). According to the chosen methodology, the analysis includes the following types of linkages: transport linkages (as regards transport infrastructure and the capacity and directions of private and public transport), social links (the scale and directions of commuting to work and services); ecological linkages (defining the continuity of the green corridors of a metropolitan area); spatial linkages (mainly studying the spatial policy coherence in individual units of the local administration of a metropolitan area); linkages resulting from the level of the socio-economic development.

The second stage involves establishing a concise measure for all types of the linkages under study. The method does not have to be the same; it depends on the specific character of the linkage and the preferred research approach.

The last stage, which is at the same time the object of discussion here, is the measurement of territorial cohesion based on the construction of a concise measure of this phenomenon. The author proposes three approaches to the aggregated measurement of territorial cohesion. All of them are based on the results of detailed studies conducted in Lodz Metropolitan Area, the third largest metropolitan area as regards the demographic potential (about 1.2 million inhabitants and 2,500 km^2).

In the first approach, the author used the results of indicators calculated for individual types of linkages (a part of detailed analyses), such as: the spatial coherence indicator, territorial cohesion in the light of the socio-economic situation, and indicators of the social, transport and environmental linkages among municipalities.

The first of the indicators listed above was excluded from further analysis. Spatial policy coherence is a vital factor for the proper functioning of metropolitan areas and should be always taken into account when studying them. However, using this measure in the case of territorial cohesion measurement is not proper. The largest spatial policy coherence is observed in non-invested areas with predominant extensive functions, such as agriculture or forestry (occurring on the edges of metropolitan areas). In urbanized areas, including metropolitan areas, this coherence will usually be the smallest. We cannot assume that the higher or the lower the value of a phenomenon is, the larger or the smaller territorial cohesion a given area shows. It was decided then that this indicator, though very important from the point of view of introducing future spatial development metropolitan policy, does not reflect the scope of the phenomenon under study and should not be included in further study.

When establishing the indicators mentioned above, individual units of a metropolitan area were put into groups, depending on the values of the measures. In all cases, the typology identified municipalities with high or very high values of the indicators. Based on these values, the author divided the municipalities of the Lodz Metropolitan Area into five groups. The first one included those which were considered to be units with strong or very strong linkages, while the last, fifth group included municipalities which were not classified as such even once [Bartosiewicz 2012].

The second approach to studying spatial cohesion involves constructing an aggregated index by means of quantitative (statistical) methods. When constructing this measure, the author used the values of features which were used for establishing the indicators of individual types of linkages. Similarly to the previous approach, the measures concerning spatial policy coherence were excluded. In total, twelve features were taken into account (including three regarding social linkages, four - transport linkages, one – environmental linkages and three referring to the socio-economic situation): the number of the linkages among the municipalities as regarded commuting to work, the scale of commuting to schools in Lodz, the scale of journeys to Lodz cultural establishments, the evaluation of technical infrastructure development, the number of connections among the municipalities by public transport, the number of direct public transport connections to Lodz (on a typical working day), the mean time of traveling by public transport to Lodz, the number of environmental linkages among municipalities, population density, net migration rate per 1000 persons, unemployment rate, and entrepreneurship index [Bartosiewicz 2012].

When constructing the index, the author followed the same procedure as Farrugia and Gallina [2008]. The output data was normalized, and next, on the basis of the values of features obtained for individual study units, the arithmetical mean was calculated, treated as the final measure (in Polish literature this approach is known as Perkal's index). In the light of these results, individual units of the metropolitan area were divided into four groups, on the basis of the values of the arithmetical mean and standard deviation.

Due to the choice of features, the territorial cohesion measured in the above way corresponds to the results obtained by applying the first of the presented methods.

The last procedure is an extension of the second among the proposed approaches to measuring territorial cohesion. The 12 output features presented above were aggregated according to type of linkages (transport, environmental, social, the level of socio-economic development), and next the Perkal's index[17] was calculated for each of them. In this way, contrary to the previous method, each type of linkage was given the same status. Values calculated this way were summed up, producing a territorial cohesion index [Bartosiewicz 2012].

Conclusion. In the study of territorial cohesion, the author initially considered using graph and gravitation analysis methods. However, eventually, wishing to retain the maximum amount of information about the studied phenomena, as well as taking into account the difficulties in applying these methods for all the studied issues, the author used other procedures. Firstly, on the basis of a statistical analysis of the indicators of four linkage types, he made a simple typology of municipalities, identifying units with the highest index values, based on the statistical measures of dispersion, and considered to be the most coherent with the metropolitan core. Secondly, he referred to the structure of the aggregate measure of linkages on the basis of 12 representative features, illustrating the power of relations and internal socio-economic disparities in the studied area. Next, the variables used earlier were used again to construct module indexes, referring to social (1), transport (2), and ecological (3) linkages, as well as the socio-economic differences in the scalar aspect (4). Finally, their values were summed up [Bartosiewicz 2012].

Each of the approaches mentioned above concerns a similar, though not identical range of area featuring the strongest links with the metropolitan core and with one another. In order to establish the range of the area showing the highest level of territorial cohesion, the author put together the results of the three measurement methods discussed above.

Like in the first method (constructed on the basis of the linkage indicators) the author took into account only the municipalities with high or very high level of territorial cohesion.

The results regarding Lodz Metropolitan Area show that the region delimited by means of the presented method, does not fully correspond to its actual delimitations. Through the analysis of actual linkages, the proposed method sheds a new light on the approach to delimiting a metropolitan area. At the same time, due to its module construction, it makes it possible to add other types of relations at each stage of the analysis, which help to define more precisely the degree of spatial cohesion; its universal character may lead to comparative studies concerning the degree of cohesion (it is a tool ready to be used for any metropolitan area).

[17] It does not concern environmental linkages, where in further analysis a normalized value of only one output feature of the studied phenomenon was used.

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EXPERIENCES OF SETTLING MANAGEMENT IN RUSSIA DURING SOVIET AND POST-SOVIET PERIODS

Alexander Alekseev
M.V. Lomonosov Moscow State University, Moscow, Russia
alival@mail.ru

Abstract. *For the Soviet period an exaggerated idea of state's possibilities in settling management was typical. In reality the attempts to stop the growth of the largest cities or to develop the small cities were seldom successful. However the rural settlement pattern was by far more affected by the state policy. A campaign of the 1960/70-s aimed at the "elimination" of small villages has triggered the reduction of the number of settlements. During the post-Soviet period the state obviously has fewer possibilities, but very often more ambitions.*

Алєксєєв А.І. **Досвіди управління розселенням в росії у радянський та пострадянський періоди**. *Для радянського періоду було характерне перебільшене уявлення про можливості держави в управлінні розселенням. Насправді спроби зупинити зростання найбільших міст або розвивати малі міста рідко були успішними. Однак система сільського розселення зазнала суттєвішого впливу державної політики. Компанія 1960-70-х років, спрямована на «знищення» невеликих сіл, викликала скорочення кількості населених пунктів. У пострадянський період держава, очевидно, має менше можливостей, але дуже часто більше амбіцій.*

«…. Large cities are the heritage left to us by civilization, and to get rid of them will cost a lot of time and efforts. But they should be eliminated – and will be eliminated, despite the fact that it will be a very long process». The words of Friedrich Engels were taken on board by his interpreters in the first years of the USSR existence; and then the works appeared which predicted crash of the cities and the need to live «closer to the nature». However the practice of industrialization, impossible without the development of big cities, quickly disproved these dreams.

For the Soviet period an exaggerated idea of state possibilities in settling management was characteristic. In reality the attempts to stop the growth of the largest cities or to develop the small cities were seldom successful. However the rural settlement pattern was by far more affected by the state policy.

Collectivization of 1929-1932 and the consolidation of collective farms in the 1940/50-ies have resulted in a sharp division of all rural settlements into two groups: а) central estates where all functions started to concentrate; б) other settlements from then on being initially behind in all terms. The subsequent merging of collective farms has even more reduced the number of central estates which accumulated the permanently increasing share of the population.

Another impact on rural settling was the mass integration of isolated farmsteads (formed as a result of Stolypin reform and in the first years of the Soviet power). The resolution of the Plenum of the VKP Central Committee and the USSR SNK from May 21-24, 1939 entrusted local authorities with a task to consolidate all farmsteads till September 1, 1940. The main aim was, probably, the strengthening of village life supervision, including such spheres as land use and activities of collective farms. We can judge the results of this campaign for the Smolensk oblast, for example, where the five-year plan (1936-1940) of moving people from about 160 thousand farmsteads to collective-farm villages was completed by 1940. As a result of de-kulakization and moving people from farmsteads over 700 thousand hectares of agricultural land, including 400 thousand hectares of arable lands were took away from economic activities.

During the post-war period the problems of rural settling drew attention after publication of the article of the then First Secretary of the VKP MGK and MK Nikita S. Khrushchev in "Pravda" newspaper on March 4, 1951. After many years of work in Ukraine, Khrushchev was struck with the poverty of small (if compared with Ukrainian ones) villages situated near Moscow. The solution seemed rather simple: you could not provide roads, schools and hospitals to each small village; so it is necessary to build new houses for collective farmers in larger settlements. And in his article Khrushchev foretold that very soon «*small villages will be replaced by cultural, well-planned collective-farm settlements with schools, baths, recreation centers, kindergartens…*»[18]

But this initiative was out of luck: the article was read by Stalin, he didn't like it, and already in two days, on March 6, 1951, Khrushchev wrote the letter to Stalin to recognize «*the gross mistakes he had made*». But this wasn't enough for Stalin, and on April 2 the Politburo dispatched all over the country a secret letter written by

[18] Khrushchev S.N. Nikita Khrushchev: the Reformist. – M., Vremya, 2010, pp. 73-74

Stalin himself (as S. Khrushchev argues) – «About the problems of construction in connection with the integration of small collective farms». It said that «*some Party officials*» were busy «*substituting the principal task of agriculture, i.e. production, with an immediate reorganization of the life of collective farmers, thus distracting the resources of collective farms from the solution of the major production tasks*». Stalin's position is absolutely clear: collective farms should provide agricultural products and the living conditions of collective farmers are their private matter. It was unacceptable for Nikita S. Khrushchev, and having become at the head of the country, he came back to this problem again. The phrase of the Third CPSU Program approved by the 22nd Congress in 1961 became the deification of the move to the complete transformation of rural settling:

«*Collective-farm villages will gradually be transformed into larger settlements of city type with well-planned houses, public services, household enterprises, and cultural and medical institutions*».

To realize these ideas the "agro-city" concept was elaborated – that of a large settlement with urban housing and services for agricultural workers. The propaganda of the concept was extraordinary. The professor of the Moscow State University S.A.Kovalyov wrote in his memoirs that at that time (the 1960th) he received a lot of letters from foreign geographers with requests to help them studying this new type of settlements. In the early sixties the French urbanists Jacqueline Bozhe-Garnye and George Shabo published the book «Outline of the Geography of Cities» in which they distinguished seven types of cities in the world and added one more – «agro-cities which are build in the USSR for peasants».

In fact the construction of «agro-cities» had become an ordinary Soviet campaign. The administration of each oblast considered its duty to construct an agro-city (they were then called «model settlements») to show it to officials and foreigners.

The program of the «elimination of small villages» is often added to the general list of «the Soviet power sins in the village», along with collectivization and de-kulakization. Some researchers even call it «the second collectivization», but in fact its role is much less than it is usually seen. Under the essential decrease of rural population the reduction of number of rural settlements was inevitable, particularly of small- and medium-size ones which predominated in the majority of the regions of Russia. However, wide propaganda of "being unpromising" psychologically affected the inhabitants of small villages, especially young people, who chose to move away from their native places – not to "model" settlements, but to the cities. Rather often a village qualified as "unpromising" was not only deprived of new construction plans. Even public buildings (schools, shops, post offices, medical assistant's points, etc.) were neither maintained nor repaired – no sense doing this if all the same the village is to be liquidated soon!

As a result the practice of "consolidation" appeared to be absolutely absurd and was ceased at the end of the 1970-ies. But this was not the end of experiments with rural settling!

Practice of "counterrevolution": construction of «production centers». Negative experience of the «consolidation of small settlements» caused to life a new, quite

opposite campaign. The then First Secretary of the CPSU Moscow regional committee (1963 – 1985) V.I.Konotop was its initiator. In the early eighties he launched an idea of the «revival of production centers» - in order to «correct the excesses» in the settling program. This referred to rather small settlements – from 100 to 200 inhabitants, not the central estates. Construction of one-family cottages for their inhabitants (unlike five-storey buildings in «agro-cities»!) was suggested, and the whole complex of services: an elementary or incomplete secondary school, a medical ambulance station or medical assistant's point with an apartment for the doctor or medical assistant, a community club with the library, a shop, a canteen, a post office etc.

In small settlements the service sector could engage the vast majority of workers (i.e. the settlement mostly «served itself»), but nobody cared about it – because everything was constructed and worked for the state account! They managed to construct just few «production centers», and the experience of their operation remains poorly studied yet.

During the post-Soviet period the state obviously has fewer possibilities, but very often more ambitions. The fixed idea about "unpromising" small settlements reached even small and average cities. In 2011 the then Minister of Economics, Elvira Nabiullina declared: «… *In the course of three waves of industrialization we created an extensive, and in some places too wide network of small and average cities … Decrease of the number of small cities is an insuperable global tendency … Preservation of economically inefficient small cities at any cost and preventing the overflow of labor-active population to large cities can cost us 2-3 % of economic growth. … Within the next 20 years about 15-20 million people can move from the small cities of Russia»*. It caused the negative response of the Russian urbanists, and such statements didn't repeat.

В сельской местности политика российского правительства направлена на сокращение затрат на содержание учреждений образования и здравоохранения . Так, число начальных школ (подавляющее большинство которых находится в сельской местности) в 1990-2010гг уменьшилось почти в три раза. « Неэффективным» стало считаться содержание школ, если в классах меньше 12 учащихся – а это в сельской местности встречается сплошь и рядом. Кроме того, как показала история сельского расселения России, закрытие школы в сельском поселении резко усиливает миграционный отток семей с детьми, а следовательно ведет к скорому исчезновению и самого поселения.

The rural policy of the Russian government is oriented on the reduction of expenditures on education and health care facilities. So, in 1999-2010 the number of elementary schools (the majority of them are in rural areas) decreased almost three times. The maintenance of schools is now regarded “inefficient” if there are less than 12 pupils in a class – and it is a pretty usual situation in rural areas. Besides, the history of rural settling of Russia showed that if rural schools are closed the emigration of families with children grows sharply leading to rapid extinction of the settlement itself.

ESTIMATION OF DEVELOPMENT PROSPECTS OF WESTERN REGION OF UKRAINE REGIONAL CENTERS' METROPOLITAN FUNCTIONS

Svitlana Shcheglyuk
Institute of Regional Research of the National Academy of Sciences of Ukraine, L'viv, Ukraine
lyana.happy@gmail.com

Abstract. *The essence of the theoretical concept is that regional centers are formed metropolises function of different hierarchical levels, which in the future may develop into a full-fledged regional metropolis that affect the development of the whole of Western Ukraine, which in turn necessitates their research to support the development of such functions and enhance their impact on the development of the periphery.*

Щеглюк С.Д. **Оцінка розвитку метрополітенських функцій обласних центрів Західного регіону України.** *Сутність теоретичної концепції полягає у тому, що метрополітенські функції в обласних центрах формуються на різних ієрархічних рівнях, що в майбутньому може забезпечити формування повноцінних регіональних метрополій, які впливатимуть на розвиток усієї Західної України, що, в свою чергу, вимагає відповідних досліджень, спрямованих на підтримку розвитку таких функцій і підвищення їх впливу на розвиток периферії.*

The peculiarities of forming and development of metropolises come as the result of urbanization processes strengthening. Therefore they have always taken central place in the attention of scientists of different knowledge branches. Urban planning problems of metropolises development are reflected in the tractates of V. Dubyna, T.Mazur and P.Krupa. Geographical and ecological peculiarities of cities functioning are encompassed in the articles of M. Nazaruk and O. Denysenko, social and economic problems are examined by L.Shevchuk, S.Sadova, etc. Among the native scientists that study regional centers as the environment of living activity of the population within the whole region we can name the tractates of O. Boyko-Boychuk, M. Dolishniy, V. Kovtun, V. Nudelman, V. Onikiyenko, Ye. Pityurenko, A. Stepanenko, etc.

Spatial aspects of metropolis living activity are detached in the tractates of the foreign scientists: O.Druzhynin, R. Florida, D. Harvey, R. Huggins, A. Scott, M. Storper, etc.

It is worth noting that legal acts adopted by the EU during 2007-2012 in order to partially improve existing acts and to add the new content and the new management philosophy: "European Urban Charter II: Manifesto for a New Urbanity" directly concern the problems of metropolises development.

Cities-metropolises and metropolitan areas take the central place in forming of social and economic development of mankind.

Strengthening of large cities role in regional economy is stipulated by the activation of globalization, regionalization and glocalization processes. This can be observed on the example of large cities, urban agglomerations and foremost metropolises as the highest form of spatial organization of population. Notwithstanding the differences of the views over the interpretation of the abovementioned term, we should stress that the large city – metropolis – is the historic notion.

Primary interpretation of the term "metropolis" (from Greek *μητροπολίτης from μητρο — mother + πολίτης — city, literally «mother city»*) is regarded as: 1) city-state that had founded its settlement (colonies) on other lands; 2) state that possesses the captured colonies (usually overseas). Later this term gains the new sense: the city, economic and cultural center of agglomeration, sometimes the synonym of the "capital city", the functions of which overcome its limits.

Current notion of the term "metropolis" comes down to historically formed forms of population settlement around the large cities and agglomerations that function as complex territorial and social systems with strongly marked metropolis functions and connections. High capacity of self-organization and competition for the resources stipulates the review of their functions and recognition of the leading role within the limits of regional and national spatial policies.

It is worth mentioning that metropolis is often regarded as the core city of agglomeration that performs capital functions in relation to the region where it is situated. In separate research the notion of agglomeration is identified with the definition of metropolis but simultaneously most attention is paid to capital regional or even interregional functions. The research of metropolis functions is of utmost importance in Ukraine, where it is highly important to activate the cities development examination, in particular metropolises as far as they are the unique cores of scientific and technical progress, the centers of diffusion of territorial and structural processes both in metropolises and in peripheral zones.

The urgency of research of regional centers development in the Western area of Ukraine (in particular Ivano-Frankivsk, Lviv, Lutsk, Rivne, Ternopil, Uzhorod, Chernivtsi) gains even more importance due to the process of new functions forming in these cities and emergence of new city types of economic activity that fall under constant change granting those cities with metropolitan functions and thus attracting new resources (human, financial, economic, etc).

Metropolization is the global process that ambiguously influences the development of metropolises in all countries of the world. It is much weaker expressed in forming of metropolises in post-Soviet countries, in particular in Ukraine. The metropolization as the aggregate of processes that promote the advance of city or urban agglomeration range in the world or continental systems of settlement through the increase of concentration of metropolitan functions in them, e. i. the functions that have international value, is often referred to as peculiar reflection of globalization processes.

It is worth mentioning that in the Western area Lviv is the city that most intensively increases its potential of metropolitan functions enabling in perspective its status of European metropolis of higher range comparing with the current one.

Such conclusions are made on the basis of assumption about the increase in Lviv of population and amount of branches and agencies of transnational companies; transnational and financial establishments; transport companies and communications, etc. Thus we can insist that nowadays Lviv has formed its metropolitan functions with concentration of powerful metropolitan potential for the whole Western area and it can be referred to as the city with higher level of metropolitan functions development that go beyond the limits of administrative region comparing with other regional centers. Lviv is the centre of Western area that encompasses 7 regions (Volyn, Ivano-Frankivsk, Zakarpattya, Lviv, Rivne, Chernivtsi, Ternopil), the metropolis, the capital of Galicia, cultural capital of Eastern Europe, small Paris, the gate to Europe that in the nearest future can overcome the million mark by the number of citizens.

The problems of metropolitan functions development in the regional centers of Western region lie in the complication of connections between them and the periphery and exchange of goods, resources, information and people that is not always equivalent leading to transformation of city functions. Thus it can be assumed that in the regions of the Western area of Ukraine the regional metropolises are formed with the cores in regional centers: Lutsk (specialization – mechanic engineering), Rivne (specialization – mechanic engineering and processing industry), Uzhorod (specialization – mechanic engineering and logistic services), Ternopil (specialization – agroindustrial complex and education centre), Chernivtsi (specialization – trade, education centre), Ivano-Frankivsk (specialization – mining industry, education centre).

Development of urbanization has led to forming of active cooperation between Lviv metropolis and its periphery that has manifested itself in the form of territorial and structural processes, i. e. the processes that constantly influence the change of the density of some phenomena on the territory of the region. Moreover, increase of the metropolitan functions number requires conduction of special research of the process of evolution from large city to metropolis.

The main problem of periphery lies in the initiation of processes that disable their efficient development. The necessity of creation of “critical mass” (of goods and services production, investment and innovations) able to activate local development resides in activation of metropolitan functions possibilities and diffusion processes of innovations transfer from central places to periphery.

At the same time the range of issues concerning spatial development of regional centers of Western area, its living activity planning and forming of metropolitan functions remain to be controversial and require profound examination.

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MIGRATION PROCESSES OF TRANSBOUNDARY TERRITORY (BASED ON EXAMPLE OF KHARKIV REGION)

Kostyantyn Niemets, Ganna Kulieshova, Lyudmila Klyuchko, Pavel Kobylin
V.N.Karazin Kharkiv National University, Kharkiv, Ukraine
ggfekonom@mail.ru, aafranchuk@mail.ru, lyuda_klyuch@mail.ru, kobilin3@rambler.ru

Abstract. *The article analyzes migration processes in cross-border territories. The analysis of the indicators of the internal, interregional and interstate migration has been conducted; territorial features of the migration population balance in Kharkiv region have been highlighted. The characteristics of the main migration directions from the region are done. The trends of the population movement within Kharkiv-Belgorod cross-border region have been defined. The basic causes of interstate migration have been examined; the conclusions about the impact of migration population on geodemographic processes in cross-border regions have been made.*

У статті аналізуються міграційні процеси на транскордонних територіях. Проведено аналіз показників внутрішньої, міжрегіональної та міждержавної міграції; виявлено територіальні особливості сальдо міграції населення в Харківській області. Охарактеризовано основні напрямки міграції з регіону. Визначено тенденції руху населення у межах Харківсько-Бєлгородського транскордонного регіону. Виявлено основні причини міждержавної міграції, зроблено висновки щодо впливу міграції населення на геодемографічні процеси в транскордонних регіонах.

Population migration is a complex social phenomenon which is a certain indicator of the regional social and economic development. With the globalization processes development, a role increasing of transnational companies, international investment activity expanding, migration processes have been activated significantly, especially in cross-border areas. An exchange of labor force is one of the interstate collaboration directions, and spread of emigration and immigration processes promotes integration of Ukraine into the world economic space.

Recent population migration mitigates depopulation processes in Ukraine and its regions, replenishes workforce, improves educational, professional and qualification structure of the population. Migrants make a significant impact on a labor supply in labor markets; change an ethnic structure of the population. The most significant role of population migration is observed especially in boundary areas, characterized by common history and close family contacts. Migrations in these areas recently emerged from the episodic nature and obtained constant and diversified forms.

Kharkiv region is one of the boundary areas of Ukraine and population migration is one among the factors which affects much of the population. During 2012 in Kharkiv region the number of all migrants was 97485 people. The number of incomers was 56305 people, outgoers – 41180 people. In 2012 a positive migration balance was 15125 people, including in urban areas – 15792 people, and in rural areas the balance was negative – 667 people.

Positive migration balance is observed in Kharkiv region, in particular as interregional and interstate one. But there are some territorial features.

Positive interregional and interstate population migration balance is being formed mainly due to arrivals of migrants in Kharkiv. The main causes of city attractiveness are jobs and successful employment possibilities. The second significant cause of the population migration to the city is its educational potential that causes migrant flows as from neighboring regions of Ukraine and from other states, mainly from Asia with the aim to obtain high education. Although generally recent migration balance of Kharkiv is negative due to intraregional migration that does not affect total population number in the region.

Significant positive population migration balance is observed in Kharkiv, Derhachivskyi, Chuhuivskyi and Vovchanskyi districts. At the same time there is a population outflow in most districts of Kharkiv region. So, 16 from 27 districts of the region have negative migration balance.

In the structure of intraregional migration (43,2% of all arrivals and 59.2% of all departures) the movement from rural areas into urban ones prevailed. Due to this fact, in 2012 urban population increased by 294 people. The biggest population outflow within Kharkiv region (intraregional migration) in 2011 was in Lozova (-129 people), Barvinkivskyi (-184 people) and Zolochivskyi (-149 people) districts. Positive migration balance is a characteristic of Kharkiv (1023 people), Derhachivskyi (485 people), Zmiivskyi (302 people), Chuhuivskyi (266 people), and Vovchanskyi (117 people) districts.

An interregional migration (32,1% of all arrivals and 39,0% of all departures) had positive balance (1984 people) in 2012. Among arrivals to Kharkiv region migrants from Donetsk (19,1%), Luhansk (15,6%), Poltava (11,5%), Sumy (8,3%), Dnipropetrovsk (7,9%) prevailed. Among out goers to other regions most people left to Donetsk (16,9%), Luhansk (11,0%), Poltava (10,9%), Sumy (8,5%), Dnipropetrovsk (8,1%) regions. Thus, the most important interregional migration exchange was with the regions bordering with Kharkiv region.

The interregional population migration in Kharkiv region is characterized by the positive migration balance; the centers of migrant gravity are Kharkiv and Kharkivskyi district. To other regions of Ukraine population moves from Lozova, Barvinkivskyi, and Bluznukivskyi districts.

In 2012 an interstate migration (24,7% of all arrivals and 1,8% of all departures) had positive migration balance – 13141 people. 13889 immigrants arrived to the region, 748 emigrants left abroad.

The interstate population migration balance of Kharkiv region is also positive due to population arrivals to Kharkiv and Kharkivskyi district. In other cities and districts of the region indicators of the interregional population migration do not cause a big impact on a population number. 20 districts of the region have interstate population migration balance from 10 to -10 people. A similar situation takes place in Izium, Lozova, Liubotyn, Chuhuiv.

The most significant migration balance of Kharkiv region was with Turkmenistan (4010 people), Iraq (1086 people), China (1012 people), Azerbaijan (800 people), Morocco (660 people), Nigeria (602 people).

The most mobile age groups which constitute the major part of the population involved in migratory processes of Kharkiv region are the groups of 15-19 years old

and 20-24 years old. Significant migratory growth in the age group of 15-19 years old is due to entering the high education institutions of the region, and outflow in the age of 20-24 years is due to graduation from these institutions.

Kharkiv region has six border districts, which have some specific features of the migratory processes. Main indicators of the dynamics of population migration balance of the region and border districts are listed below in the Table 1.

Table 1 – Population migration balance in Kharkiv region

	All flows			Interregional migration			Interstate migration		
	2009	*2010*	*2011*	*2009*	*2010*	*2011*	*2009*	*2010*	*2011*
Kharkiv region	1985	1839	834	1462	1222	366	523	617	468
including									
Kharkiv	602	-492	-870	1244	1211	521	410	456	312
Velykoburlutskyi	-126	-32	–93	-13	-7	-17	-8	6	1
Vovchanskyi	133	130	140	8	19	11	41	26	12
Dvorichanskyi	-8	12	8	30	5	26	-1	2	-3
Derhachivskyi	543	551	551	89	83	66	-15	-7	0
Zolochivskyi	-189	-197	-185	-17	-20	-36	2	-3	0
Kharkivskyi	675	1392	1223	157	239	155	10	62	45

It is worth noticing that Kharkivskyi, Derhachivskyi, Vovchanskyi and Dvorichanskyi districts have positive population migration balance; at the same time population outflow prevails in Zolochivskyi and Velykoburluzkyi districts. Mechanical population movement is being characterized by recent positive trends in Vovchanskyi, Dvorichanskyi and Velikoburluzkyi districts where decrease of population migration balance and increase of its positive value is observed. Intraregional migration significantly exceeds external migration in the structure of the migratory flows of the border districts in Kharkiv region, which indicates low activity of interstate population movements in the border areas. Generally indicators of interstate population migration do not make a significant impact on a total population number.

An important point in term of the interstate population movement of Kharkiv region is the migration between Kharkiv and Belgorod which are powerful centers of Kharkiv-Belgorod cross-border region. The main causes of the migration are satisfaction of population needs, development of cross-border entrepreneurship and border trade, family relations of the border residents, as well as obtaining educational services.

Negative consequences of migration processes in cross-border areas are represented by illegal movement of labor force and illegal population transit which adversely affects social situation in the region.

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GEOSPATIAL ANALYSIS FOR MIDDLE EASTERN EUROPEAN URBAN REGIONS IN TRANSITION

Maik Netzband[1,2], Jaroslav Buriak[1], Vit Paszto[1], Jakub Miřijovský[1]
[1]Palacky-University Olomouc/Czech Republic, [2]Ruhr-University Bochum/Germany
maik.netzband@rub.de

Abstract. *In the framework of this project we investigate of a transect of selected cities in transition with a negative growth pattern in Central and Eastern Europe (e.g. the Leipzig/Halle area in Germany, Poznan in Poland and Brno, Ostrava and Olomouc in the Czech Republic) are presented. The structural analysis of these urban regions is then used to derivate the European pattern spatial development of urban regions in transition. High spatial and spectral resolution satellite image data are used to drive vital information to monitor the following features: urban densities, new developments on the urban fringe and the creation of sub-centers, the spread of impermeable surfaces, soil erosion and the transformation of agricultural lands, changes in local microclimates, surface water flow and reservoir capacity, as well as primary productivity of local vegetation. Furthermore, existing socio-economic and demographic GIS data of each city will be integrated in the investigation to quantify the context of structural and socio- economic as well as demographic development and their mutual effects.*

Нетцбанд М., Буряк Я., Пасто В., Мірійовскі Я. **Геопросторовий аналіз Центрально- та Східноє-Європейських урбанізованих регіонів, що трансформуються**. *В рамках даної статті представлено результати дослідження окремих міст Центральної та Східної Європи, що трансформуються і мають негативну модель зростання, наприклад, регіон Лейпциг/Галле в Німеччині, Познань у Польщі, Брно, Острава і Оломоуц в Чехії. Структурний аналіз цих міських регіонів використаний для побудови Європейської моделі просторового розвитку міських регіонів, що трансформуються. Висока просторова і спектральна роздільна здатність даних супутникових зображень використовується для отримання важливої інформації щодо моніторингу таких особливостей: щільності міського населення, нового розвитку на міських окраїнах і створення субцентрів, поширення непроникних поверхонь, ерозії грунтів і трансформації сільськогосподарських земель, змін у місцевому мікрокліматі, потоків поверхневих вод і водосховищ, а також продуктивності місцевої рослинності. Крім того, існуючі соціально-економічні та демографічні ГІС-дані для кожного міста використані для кількісного визначення особливостей структурного та соціально-економічного, а також демографічного розвитку та їх взаємного впливу.*

INTRODUCTION. In the second half of the 20th and by the beginning of the 21st century the cities world-wide underwent a rapid growth tightly related to unrestrained exploitation of space, which has brought about numerous problems[0]. Regulation of urban development problematic is being attended by different institutions, on various levels of state and self administration, usually by means of municipal planning. Planning usually takes into account the current and previous states or different states over a period of time, for plotting the possible development scenarios of an area. Therefore, the studies of the state and dynamics of urban development can significantly benefit by using Remote Sensing methods[0]. They are particularly suitable for localization, spatial measurement and analysis of urbanized area.

In this research we have concentrated on the combination of image processing techniques directed toward extraction of the information that can be used for a successful monitoring and planning-managing of urban areas. The main goal of the study was to identify and quantify particular changes of urban and suburban space that took place in the past three decades (1985–2009) in selected cities in the Europe.

STUDY AREAS. Five cities were chosen in Middle Eastern European Countries (former Communist Bloc) for the analysis in order to capture and compare their post-soviet development. All these cities carry similar patterns of urban and industrial growth that occurred after World War II. Typical representatives from western countries of the former Communist Bloc were selected (Figure 1) Leipzig (Germany), Ostrava (Czech Republic), Katowice (Poland), Košice (Slovakia) and Székesfehérvár (Hungary). It is common for all the cities that they have been industry oriented with surrounding open pit mines areas (excluding Székesfehérvár) and have been important regional centres. The cities sample has been chosen with the respect to their size (in terms of total population) ranging from approx. 100,000 to 500,000 to cover scale invariance of the development process which is, however, very similar throughout the sample. Basic numerical characteristics of the cities are in Table 1.

Table 1 – Basic numerical characteristics of the cities

The City	Total Population (City Area)	Total Population (Metro Area)	City Area (km^2)
Leipzig	530,000	3,500,000	298
Ostrava	310,000	1,160,000	214
Katowice	308,000	3,680,000	165
Košice	240,000	560,000	243
Székesfehérvár	102,000	NA	171

There are other common aspects due to the cities industrial and urban history. At first, there are a lot of brownfields (abandoned and ruined industrial objects) within the city boundaries, even in its central parts. Secondly, one can find dispersion of residential areas that forms separated structures (cities within the city) from the compact city centre. It is very typical for all the cities that these residential

areas are densely populated with people living in prefabricated housing blocks. It is also common for the chosen cities that new light-industry areas were established over last decade (especially in Székesfehérvár and Leipzig). These are some of the major features that make the cities development process similar.

Figure 1 – Overview map

DATASET. Dataset which was used for tracking changes of target Land Cover units in Leipzig, Ostrava, Katowice, Székesfehérvár, Košice region comprised of an assembly of 30 m resolution LANDSAT TM-ETM and TM images, involving several time splits from 1985–2012. Similar time intervals between them were chosen in order to track the changes gradually. Moreover, all images were taken at early autumn, so that the seasonal variations effects could be maximally suppressed. The resources for the dataset images involved open libraries of LANDSAT images[0, 0].

METHODS. To unfold the changes in urban/sub-urban development is to analyze their spatial relations with other units, i.e. to analyze the changes of a Land Cover map of the area of interest[0]. In such regard, the methodological framework that has been followed in this research could be split in two separate approaches. They both regarded image processing methods for image classification, resulting in the series of Land Cover maps, which were subsequently used for post-classification change detection[0].

Following the first order CORINE classification[0] and in respect to the expected Land Cover units in our study area, four classes, i.e. arable land, forest vegetation, urban area, and water body, were distinguished per each time split in both approaches.

Pre-processing and processing was performed by combining IDRISI Taiga and ERDAS Imagine 2011 packages.

A. Unsupervised Classification. Due to the substantial amount of images to be visually analyzed we herein turned to the automatic procedure of image classification by using ISODATA algorithm[0]. K-means is a clustering algorithm that

performs pixel-based classification, i.e. groups similar pixels together in an *n*-class feature space on the basis of pixel's spectral characteristics[0]. Principally it is sensitive only to the number of desired classes *n* and the threshold percentage of the stable pixels, which makes it convenient for trial-and-error manipulation in search for the optimal results. Such classification result is still very raw and it needs subtle refinement stage. Good results were achieved easier when the processing mask was introduced.

B. Classification Error Assessment. In order to provide classification reliability, all generated Land Cover maps were assessed by error matrix[0] on the basis of specified number of random points. For the purpose of this research approx. 200 control points were selected for all class, appeared to be sufficient for error estimation. This assessment was necessary not only to control the continuity of classification accuracy throughout the different time splits, but also to make preferences and exclusions of erroneous data. The classification accuracy ranged from 85,25 % to 98,5 % which is acceptable for unsupervised classification. The best accuracy was calculated for water bodies and urban land, the worst results were calculated for arable land and vegetation. The supervised classification could be used for better results.

RESULTS. Because of less precise distinction between vegetation and arable land due to the image acquisition period (e.g. arable land in 90s was recognized as vegetation in 00s) conclusions are made according to built-up areas evolution. Although the cities had generally similar development during communist era there are some significant differences among them.

These differences allow to sort the cities into 3 groups. The first group consists of Leipzig and Ostrava (Fig. 2, Fig. 3 and Fig. 7). This group is characterized by decrease of built-up area after end of communist era (1989) and increase of built-up area in the past decade. It is suggested that the decrease was caused by inhibition of industrial production and brownfield recultivation. Consequent increase of built-up areas was caused by establishing commercial and light industry areas which replaced old non-revitalised industrial areas or were built completely newly.

The second group consists of Katowice and Košice (Fig. 4, Fig. 5 and Fig. 8) and is typical by inverse built-up area development. The built-up area increase during 1980-2000 was determined by remaining of the city industry-driven importance not only within the region but in whole country. The decrease of built-up area during 2000-2012 represents the similar state of city development in the 2000s in the previous group (Leipzig and Ostrava). It is assumed that Katowice and Košice will follow the descending trend that appeared in the first group.

Székesfehérvár city (Fig. 6 and Fig. 9) represents an individual group. The city is characterized by decreasing built-up area in all observed decades. This trend has been influenced by the history and character of the city (rural area with numerous marshes).

CONCLUSION. The strength of satellite remote sensing is to structure and classify such large and complex urban areas as well as evaluating their spatial development by change detection studies. Since there are hardly or only very few GIS based map bases for these large cities available in India, the satellite-based

remote sensing represents a chance to structure and map such expanded urban residential areas at least approximately into different land coverage or land use classes.

The scientific results are change maps of the urban agglomeration of the five chosen Middle Eastern European Cities between 2001 and 2009 using temporal transects of remote sensing data and applying up-to-date change detection techniques at different spatial and temporal scales. This is used for quantifying urban and peri-urban processes (land use / land cover changes of settlements, agriculture, industry, and landscape) in this urban agglomeration (growth rates, urbanization) and additionally, for predicting the development of urban fringes, rural settlements, informal settlements, urban and peri-urban agriculture.

However, the preliminary results of the change detection maps indicate that there is still some uncertainty in the classification procedure which has to be evaluated and improved possibly by integrating ancillry data. Thus, data of macroeconomic and demographic development, instruments of urban planning, and socio-economic settings shall be integrated as data are available. Furthermore, it is envisioned within this project to analyse high resolution satellite data for the same sample of cities in order to identify and evaluate more precisely and spatially in a finer spatial resolution 'hot spots' of change within these cities.

ACKNOWLEDGMENT. The paper was supported by the Operational Program Education for Competitiveness - European Social Fund (CZ.1.07/2.2.00/15.0276 and project CZ.1.07/2.3.00/20.0170 of the Ministry of Education, Youth and Sports of the Czech Republic).

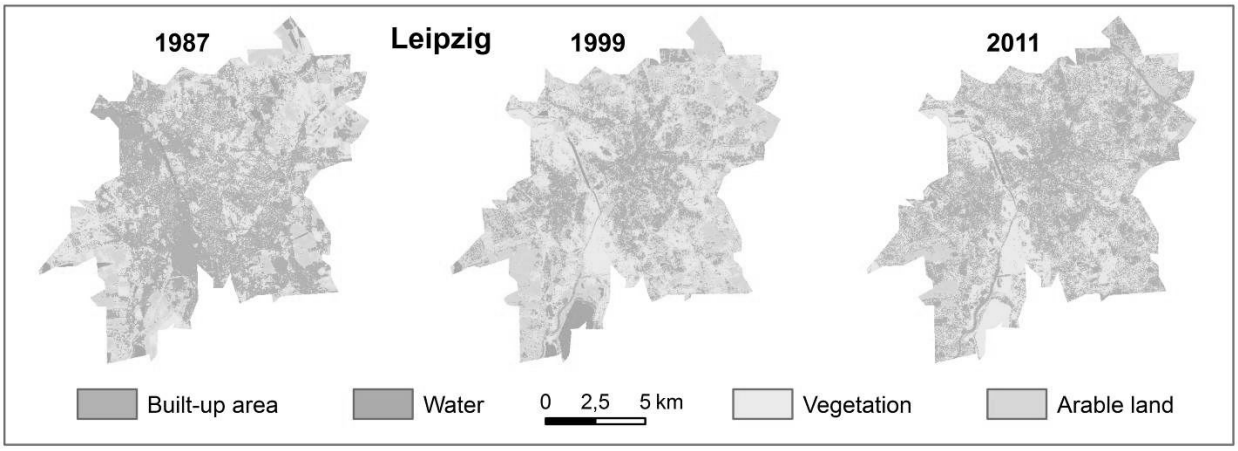

Figure 2 – Unsupervised classification results of Leipzig

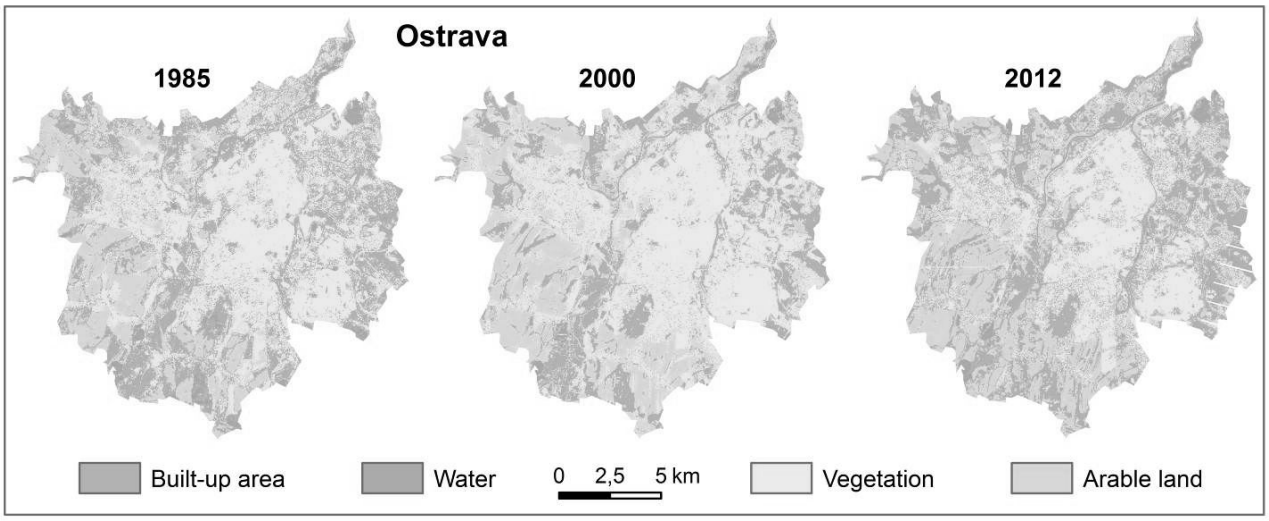

Figure 3 – Unsupervised classification results of Ostrava

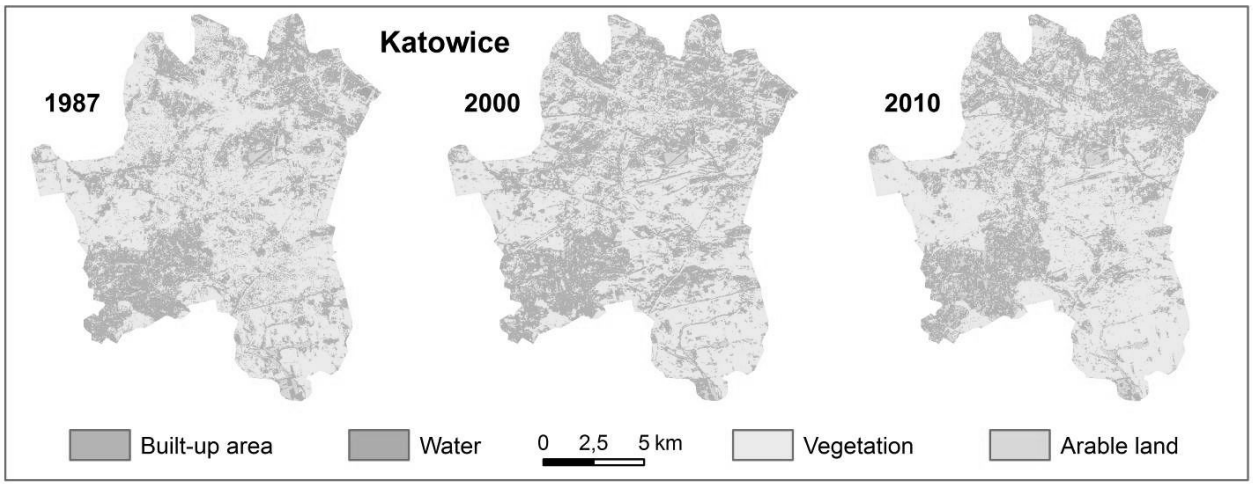

Figure 4 – Unsupervised classification results of Katowice

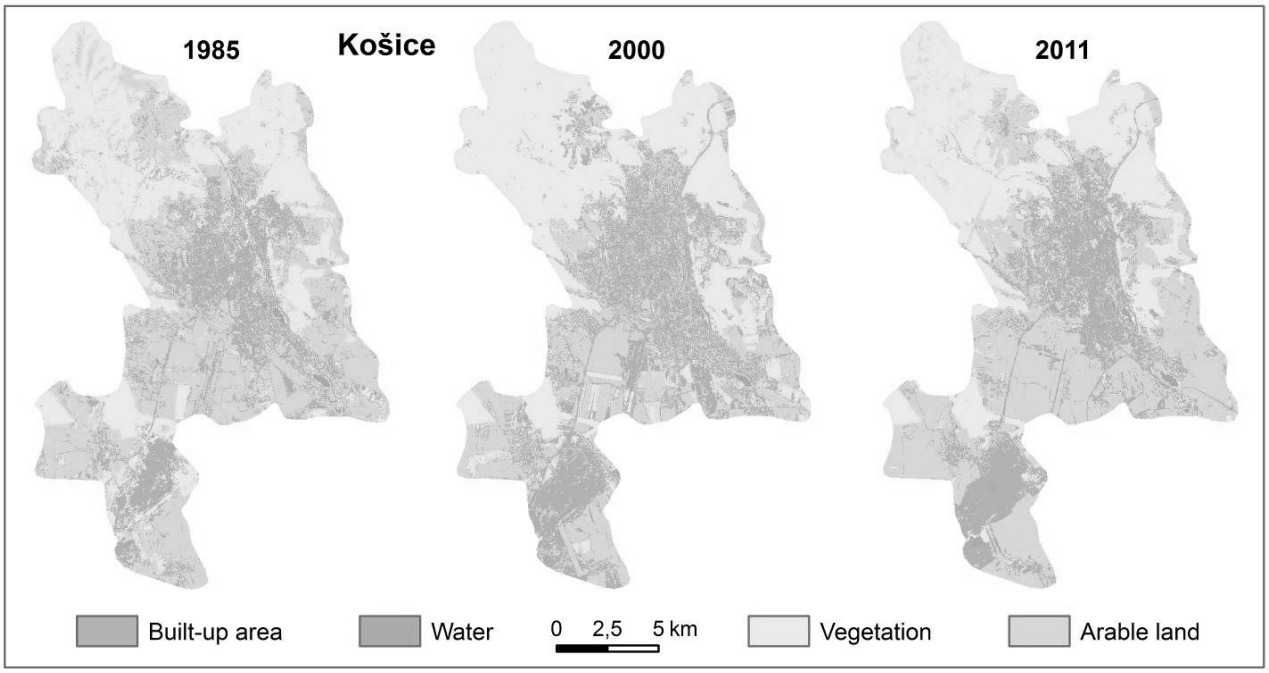

Figure 5 – Unsupervised classification results of Košice

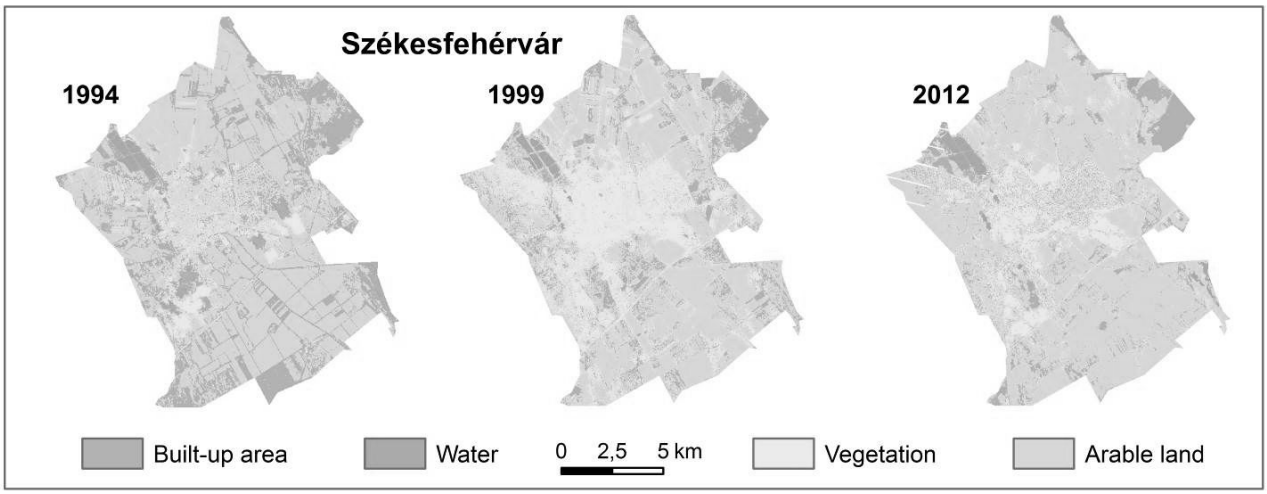

Figure 6 – Unsupervised classification results of Székesfehérvár

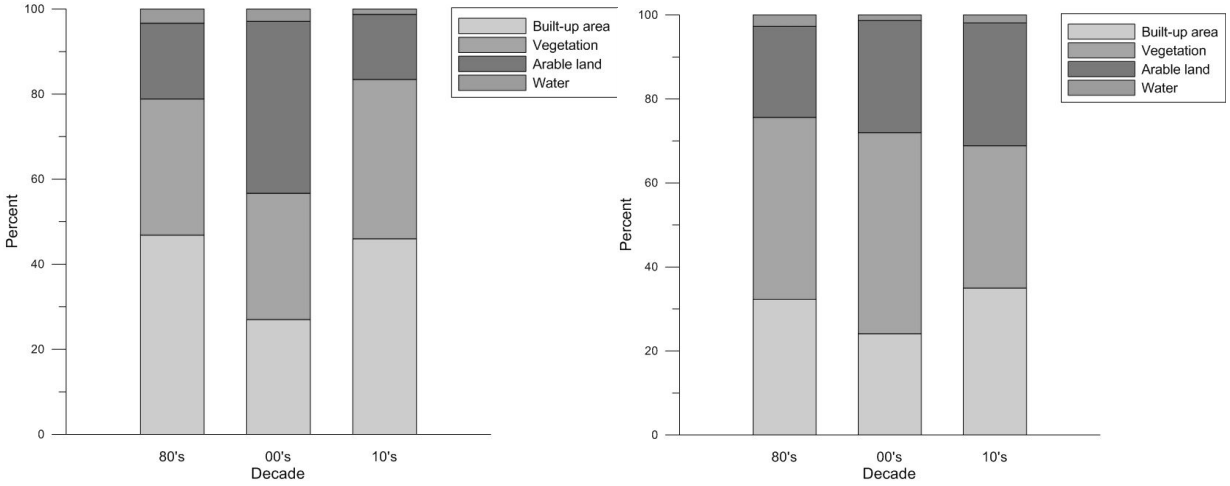

Figure 7 – Ratio of land cover classes of Leipzig and Ostrava city

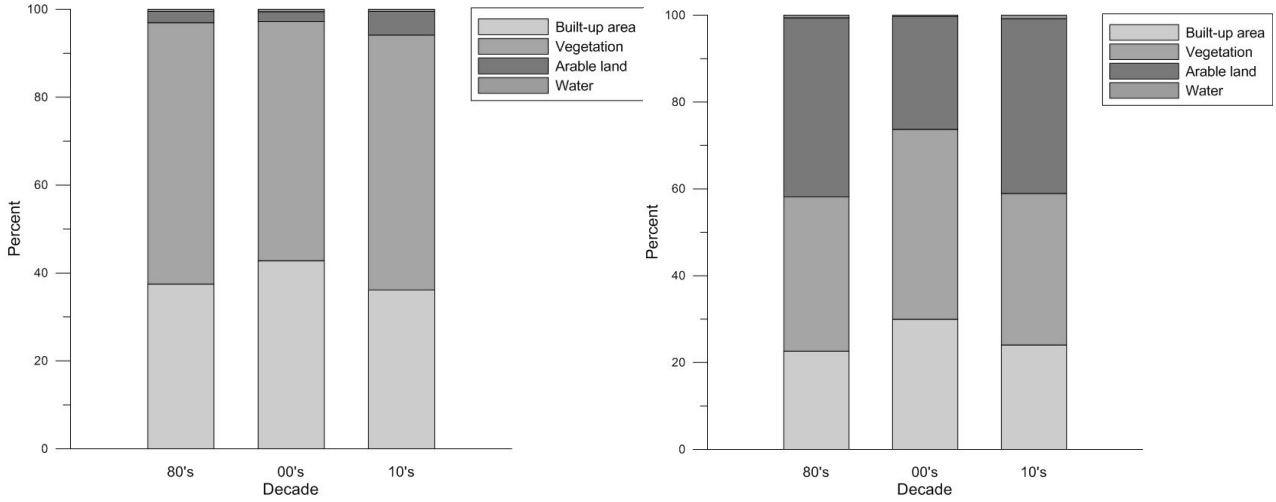

Figure 8 – Ratio of land cover classes of Katowice and Košice city

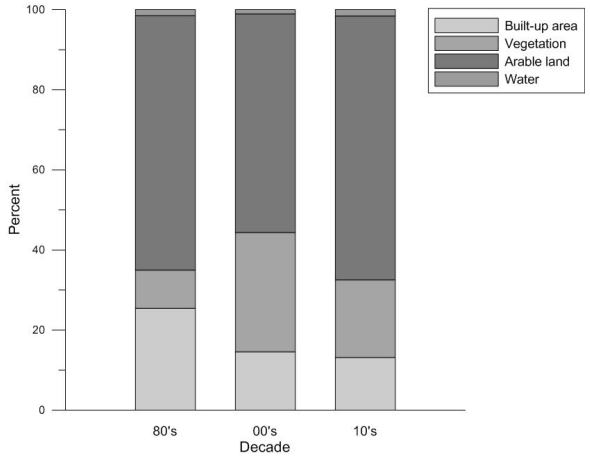

Figure 9 – Ratio of land cover classes of Székesfehérvár city

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MODERN TRENDS IN THE TRANSFORMATION AREAS OF LARGE CITIES (ON THE EXAMPLE OF KIEV)

Alla Pleshkanovska
Institute of Urban Planning, Kyiv, Ukraine
ample_urban@ukr.net

Abstract. *Changes in the spatial organization of cities occur in the context of the overall process of transformation of social and economic situation in the country as a whole. In the first instance, they reflect the replacement of the traditional models of "industrial" cities – typical to urban development of the late 19th – first half of the 20th century, with the "post-industrial" city or even "ecopolis" model. Previous models were mainly based on the priority functions of material production. At present time functions such as management, banking and financial services, information, scientific and technical activities, as well as a wide range of humanitarian activities – education, culture, medicine, tourism, sports start to dominate in major cities.*

Плешкановська А.М. **Сучасні тенденції трансформації території великих міст (на прикладі Києва)**. *Зміни в просторової організації міст відбуваються в контексті загального процесу трансформації соціально-економічної ситуації в країні в цілому. В першу чергу, вони відображають заміну традиційної моделі «індустріальних» міст – типової для міського розвитку в кінці 19 – першій половині 20-го століття, на модель "постіндустріального" міста чи навіть «екополісу». Попередні моделі були засновані головним чином на пріоритетності функцій матеріального виробництва. В даний час такі функції, як управління, банківські та фінансові послуги, інформація, науково-технічна діяльність, а також широкий спектр гуманітарної діяльності – освіта, культура, медицина, туризм, спорт починають домінують у великих містах.*

Changes in the spatial organization of cities occur in the context of the overall process of transformation of social and economic situation in the country as a whole. In the first instance, they reflect the replacement of the traditional models of "industrial" cities – typical to urban development of the late 19th – first half of the 20th century, with the "post-industrial" city or even "ecopolis" model. Previous models were mainly based on the priority functions of material production. At present time functions such as management, banking and financial services, information, scientific and technical activities, as well as a wide range of humanitarian activities – education, culture, medicine, tourism, sports, and large-scale activities in these areas start to dominate in major cities.

Significant place in the territorial and functional organization of the city is awarded to residential construction and building of social services. The use of the territory for the production function is sharply reduced due to the advances in technological processes, as well as the requirements for environmental improvements of the urban environment. Serious attention is paid to expanding green and open spaces. Increased social standards formed by the society and government are greatly affect these processes. This is one aspect of transformation of urban areas, defined from the inside by the urban dynamics of social and economic processes.

At the time, Peter Abercrombie drew attention to the fact that in his period (mid-20th century), there was a tendency of rapid growth of urban areas, described in his book "Planning in Town and Country. Difficulties and possibilities". An expression “the cities sprawl on the map as oil stains” arose.

Nowadays, it became apparent that this trend poses a serious environmental threat. The requirement to limit the spatial expansion of cities in order to maximize the preservation of the environment arose. However, this restriction does not mean that rates of growth of fixed assets and particularly housing construction have to be reduced. A new wave of suburbanization and the growth of small villages near the central city, but outside of its green belt (settlements included in the environment) arose.

This is the general picture of the spatial transformation of cities at the present stage of world development.

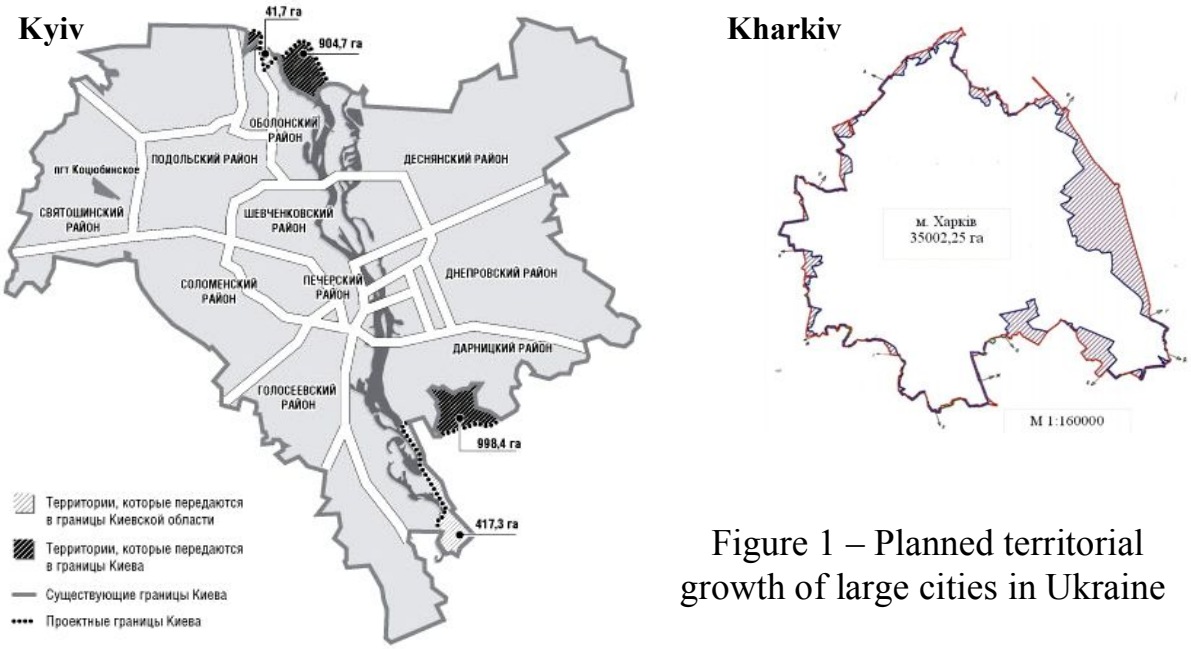

Figure 1 – Planned territorial growth of large cities in Ukraine

1. Therefore a significant proportion of the city's major growth is carried out at the expense of reconstruction of urban areas, as well as due to compaction of the existing built-up areas.

The prevailing transformation of urban areas occurs due to the reconstruction of areas of industrial production and the areas of so-called "special" (military) purpose. Thus, the Master Plan of Kiev stipulates the reconstruction of 30% (2455 ha) of industrial production, municipal warehouses and "special" assignment areas into residential and public buildings by 2025.

However, the justified displacement of large environmentally hazardous industries of the city is not accompanied by the development of the liberated territories for placing management, information services, science, culture, education facilities, etc. which, to some extent, would create job opportunities in modern types of activity to compensate for the displaces job opportunities in material production.

2. The area of free territories for new housing in the cities was significantly reduced. Thus, the Master Plan of Kiev provides just over 230 hectares (areas in new

residential territories – Osokorki, Poznyaki, Troyeshchyna) for them. As for the transformation of residential areas, it is not primarily due to the replacement of obsolete housing fund, which is peculiar to the West, but by the compaction of residential area through the construction of new housing on more or less large or local separate areas. In Kiev, the area of such sections ranges from 0.3 ha to 2.5 ha. This leads to a reduction in green and open spaces in residential areas.

One can speak of the absence of an integrated program of balanced development of the city as a socio-technical system that would take into account all aspects of socially and environmentally oriented development of the city. Placement of large volumes of housing construction for randomly industrial areas located in the city leads to disruption of the balance of working space, which complicates the conditions of transport services and the development of engineering systems. This imbalance is compounded by the initial failure of financing engineering and transport systems.

This is explained by the fact that the cost of reconstruction of the territory now occupied by industrial facilities, which practically lost its value, is significantly lower than the cost of reconstruction of the territories occupied by deteriorated housing fund and socially depressed areas, because they do not need money to compensate for the demolished housing.

3. Reconstruction of urban areas is carried out mainly fragmentary. Large-scale reconstruction programs are not implemented primarily due to the weakness of the city budget and the lack of an appropriate scale of private investment.

Thus, major programs such as the "City program of complex reconstruction quarters (districts) of obsolete housing" (2007) have been developed in Kiev. Realization of the program was halted by the economic crisis of 2008-2009 and the continuing difficult financial situation in Ukraine.

In fact, the major reconstruction programs for significant industrial site areas (Telichka district (210 ha), Red Khutor (124 ha) and others) remained only in the form of project proposals.

Over time, the proportion of depressed residential areas with worthless emergency fund increases, which creates a background for further social conflict. Thus, the transformation of urban areas to create uniform comfortable living conditions for the population is moved away to an indefinite future.

4. Of particular concern is the decline in the proportion of green and open space for all kinds of commercial construction both on city-wide and local levels.

The above phenomena are almost inevitable at the stage of urban development in the period of economic transition and can be overcome with political stability and strengthening the economy of the whole country and by the increase of attractiveness of the city for foreign investment.

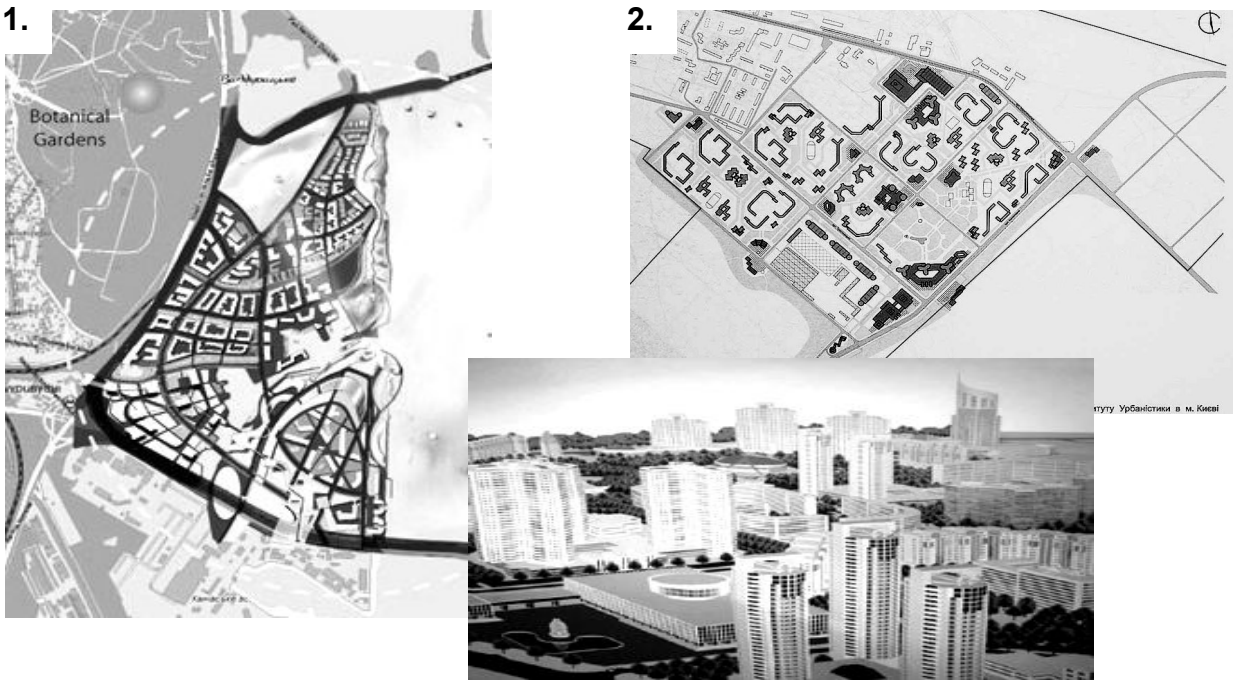

Figure 2 – Examples of reconstruction projects of industrial areas for housing in the city of Kiev. 1 – Industrial zone "Telichka". 2 – Industrial zone "Red Khutor"

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LAND USE SYSTEM TRANSFORMATION IN A POST-SOCIALIST CITY (USING KYIV AS AN EXAMPLE)

Alexander Drapikovsky, Iryna Ivanova
The Center for Organization and Economics of Urban Land Use, Kyiv, Ukraine
a_drapikovsky@hotmail.com; i_ivanova@hotmail.com

Abstract. *Urban land use because of its externality always carries some potential conflict. In fact, the normal development of any city is a chain of recurring local conflicts and their solution. However, the conflicts that arise today in the field of urban land use are systemic in nature, in which simultaneously crossed private, public and state interests. They involve all the actors of urban development, from designers and developers to the city government and individual citizen.*
Драпіковський О.І., Іванова І.Б. **Трансформація системи землекористування у постсоціалістичному місті (на прикладі Києва).** *Міське землекористування в силу свого екстерналізму завжди несе певний потенціал конфлікту. По суті, нормальний розвиток будь-якого міста являє собою ланцюжок постійно виникаючих локальних конфліктів та їх розв'язання. Проте конфлікти, які виникають сьогодні в сфері міського землекористування, мають системний характер, в яких одночасно перетнулися приватні, громадські та державні інтереси. Фактично до них залучені всі суб'єкти містобудівної діяльності: від проектувальників і забудовників до міської влади і кожного окремого громадянина.*

The phenomenon of a city in geography has numerous interpretations. One such interpretation considers a city to be a system of land use that forms material and spatial preconditions for human activity and through which such conditions are realised.

Traditionally the subject matter of research under such an approach includes regularities of functional and territorial division of types of urban land use. Such regularities are usually stable and continual in their nature. Thus of particular interest are the turning points in societal development when within a relatively short time, significant restructuring of land use takes place.

The change in the systems of economic activity in ex-socialist countries may be defined as such a turning point. This has stimulated research in functional and spatial land use structure, especially in capital cities that may be viewed as having a stronger initial position for market change to take place. Geographers have been attempting to build transition models for cities of state-regulated socialism that have moved to global capitalism, in order to explain the nature of the reorganisation of urban space under new conditions of labour and residential markets [1-4].

The authors of research on Berlin, Budapest, Warsaw, Prague, the Baltic capital cities, Moscow and Saint-Petersburg, stating the general nature of land system transformation tendencies in post-socialist cities, at the same time stressed the geographic specifics of this process. This makes it relevant to consider the same process in Kyiv. The article offers the results of the research of changes in the functional and spatial land use structure in Kyiv over the past twenty years.

1. The land use system during the socialist period. To a significant degree, the land use system of modern Kyiv is the result of urban development policies of the socialist era. Almost 80% of existing development was accomplished in accordance with the concept of planned structure and functional zoning of urban territories dominant at that time.

The first concept was based on decisions by the Central Committee of the Communist Party of Bolsheviks on socialist restructuring of the mode of life and provided for the development of workers' settlements around urban enterprises within a network of cultural and municipal establishments. This resulted in urban development as a conglomerate of relatively autonomous industrial and residential settlements. In practice this concept dominated until the middle of the 1950s and resulted in territorial development along major roads where enterprises tended to be located.

Another concept was based on the decision of the Central Committee of the Communist Party of the Soviet Union in 1955, on the introduction of industrial residential construction which started the formation of residential and industrial estates in areas that were free from any development. This stimulated active development of areas between major roads, pushing the city boundaries further. The latter was also related to attempts to solve the problems of the lack of food and residential premises by allocating land plots for residential construction and gardening, and the incorporation of nearby villages into the territory bounded by the city boundary, while preserving the extensive land use forms at the same time.

Both concepts were based on the administrative character of access to land resources. This combined with the policy of minimal expenditure, absence of the principle of competitiveness and free use of urban land resulted in the radial functional system that was specific of socialist cities. Such a radial system is characterised by the accumulation of obsolete types of land use requiring big territories within the central part of the city, concentration of residential estates at the outskirts and the augmentation of the density of population the further away from the centre you are.

Thus we may state that socialisation of land resulted in the formation of a specific type of land use. Its features include unbalanced factors of location and intensiveness, unjustified use of big territories and high energy intensity. The dynamics of such a land use system did not show a tendency for saving resources and did not display the preconditions for intensification of urban land use.

2. The change in the conditions and factors of urban development. The transition to new market-oriented forms of economic activities coincided with Kyiv acquiring the status of a capital of an independent state which had a crucial impact on the economic and social life of the city, making it more dynamic. The number of legally and economically independent business enterprises quickly grew. Such entities required certain levels of material and spatial environments for their operation. This resulted in the development of the real estate market as one of the mechanisms to regulate land use.

The laws on privatization of state property, introduction of multiple forms of land ownership and payment for its use ratified in 1992, have become the preconditions for the formation of the above-named market.

With the context of the drastic diminishing of the volumes of construction, including National budget-financed construction, the real estate market basically developed through redistribution of the existing residential and non-residential property, where not only the owners changed, but also property functionality. This cycle in the development of the real estate market has almost no influence on the spatial structure of land use in Kyiv, though it started the rebirth of High Streets as a focus for commercial activity. The effect of this cycle was to form market prices for real estate and to realise the ineffectiveness of the instruments of land use and development control inherited from Soviet times.

Starting September 2001, demand for real estate grew, and well as its prices. At this time the second cycle in the development of the real estate market began, which showed substantial quality changes. New home and commercial property sales grew, new big property appeared. Multi-functional residential and office and trade centres appeared, the quality of construction improved. Legislation was improved, in particular the law on planning and development which provided for a set of zoning rules for urban land use.

Simultaneously, Kyiv as the capital became more attractive in terms of finding a job, career growth, and private business development. This resulted in a population increase and a shift towards non-industrial employment.

The rising demand for residential and commercial property within a context of insufficient supply, stimulated real estate market growth. It was characterised by a dynamic growth of prices and rental rates, which by the middle of 2008 had grown by almost ten times. This made real estate more attractive for investment, and stimulated offer of newly built properties. On the other hand it stimulated the speculative motivation for purchasing property, which became one of the principal factors for “warming up” the market.

It must be noted that such a growth in prices had as an important component not so much construction costs, but the developer’s profit - more than 40% on average. Such growth in prices did not correlate either with households’ and businesses’ income, or with income from the property, thus making mortgage payments impossible. In reality, property was bought at prices that did not correspond to the purchasing power of buyers. This could not help but lead to a crisis.

The financing of construction with a high level of completion recommenced only in the beginning of 2010, and even then, the financing of new construction was subject to such construction being realistic in size, highly competitive and attractive for users.

On the whole, the market repeated the same stages of development that we saw in the first cycle. Although the second cycle took place under differing social and economic conditions, and had principally different market parameters, both cycles demonstrate the general tendencies of changing parameters that describe the state of the market, the latter starting to dominate urban development more and more [5].

3. Principal agents in the changes of a land use system.

3.1. Residential Complexes. Residential construction is the principal driving force during changes in a given land use structure. Though in the first decade of the post-socialist period the volumes of new residential construction completed have significantly dropped (in certain years up to 400.000 sq.m.), residential estates at the outskirts of Kyiv continue to be build: on the left bank are Vyhurivschina-Troyeschina, Posnyaky, Osokorky, on the right bank are Obolon, Svyatoshyn, Akademmistechko, Bilychy, and the completion of a small residential estate on vul. Staronavodnitska in Pechersk.

The second decade showed an increase in residential construction and diversity in the projects undertaken. Along with residential construction, traditional for the socialist period, there is also residential construction going on in Teremky, Levoberezhna, and the DVRZ, with the density of construction of built-up areas in central Kyiv being increased. Here individual residential complexes of average and above average standards are being built. They have an autonomous infrastructure and professional management. Areas with private detached houses are being reconstructed in addition, where condominiums, town houses and individual developments are being built to match new standards of living for families with high incomes.

During this period, land plots formerly belonging to manufacturing enterprises, located mostly in central Kyiv, are started to be built-up with residential development, such as the housing estates of Holosiyivsky, Novopechersky Lypky, Comfort Town, Parkovi Ozera, Park Avenue, Crystal Park, and Fountain Boulevard.

Perhaps for the first time in the real estate market a demand has arisen for secondary residences located beyond the city boundary. The highest demand is for housing located within a 30-kilometre zone of the capital. A new kind of residential estate has appeared, that of gated communities with a developed infrastructure and guarded territory.

3. 2. Office Centres. Office centres have become another important agent in the changes of land use structure. In the first decade of the post-socialist period, developers gave preference to relatively inexpensive projects that upgraded and brought into use existing administrative and laboratory buildings at locations easily accessible by public transport places. Later, from 2004, there appeared a tendency to construct professional office centres of categories A and B, which tend to be located in the Central Business Area of the capital, the size of which is restricted.

Later with the saturation of the Central Business Area with office space, office centres of categories A and B started to be built in areas neighbouring the Central Business Area, such as Podil, Pechersk, Nova Zabudova, Lukyanivka, and Solomenka. This has effectively returned these areas to those of concentrated employment within the historical city centre.

3.3. Shopping and Entertainment Centres. Shopping and Entertainment Centres that require relatively large areas for construction have become yet another important agent in the changes of the land use structure. It was only natural that they began with the reconstruction of substantial industrial buildings, turning them into

shopping centres with incremental entertainment units, such as those of Megamarket on Horkoho St, Karavan on Luhova St., and Promenada on Bohhovutivska st.

In the very centre of Kyiv, commercial functionality was acquired by a street-retail format and started to use subterranean space, examples including Metrohrad, Kvadrat, and Hlobus.

Newly constructed professionally-designed shopping and entertainment centres with shopping malls, alongside a few principal lessees, usually food supermarkets and hypermarkets, together with food courts and entertainment areas, started to rapidly compete with the previously-described shopping centres. Such centres were built mostly along general city arterial routes, near Metro stations and on big residential estates in the central and peripheral zones of the city, thus forming both a linear and a hub structure for commercial real estate.

The development of commercial real estate created the so called 'doubles' for the city centre in areas with a high density of daytime population.

4. Spatial land use structure. Processes that took place on real estate market influenced the change of spatial land use structure.

The area of the city is growing due to the development of peripheral areas with basic economy-class residential developments. At the same time, elite residential developments and commercial property require more advantageous locations within the city. This results in the intensification of the development in the central part of the city, and in the pushing out of uncompetitive functions that require big territories, such as industrial and transport enterprises. At the same time, integration of dominating functions with those that have an ancillary and service character is taking place. Thus the tendency for unipolar spatial land use structure is strengthened.

Simultaneously, the expansion of the Metro network and local spatial and time characteristics of the population behaviour help to single out additional centres of the second and lower levels in the structure of land use. The principle of monocentric organisation is applied to such centres as well.

In other words, polycentric multi-level systems of land use are being formed with enhanced differentiation by degrees of function of concentration in the general city centre and additional centres. At the same time the importance of the city centre as the principal system-forming factor of land use on the whole is being strengthened.

The above stated may be proven by the dynamics of property prices, which tend to differentiate more and more in central and peripheral areas, on the left bank and the right bank of the city, as well as in the areas with different levels of development of social and transport infrastructure.

Conclusions. The above analysis enables us to state that changes in land use within the city boundary were in many ways determined by the spatial structure that was formed in the previous period, and the process of spatial transformation itself must be viewed as the result of the interaction of the previous conditions and on-going processes.

In the post-socialist period, urban development is dependent on real estate market cycles. Residential and commercial properties that guarantee a quick return

on investment for investors have become the principal agents in the transformation of the functional and spatial land use structure. The balance in the city territory changes is in favour of residential and public property. Land plots with the highest rent potential have become the spatial transformation points. This, in its turn, drives the restructuring of the city area, in particular the strengthening of the function of the general city centre, appearance of new public centres in areas with high densities of daytime population, and intensification of land use along general city arterial routes. The degree of compactness of the city is increasing, as well as the degree of interconnection of all its structural elements.

At the same time this period of development of the land use system is characterised by the features of unregulated markets. In particular, the discretional approach to decision-making in access to resources for development, the narrowing down of the circle of persons who create effective demand in real estate, and losing a comprehensive approach to development.

Thus, while the system of land use creates the conditions for urban development, the system itself is subject to development. Thus, we must understand the essence of the on-going processes and apply adequate instruments for its regulation.

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THE ASSESSMENT OF THE POPULATION'S LIVING CONDITIONS IN THE UKRAINIAN BIG CITIES

Sergiy Poklyatskyi
Institute of Geography, National Academy of Ukraine, Kyiv, Ukraine

Abstract. *The research is based on a combination of objective (statistical data) and subjective (questionnaire) assessment of population's living conditions. There is performed integrated assessment of living conditions of the population of large cities in Ukraine with a population of over 100,000 based on the author's original technique. Series of maps using data interpolation method are elaborated.*

Покляцький С.А. **Оцінка умов життя населення великих міст України.** *Дослідження базується на поєднанні об'єктивної (статистичних даних) і суб'єктивної (анкетного опитування) оцінок умов життя населення. За авторською методикою проведено інтегральну оцінку умов життя населення великих міст України з населення більше 100 тисяч. Розроблено серією карт із використанням методу інтерполяції даних.*

Modern society becomes more demanding to the environment in which it lives. Changes are taking place in the demographic situation; economic, social, environmental, social and cultural living conditions are modifying; new needs and interests of the population are emerging. In the cities this process is in especially intensive progress. Ukraine is highly urbanized country in which the part of the urban population increased from 45.7% to 68.5% during the period since 1959 until 2010. Many scientists (I. Gukalova, G. Pidgrushnyi, A. Treivish [1, 2, 3]) emphasize the exceptional role of the big cities (more than 100 thousand inhabitants) in the central and Eastern Europe from the economic point of view. Big cities are the final "protection barrier" against the mechanical and natural population decrease in our country. Worthy living conditions are the basic cities attractiveness for the population. At present, not enough attention is paid to the assessing of the population's living conditions in the big cities, especially in Ukraine. But such studies are demanded both by the society and by the viewpoint on the further development according to principles of the Social Geography and Geourbanistics.

The living conditions of the population are social category, and so the optimal basis of the research is formed by the synthesis of objective and subjective assessments. Each of the assessments takes into account four main components - economic favorable development of the big cities, *the state of their social* and environmental situation and *favorable social and cultural development*. Ranking method was chosen for benchmarks valuation. According to this method, measurements of specific rank correspond to a value of empirical data or the place of the respondent's position about the life conditions in specific city among other cities. For visual representation of the integral rating life conditions method of inverse distance weighting (IDW) was used. This mapping method by interpolation of data allows us to see certain geographic trends, namely territorial differentiation in population's living condition in the Ukrainian big cities (Figure 1.).

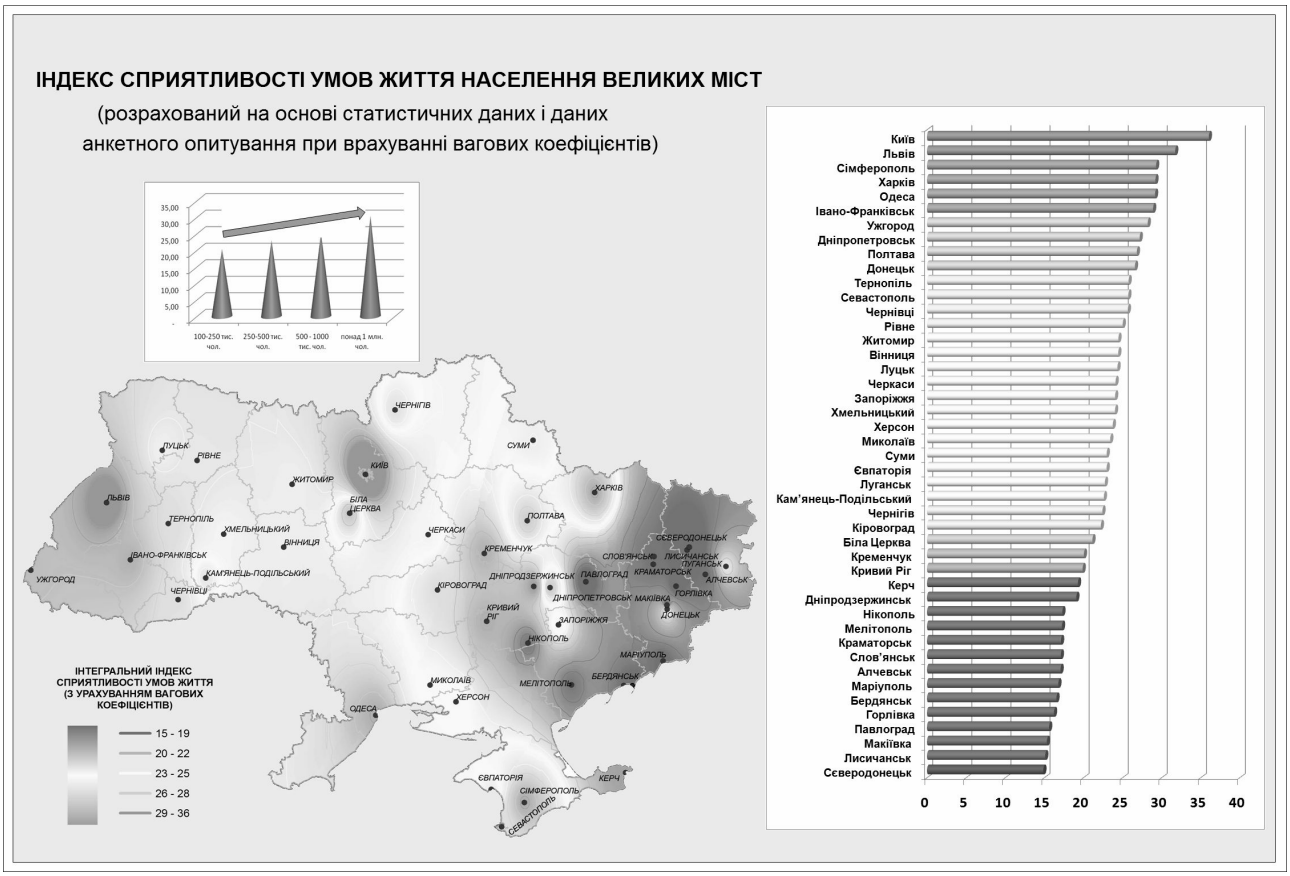

Figure 1 – Integral index of the population's living condition in the Ukrainian big cities

Objective (statistical) rating of living conditions in the big cities. For this assessment of living conditions 83 statistics were applied with over 60 different institutions. According to the objective index of ***favorable economic conditions for the formation of life***, which was formed on the basis of the arithmetic mean index reduction of *production potential*, *small business development*, *export-import potential* and *investment attractiveness*, *income and budget towns,* cities with populations over one million were in top positions, and cities under 100-250 thousand people in the last positions. Objective index of social life support was calculated on the basis of seven indices, namely consumer goods and services, housing, home improvement and state of housing and communal services, education infrastructure, state of health, state of medical sphere and the state of the labor market. It is typical that when a significant differentiation level of individual indicators for each city is observed, large differences in the index of social services are not visible. The highest index value received Kyiv, Uzhgorod, Poltava, Ivano-Frankivsk, Chernivtsi; low indices observed mainly in the eastern cities, and in the Vinnytsia. Objective index of favorable ecological situation consists of three components: condition of air pollution, the state of waste management and state of water resources. According to this index certain geographic trends were revealed: the group with low values were mainly eastern and central old-industrial cities (with the worst situation in Mariupol), and western and some coastal cities of Ukraine (Evpatoria, Berdyansk, Melitopol) belong to the cities with favorable ecological situation. Objective index of favorable socio-cultural development are based on six

indices: the age of major cities, infrastructure and cultural tourism potential of higher education, family welfare, criminogenic situation and social insecurity. Changes in indexes from highest to lowest values are notable in the direction from the west to the southeast: high indices are typical for western cities and Kyiv, Zhytomyr and Simferopol; low indices are observed mainly in the southern and eastern cities (Kerch, Sevastopol).The lowest index of favorable socio-cultural development was recorded in Sieverodonetsk.

In objective rating four main components was estimated: index of demographic potential in the big cities (based on the summary indicator of their population), and three intermediate indices - natural and mechanical movement of population, state of sex-age harmony, potential economic activity and efficiency. This index was calculated to establish the "weight" of economic, social, environmental, and socio-cultural living conditions indices. It turned out that most of the mathematical significance in shaping the demographic potential were due to sociocultural and social components, while economic and environmental factors were of the lower significance. This indicates that the reproduction of the population in the big cities and regions as a whole is bound more to the tradition and to the cultural and religious backgrounds, than to wages and the level of emissions. Objective evaluation result was an integrated index of favorable living conditions, as the combination of the 4 intermediate indexes based on their weights (1):

$$I_{objective} = 0{,}144I_{econom} + 0{,}361I_{soc} + 0{,}091I_{envir} + 0{,}404I_{cultur} \quad (1),$$

$I_{objective}$. – *objective index of the living conditions in big cities;*

I_{econom} – *favorable economic situation index (0.144 – weighting);*

I_{soc} – *social development index (0.361 - weighting);*

I_{envir} - *Index favorable environmental situation (0.091 - weighting);*

I_{cultur} – *sociocultural favorability index (0.404 - weighting).*

Kyiv, Uzhgorod, Ivano-Frankivsk, Lviv, Ternopil, Simferopol, Chernivtsi, Poltava, Rivne, Cherkasy are the top ten sities. Kryviy Rig, Nikopol, Berdyansk, Lysychansk, Dneprodzerzhynsk, Gorlivka, Sieverodonetsk, Mariupol, Pavlograd, Makiyivka are characterized by the lowest indices.

Subjective rating of the living conditions in the big cities (by means of questionnaire). The next study stage was dedicated to the subjective rating of the living conditions of the population in the big cities, which was conducted by means of questionnaire among 375 students of geographical departments of Taras Shevchenko National University of Kyiv, Dragomanov National Pedagogical University of Kyiv, Yuriy Fedkovych Chernivtsi National University, V.N. Karazin Kharkiv National University, Taurida National V. I. Vernadsky University. The developed questionnaire contained three blocks of questions. Answering the **first question**, "*In which categories among represented settlements of Ukraine you want to live?*" more than 50% of respondents prefer big cities in the choice of residence. Answering the **second question** of the questionnaire: "*What factor does determine your choice to live in Ukraine*?" votes were divided as follows: 51% chose the economic component, 12% - social and environmental factors, 11% - socio-cultural component and 14% – other factors (the last part was proportionally distributed between the four components). The distribution of votes has been used in

determining the "importance" weight of each of the life conditions components in their subjective rating. Accordingly the largest weighting factor was assigned to favorable economic conditions of life, and the smallest – to the social and cultural.

The most difficult but also the most informative was the **third question:** respondents were asked to rank the presented major cities of Ukraine from the best to the worst relating the four components of living conditions – economic, social, environmental and socio-cultural. It was revealed that the survey results were not significantly different from those obtained by analyzing statistical data with an objective rating. According to the subjective assessment of the **economic situation** in the big cities, the capital was almost unanimously elected as a leader; the greatest by the population Ukrainian cities also appeared on the forefront. Group of cities with low indices proved to be quite powerful (23 cities) with a clear outsider Kamianets-Podilsky. In assessing the **social** and **socio-cultural situation** students preferred cities with the largest population. E**nvironmental situation** was positively seen by respondents in two regions – great cities of western regions and Crimea. The cities of east old industrial regions occupy the worst positions in environmental favorability.

The result of subjective rating was subjective index of favorable living conditions, as the combination of the 4 intermediate indexes based on their weight (2):

$$I_{subject} = 0{,}545I_{econom} + 0{,}155I_{soc} + 0{,}155I_{envir} + 0{,}145I_{cultur} \quad (2),$$

I subject – subjective index of the living conditions in big cities;
I_{econom} *– favorable economic situation index (0.545 - weighting);*
I_{soc} *– social development index (0.155 - weighting);*
I_{envir} *- index favorable environmental situation (.155 - weighting);*
I_{cultur} *– sociocultural favorability index (0.145 - weighting).*

The top ten sities by subjective rating were Kyiv, Lviv, Odesa, Kharkiv, Donetsk, Dnipropetrovsk, Simferopol, Sevastopol, Zaporizhia, Ivano-Frankivsk. The top ten outsiders were Makiyivka, Berdyansk, Melitopol, Kramatorsk, Pavlograd, Slovyansk, Alchevsk, Sieverodonetsk, Lysychansk.

Integral rating of the living conditions in the big cities. Using the method of construction of the objective and subjective indices arithmetic mean, integral index of favorable living conditions were calculated (3):

$$I_{integr} = {(I_{objective} + I_{subject})}/{2} \quad (3),$$

I integr - Integral rating of the living conditions of the population in big cities;
$I_{objective}$ *– objective index of the living conditions in large cities;*
I subject – subjective index of the living conditions in large cities

According to the integral index, the list of cities with the best living conditions includes Kyiv, Lviv, Simferopol, Kharkiv, Odesa, Ivano-Frankivsk, Uzhgorod, Dnepropetrovsk, Poltava, and Donetsk. The list of towns with the most unfavorable living conditions includes: Sieverodonetsk, Lysychansk, Makiyivka, Pavlograd, Horlivka, Berdyansk, Mariupol, Alchevsk, Slovyansk, Kramatorsk, that are mainly representatives of eastern old industrial regions.

Conclusions. A direct dependence was established between the integral index of favorable living conditions and the big city population: the integral indeces increase, on average, from the cities with 100-250 thousand of inhabitants to cities with the population counting over 1 million. Search for geographical trends allowed to conclude about the deterioration of living conditions in big cities in the direction from western to central Ukraine and from central to south-eastern Ukraine. The best living conditions were found in big cities that have been historically established for more than five centuries, while in relatively young cities the living conditions were among the worst. This may be explained by the fact that older cities developed around the typical functions of the city–life, while new cities were built to settle populations for mining and mineral enrichment production.

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CHANGES OF MIGRATION TRENDS IN BRATISLAVA AND KOŠICE FUNCTIONAL URBAN REGIONS AND THEIR IMPACT TO THE REGIONAL DEMOGRAPHIC STRUCTURE CHANGES

Ladislav Novotný
Institute of Geography, Pavol Jozef Šafárik University in Košice, Slovakia
ladislav.novotny@upjs.sk

Abstract. *The paper shows changes in migration trends in the functional urban regions (FUR) of two largest Slovak cities – Bratislava and Košice during the transformation and post-transformation period. The most significant is changing pattern of intraregional migration where the moderate centralization of population from the early 1990ies changed into the very intensive decentralization after 2000. While economically strong Bratislava FUR records concentration of population which means positive migration balance during whole monitored period, economically weaker Košice FUR is balancing between concentration and deconcentration of population. The impact of these processes can be seen in changing demographic structure of both regions, mainly in age and educational but the national (ethinc) and religious as well.*

Новотни Л. **Зміни у міграційних трендах у Братиславському та Кошицькому функціональних урбанізованих регіонах та їх вплив на зміни у демографічній структурі регіонів.** *У статті показано зміни у міграційних трендах у функціональних міських регіонах (ФМР) двох найбільших міст Словаччини – Братислави та Кошице – протягом трансформаційного та пост-трансформаційного періоду. Найсуттєвіші зміни відбулися в моделі внутрішньорегіональної міграції, де помірна централізація населення на початку 1990-х років змінилася інтенсивною децентралізацією після 2000-го. В той час як в економічно потужному Братиславському ФМР спостерігається концентрація населення, про що свідчить позитивне сальдо міграції протягом усього досліджуваного періоду, економічно слабший Кошицький ФМР балансує між концентрацією та деконцентрацією населення. Вплив цих процесів можна побачити у зміні демографічної структури обох регіонів, головним чином у віковій та освітній, а також національній (етнічній) та релігійній структурі.*

Introduction. Overall transformation undergone by Central and Eastern European countries since the early 1990s has had significant impact to the dynamics of their populations. In Slovakia, a lot of attention has been paid to the research of lowering fertility and natural increase, ageing of population and other aspects of reproductive behavior and natural change of population but much less attention has been paid to the changes of migration trends in terms of economical, social, political as well as cultural transformation. Natural change has long been the key factor of the overall population change in majority of Slovak functional urban regions. Nevertheless, the research made by Bezák (2011) proved that the number of regions where migration is determining the overall population change has been continuously rising since the 1980s. Furthermore, even in the regions where natural change is determining overall population change on the regional level, it is possible the migration is the key factor of intraregional redistribution of population (Novotny 2012). Therefore, the aim of this paper is to describe the changes of migration trends in the functional urban regions of two largest Slovak cities – Bratislava and Košice as well as to examine the significance of migration's impact into the spatial redistribution of population within these regions and to demonstrate its relation to the demographic structure changes using the example of the ethnic structure.

Spatial framework. Functional urban regions (FURs), in Slovakia delimited by Bezák (2000) were chosen for this research as they are based on the conception of daily urban systems respecting daily commuting from hinterlands to the regions' core. This conception allows us to assume that interregional migration tends to be related to the change or relocation of migrants' employment and intraregional migration occures usually without changing of employment.

Bratislava FUR and Košice FUR are both located at the southern border of Slovakia (fig. 1). Bratislava FUR is bordering with Austria and Hungary and Košice FUR with Hungary. While Košice is the centre of region with high unemployment rate and relatively low wages, Bratislava region is economically most developed in Slovakia. The population of Bratislava FUR is over 600.000 and of Košice FUR over 300.000 people. In both regions, roughly two thirds of inhabitants live in the core (urban centre) and one third in the ring (hinterland).

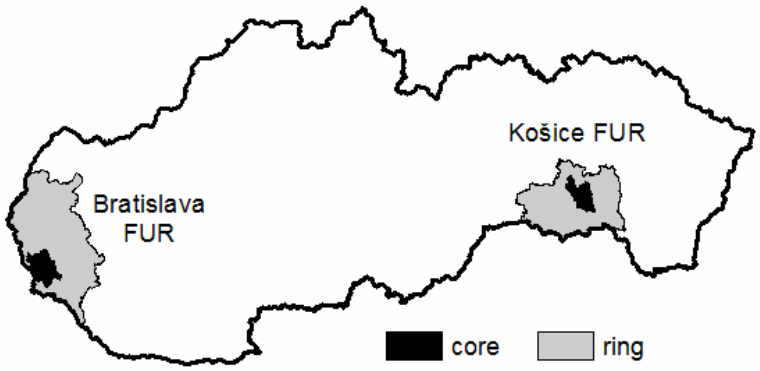

Figure 1 – Location of Bratislava and Košice FURs within Slovakia

Migration trends. Considering regions as a whole, Bratislava FUR was recording positive migration balance during whole observed period. It means that the process of concentration of population continued from previous era. The intensity of concentration (represented by the FUR curve in fig. 2) diminished during 1990s, but with the economic boom of the region it started to rise continuously after 2000. From the World War II till the 1980s, the population of Košice region was growing rapidly, especially because of migration into the Košice city that was considered to be the fastest growing city in former Czechoslovakia. However, intensity of concentration started to decrease in 1980s and in the early 1990s, net migration of the Košice FUR became balanced (it means recorded migration gains or losses were very low). When intensity of concentration started to grow in the Bratislava FUR, the Košice FUR as whole was, due to the collapse of iron-producing industry (that was the key-sector of regions' economy), recording negative migration balance, which means the process of concentration changed into the process of deconcentration, although its intensity is very low.

Before 1990, centralization of population was characteristic process for all functional urban regions in Slovakia (Bezák 1999), which means the growth of the regions' cores was stronger than the growth of the rings (also if the migration balance was negative). In the Bratislava FUR, this process continued till the mid 1990s (fig. 2), probably due to some block-buildings neighborhoods. Their construction started in 1980s but was finished just after 1989. After this period, development of migration balance of the core and the ring became dichotomic. The core of Bratislava FUR started to lose population by migration while the ring started to record continuously rising migration gains. After 2005, migration balance of the region's core became also positive.

In the early 1990s, very low migration gains and migration losses were changing in the Košice FUR as well as in its core and the ring. After this period, the development was very similar with the Bratislava FUR, although the core has been losing its population by migration till the end of the observed period and migration gains in the ring has been lower than those in the Bratislava FUR's ring (fig. 2).

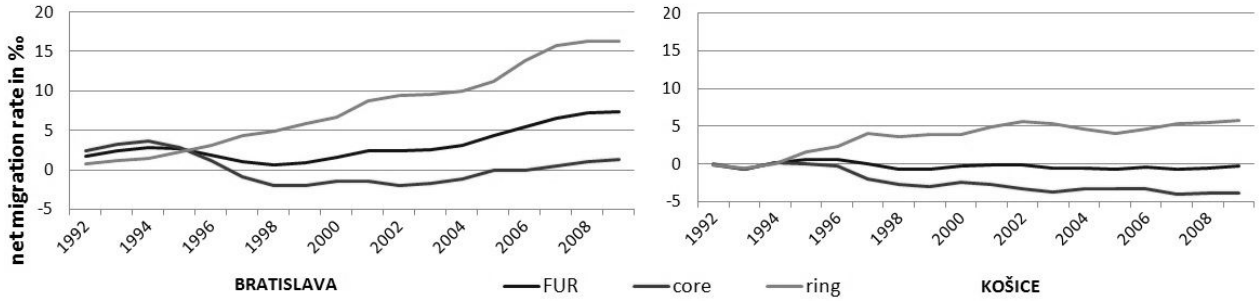

Figure 2 – Development of migration balance expressed by the net migration rate in the Bratislava and Košice FURs and their components

This means, at the mid 1990s, the process of population decentralization took place in both regions. The intensity of the centralization/decentralization process has been increasing continuously in both regions, although some fluctuation was recorded (fig. 3).

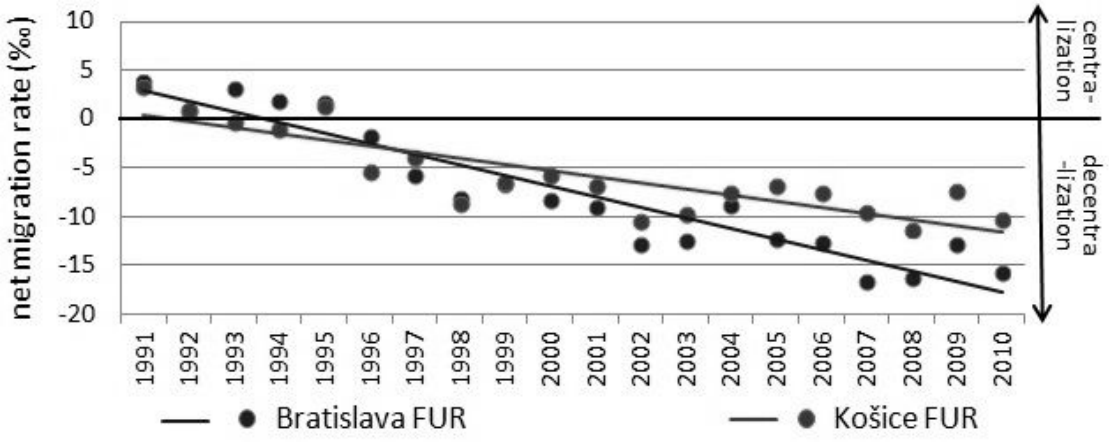

Figure 3 – Process of centralization/decentralization expressed as the gap between the values of the net migration rate in the core and the ring.

The role of migration. While process of centralization changed into decentralization at the intraregional level, also the roles of migration and natural increase in the total population growth of the individual communes in the FURs' rings changed. During the period 1991 – 2000, the roles of migration and natural increase were generally equal. However, in the period 2001 – 2010 migration became the key factor of total population change in both regions but much more in the Bratislava FUR. To express this shift we apply the chart first used by Webb (1963) that distributes communes into eight categories created by interrelation of net migration and natural increase gains or losses.

As seen at the fig. 4, in 1991 – 2000 the variation of the net migration rate and natural increase rate values of individual communes in the FUR' rings were similar, but in 2001 – 2010 significant majority of the communes (especially in the Bratislava FUR) falls within the categories C and D, where the immigration has a decisive role in total population growth. Thus migration in general has become key factor of population redistribution at the local level within both FURs after 2000 and we also expect it to have a decisive role in the changes of population structures at the same level.

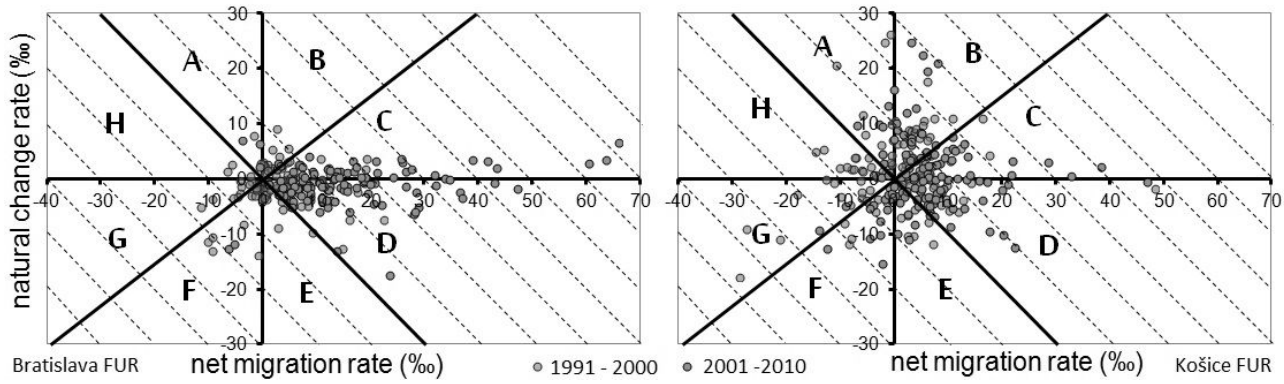

Figure 4 – Interrelation of the net migration and natural increase in the communes of the Bratislava and Košice FURs

Demographic structure changes (example of ethnic structure). Populations of both FURs have similar ethnic structure. Share of Slovaks is approximately 90 % in the cores and 80 % in the rings. However, there are many communes in the regions' ring, where majority is Hungarian and the share of Slovaks is much lower. If decentralization of population is the most significant migration process in the regions and migration is a key factor of population redistribution (in 2001 – 2010), it is likely that share of Slovaks will increase in the communes that were destinations for migrants from the core and where the share of Slovaks was lower than in the core in 2001.

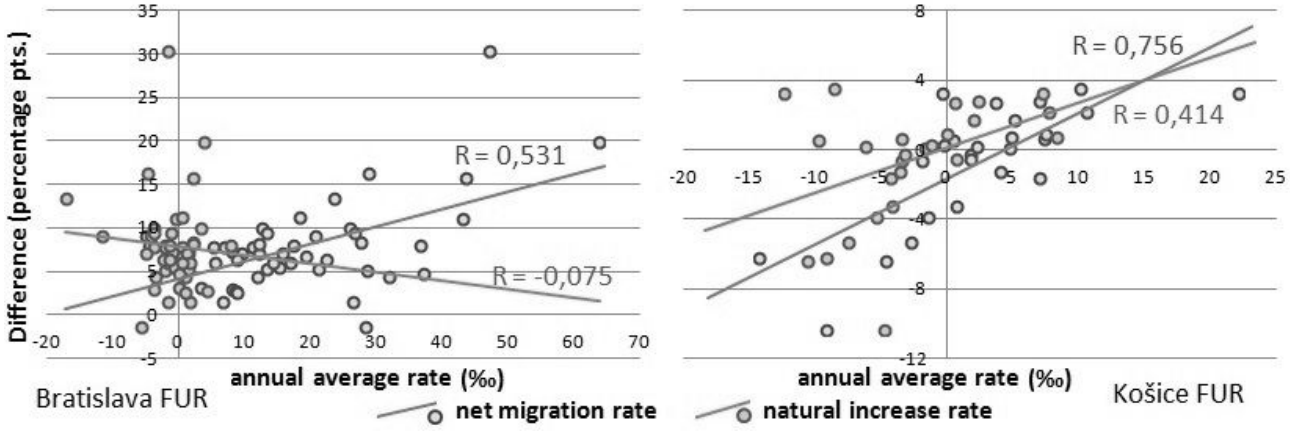

Figure 5 – Correlation between the difference in the share of Slovaks and the migration and natural increase in selected communes* of Bratislava and Košice FURs (2001 – 2010); *communes where the share of Slovaks in the population was lower than in the region's core

The strength of correlation (expressed by the correlation coefficient R) between the difference in the share of Slovaks in the population of selected communes and the migration was higher than the one with natural increase in both regions. And in this kind of phenomena, any correlation with the R value over 0,5 is considered to be large correlation (Cohen 1977). The correlation with the natural increase was lower in the Košice FUR and much lower in the Bratislava FUR, where it was negative. This proves in general that the role of migration became the key factor in

the changes of demographic structure of population in the both observed regions after 2000.

Conclusion. This paper shows the main transformation processes of migration and some spatial structures of population are very similar in the Bratislava and Košice FURs, although the economical and social situation in both regions is different. During the 1990s, process of population centralization into the cores of the regions changed into the decentralization with rising intensity after 2000. While the natural change of population used to be key factor of total population change before 1989, after transformation during 1990s, migration gained the decisive role. In general, after 2000, migration became decisive also in the population spatial redistribution and the changes of demographic structure of population in the both observed regions that was shown on the example of ethnic structure. Dominant economic position of the Bratislava FUR among Slovak regions is highlighted by the process of population concentration with rising intensity, while the Košice FUR is experiencing migration losses which represent the process of deconcentration, although its intensity is very low.

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SINO-VIETNAMESE IMMIGRANTS IN SLOVAKIA - FROM SEPARATION TO INTEGRATION? EXAMPLE OF CHINATOWN ON STARÁ VAJNORSKÁ STREET IN BRATISLAVA

Michal Bilic, Alfred Krogmann, Lucia Šolcová
Constantine the Philosopher University in Nitra, Nitra, Slovakia
michal.bilic@ukf.sk; akrogmann@ukf.sk; lsocova@ukf.sk

Abstract. *Asian immigrants in Slovakia in general are characterized by strong internal separateness of their communities. This is manifested at the level of their integration into mainstream society, but also on the way of living and their concentration. Based on factors such as absence of knowledge of the majority language, legislation and so on, these communities are separated from mainstream society and generate local concentration zones with specific cultural manifestations. They are changing the original character and land use at the local level, and these changes are subject of the presented study. The research was carried out in the industrial part of Bratislava – Nové mesto on the Stará Vajnorská street, where there was recorded an increased concentration of longer-term immigrants from Vietnam and China. In the field survey was conducted, the observed data were evaluated and discussed with representatives of local government and by the Bureau of Border and Aliens Police of SR.*

Біліч М., Крогманн А., Шольцова Л. **Ктайсько-в'єтнамські іммігранти у Словаччині – від ізоляції до інтеграції? Приклад чайнатауна на Старій Вайнорській вулиці у Братиславі**. *Азійські іммігранти у Словаччині в цілому характеризуються значною внутрішньою ізоляцією їхніх громад. Це проявляється у рівні їх інтеграції до місцевого суспільства, а також у способі життя та їх концентрації. На підставі таких факторів, як незнання місцевої мови, законодавства і т.п. ці громади ізольовані від суспільства і створюють локальні зони концентрації з особливими культурними проявами. Вони змінюють первісний характер і землекористування на місцевому рівні, і ці зміни є предметом представленого дослідження. Дослідження було проведено в промисловій частині міста Братислава – Нове Мєсто на Старій Вайнорській вулиці, де спостерігається зростаюча концентрація іммігрантів з В'єтнаму і Китаю, що перебувають тут тривалий час. Отримані за результатами польового дослідження дані були оцінені та обговорені з представниками місцевих органів влади та Бюро Кордонів та Поліції у Справах Іноземців Словацької Республіки.*

Introduction. Location, spatial manifestations of communities, but also the integration of foreigners in Slovakia is characterized by certain specific features that are closely related to the nature of communities. Their spatial distribution is conditioned not only by economic factors but also historical, political, cultural or social factors. The city as a multicultural space is specific to the various communities of foreigners seems much more acceptable in terms of integration than any other residential type (Uherek, 2003). Wirth (1938) argues that foreign communities are in urban area even measure of urban of settlement, operating in the city social climate and together create the social diversity of the city. As the biggest advantages for foreigners in the city area identified Uherek (2003) a high offer jobs, better accommodation and a high concentration of the necessary institutions.

The city, however, also considered a space where foreigners can contact with other foreigners (mostly within their own communities), where there is a network of interaction between the source and destination country of all positive and negative, that this interaction brings.

All these conditions perfectly meets our capital city - Bratislava, where the most foreigners are concentrated in the whole country (Map 1). They come for different reasons, whether business, economic, study or family. Bratislava thus can not be described as one-sided in migration-oriented city (such as Galanta), but fills the attributes of interest with multi-space migration.

The typical "urban foreigners" are immigrants from Vietnam and China, who created the largest group in Bratislava and also in Slovakia. Their presence in the capital city, but also generally in Slovakia is economically strong contingent. Contrary example. the Koreans, however, does not bind to the nuclear company from source country that invest in Slovakia, but in smaller entrepreneurial activities of individuals who deal mainly with cheap commodity, textiles, electronics or in the catering industry. In connection with the presence of Vietnamese and Chinese in our country and their economic activities demonstrate Trembošová, Tremboš (2009). They characterized the phenomenon in the development of the retail network called “aziatization”. This is a particularly robust penetration of Vietnamese and Chinese vendors at our market. The model area in Bratislava on the Old Vajnorská street due to their increased concentration forms “Chinatown”. This is a social space, which is involved in the transformation of the country with specific manifestations (Bruge, 2012).

Vietnamese in Slovakia – short genesis of arrival. Vietnamese community in our area began to take shape as early as the 50th in the 20th of century, when they started coming in several waves under the Agreement for Mutual Economic Assistance between the Czechoslovakia and Democratic Republic of Vietnam. The intention of the post-war Czechoslovakia was help to Vietnam in training professionals in schools in Czechoslovakia, who later tribes occupied jobs for cheap labor mainly in engineering, as well as other industries (Hlinčíková, 2010). Their study or professional ambitions were regulated by competition and often they do not know to what school and to which company one of the "friendly" countries will go to study or work (Hlinčíková, 2010; Brouček, 2006). After 1989 began the transformation of Vietnamese immigration to Slovakia, but also to European countries. Spontaneous economic migration intensified, the main motivation was the personal growth of living standards (Martínková, 2008). Many of Vietnamese in the 90-ies of the last century have returned to their home country because of reemigration and repatriation pressures from Vietnam, but many of them went to the west and to the Czech Republic and Germany (Hlinčíková, 2010). During this period, significant changes have occurred in the area of legal residence in the Slovak Republic. Many of them have lost their jobs and thus the right to legal residence. Vietnamese so in order to maintain long-term residents gradually began their own business especially in the retail sector (Williams, Baláž, 2005; Brouček, 2003). Those who remained in Slovakia, as well as new immigrants in this country was increasingly favored business before an employment relationship, in addition to

retail and started to apply as small traders, wholesalers with cheap commodities, owners of restaurants or establishments (Divinský, 2009; Hofírek, 2009). During this period, the Vietnamese came to Slovakia in particular on migration networks, in 2006 also comes as agency workers (Filadelfiová a.o., 2011). In terms of their location they concentrated mainly in the larger cities, where demand for cheap commodities highest. Uherek (2003), however, states in addition to the business because of their location, also the condition of quality schools that provide their children the best possible education and for the price it would cost to education significantly affected the structure of their costs. This confirms the location of the Vietnamese in Slovakia, which is linked in particular to districts with significant urban settlements (Map 2). Their incidence is highest in the districts of Bratislava, where there are almost 30% of all Vietnamese in Slovakia. More significant are represented in districts of Košice II, Galanta, Poprad and Trnava. In other districts they represented nearly uniform and only in six districts of central and eastern Slovakia had not representation.

In part of Bratislava cirty - New Town even opened class of Vietnam for the school year 2012/2013 at an elementary school on Odborárska street, where the Vietnamese children learn the language of their parents, while in the afternoon, the Vietnamese learn Slovak. Mutual interest in this kind of study is yet understandable because knowledge of the Slovak and Vietnamese language for both generations is vastly different. Distorts the natural way communication within the family affects the physical and mental balance in the lives of children and parents (Desirée, 2009). In addition, the Vietnamese community plans to apply for the inclusion of ethnic minorities in Slovakia. In the case of the Vietnamese in the Czech Republic their request was rejected on the ground that the Vietnamese are not historical minority and is also actively involved in the process of integration into the majority society (Krempaský, 2013). Their number is taking several times higher than in Slovakia and in the words of representatives of the Vietnamese community in Slovakia Viet Nguyen is the number of about 5000, which is almost twice as high as reported by official statistics residence permit of the Border and Alien Police of the Slovak Republic (ÚHCP SR).

Chinese in Slovakia - short genesis of arrival. The Chinese community is compared with the Vietnamese in Slovakia established only relatively short time (especially since 90-ies of the last century), but is characterized by large internal dynamics. Their distribution within the SR is very uneven and linked mainly to the western districts of Slovakia and Bratislava (map 3). Their frequency decreases in districts to the east of the country except districts Prešov and Poprad. Optically although their share of the population of foreigners may stagnate, but a significant proportion of them simultaneously acquire the citizenship of the Slovak Republic and thus fall out of the register of foreigners (Divinský, 2007).The most of Chinese came to Slovakia, respectively is linked to a number of selected regions in China, where migration takes place on our territory. Similarly, in the Czech Republic, where Obuchová (2002) found that between these regions in addition to the actual migration of people, there is also an intense flow of commodities and information, while other Chinese regions are not participate on migration to the Czech Republic.

Based on the survey Commercial Register (CR), which was conducted in June 2012, we studied a sample of 220 persons enrolled in CR coming from China in addition to business objectives, as well as their location in Slovakia by residence, as well as a link to the home regions country. Analysis of data from the register pointed to several specifics, particularly the linkage Chinese by business sector, which at first glance creates a kind of intra-national business network.This means that a company has several owners of Chinese origin, or residing in China who were also co-owners of other Chinese companies in Slovakia, often in different cities at the same time (eg, co-owner of two Chinese companies in Bratislava, is co-owned by one company in Nitra, while two companies in Partizánske). Co-ownership of Slovak citizens occurred only in one case. However was often occurred co-ownership of Chinese residing in Slovakia and China. An interesting finding was also that the persons who reside in China was up 42,5 %. The Chinese, who reported place of residence in Slovakia came mainly from the cities (92 %), which accounted for 33,3 % of Bratislava. The most common area of the business was area of food and beverage (50,1 %), retail (22,5 %), wholesale trade (21,6 %) and intermediary services (4,6 %).

Based on our survey, we found that the most intense Chinese contacts in Slovakia are with the provinces located in southeast of China. The most numerous contacts we noted with compatriots of Zhejiang Province (Če-ťiang), whose share of the total sample accounted for only 90,3 % (Figure 1). The largest share came from the city of Lishui (65,6 %). We therefore believe that the application of network theory of migration (Massey and others, 1993; Light, Bhachu and Karageorgis, 1989, Fawcett, 1989; Drbohlav, Uherek, 2008), the majority of Chinese people come to Slovakia from this province. Company Advance Investments a.s. (2011), which is engaged in trading with China in Slovakia, characterized by the province, as the fourth largest regional policy in China. It also states that the province is a long-time major textile and garment production base in China, with about 20 % market share. In other provinces it was mainly Jiangxi (Jiāngxī) with 5,5 % representation, which is an industrial area of China with a strong automobile, aviation industry, as well as electrical engineering. Also has a strong presence in agriculture, especially the cultivation of grain, rice, fruits, vegetables and fish farming.

Trade means as openness and community separation - example Old Vajnorská street in Bratislava. As already mentioned, the majority of immigrants from the two Asian countries are concentrated in Bratislava. Like they did in the past, but only if Slovakia were not considered a transit country, but as the target. Here they based their first entrepreneurial activity (base) in the catering and food and beverage as well as retail sales of cheap consumer commodities. Bratislava acted as an important logistical point of supply of commodities as well as a significant center of demand for their commmodities and services. The most important condition of profit is a sufficient concentration of population in urban lifestyles and certain specific of eating and shopping habits Obuchová (2002). Their concentration is highest in the capital city, in addition to the traditional areas of the urban marketplace Miletičová and Jedlíková street, especially at Old Vajnorská street in the part of New Town of Bratislava. Based on these data, we carried out the

field research, in which we tried to analyze the type of area in terms of the concentration of foreigners.

province	residence	determined number	share of permanent living in China (%)
Zhejiang	Lishui	61	69,3
	Wenzhou	5	5,7
	Ningbo	2	2,3
	bez udania	16	18,2
Fujian	Fuzhou	1	1,1
Jiāngxī	Jiujiang	1	1,1
	Ji´an	2	2,3
	Ganzhou	1	1,1
Jiāngsū	Suzhou	1	1,1
	Nanking	1	1,1
Shensi	Yulin	1	1,1
Šanghai	Šanghai	1	1,1

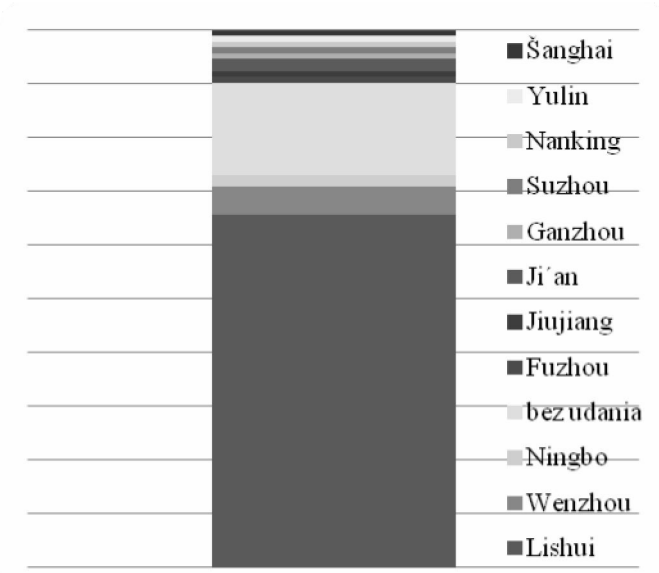

Figure 1 – Survey of Chinese registered in the Commercial Register and their localization at the Chinese provinces and cities (June, 2012)

Source: Business Register 2012, own calculations

Vajnorská Old Street is located in a former industrial area of Bratislava - New Town in district Bratislava III (map 4). Industry in this part of Bratislava and its nearby area began to develop in the late of 19th century and phasing out its agricultural character (cables factory, refinery Apollo, Dynamit Nobel, Cvernovka, Danubius).

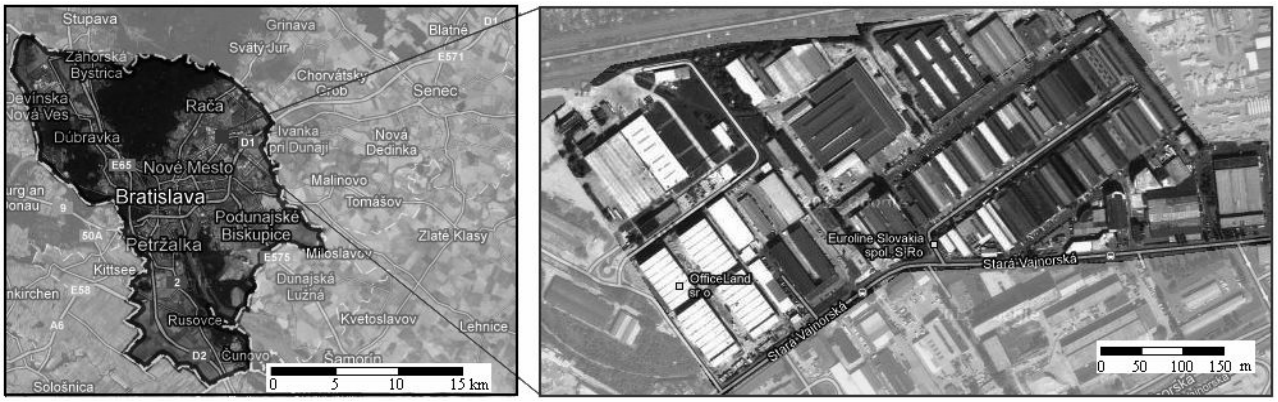

Figure 2 – Definition of the model area on the Old Vajnorská street in Bratislava

Source: Google Earth – Tele atlas, 2013, modified by authors

In connection with the development of industrial enterprises have been located here also warehouses, which after certain adjustments have continued until this day, unlike from the above-mentioned companies. Industrial character is in this part of Bratislava evident even today, the importance of the industrial buildings are but in most cases transformed or completely disappeared. Empty and abandoned storage

facilities, which originally served for storage of various commodities (various materials, chemicals, textiles, clothing and footwear, etc..) began to buy back (to rent), wealthy businessmen from Vietnam and China who need them mainly due to the increasing demand Slovaks after cheap commodities from Asia. Gradually, especially in warehouses have employed their compatriots who disseminate advice of their communities especially in the 90's of the 20th century (Gašparovská, 2006). Currently, the storage area at the Bratislava on the Old Vajnorská street is like trade and social center of immigrants from Asia and carries elements of traditional Chinatown (eg more Dieth, 2012; Bruge, 2012). Compared with other countries, however, has not such spatial and social dimensions. It brings together a complex of buildings with different functions, which are used as warehouses, but also business contact points, restaurants and cultural and social centers. In the field research, however, has been identified as buildings that were in the ground floor as a retail shops, restaurants and entertainment centers, the upper floors were used as warehouses and on the highest floors had residential function. This is contrary to the building code administration of Bratislava – New Town, where as we confirmed by their executives, residential function is not allowed.

Some of the warehouses themselves hired Vietnamese and Chinese. According to the testimony of one of the Vietnamese entrepreneur for Trend magazine (Orfánus, 2010), is not trying to create Chinese city, but the wholesale center. However, the entrance evocate the presence of Asians by Chinese inscriptions on buildings, as well as increased concentration at the site. The actual space is intrinsically structured and "street" are created and closed by large shipping containers in which are commodities stored. Individual high-rise buildings look like a hostel dormitory type (Picture 1), but on closer inspection, the windows are hidden behind a myriad of cardboard boxes with a wrapped commodities. Inside the warehouses are made the sale of commodities, which in most cases consists of textile range, footwear, toys and ornaments.

The whole complex is monitored by camera system and even sale and entry into various stores is limited only to entrepreneurs who demonstrate by the appropriate confirmation. Spaces are crowded by commodities with low hygienic standards. Above the shops are often located warehouse space, which in some cases can reduce the overall security of people by the purchase and sale. Some stores were employed Slovaks, others employed only people from Asia. Their knowledge of the Slovak language was limited to the number and names of the type of commodities. In addition, Vietnamese and Chinese, in which have dominated, we have seen also the people of India, Turkey and Pakistan. An interesting contrast were owners trucks that were parked at their entrances of stores. It was the most expensive and luxurious SUV type car models, which strongly contrasted with cheap commodities in the stores and the overall view of the environment. As stated by one of the Vietnamese traders (Orfánus, 2010), the car is in their culture as well as a sign of success and evidence of the seller's skill, which can affect the final price of the offered cmmmodities.

Figure 3 – View of the "Chinatown" on the street Old Vajnorská in Bratislava
Source: Bilic, 2012

The character "city in the city", complement the service of the type of restaurant and hospitality, which is in the complex a few. Except those selling prepared foods and drinks often sold Asian foodstuff. Specialized Asian food store is only one and is located at the beginning of the area. There are working only Asian immigrants. In the interior there is a large-format television and play Chinese TV stations. Assortment consists of wide variety of Asian foodstuffs which are not available in ordinary stores in Slovakia. The restaurants are employed Slovaks, usually only as waiters, the kitchen is dominated by Asian staff. Slovaks are therefore employed not only to the traditional position, but also fulfill the role of some kind of language or communication mediators.

The complexity conclude of the bank's services, located in the nearby shopping center, where they have a testimony by one of the warehouse workers Vietnamese and Chinese people open accounts and where are blocked the daily sales.

The area of storage space on the street Old Vajnorská in Bratislava supply and the nature of services and their complexity allows communities of Vietnamese and Chinese accumulate their numbers even in a relatively small space. Even though the site is free to enter and is almost free and basically doing business for everyone, the communities remain strongly closed. In addition to visual elements through field research failed to penetrate the various communities and carry out more research on whether integration or hierarchy of life of Vietnamese and Chinese in a relatively small area. All attempts to establish communication with them have stucked to their reluctance to answer any questions. Communication was limited to trade. Some streets of the area resembled “ghettos” rather than commercial district for customers. Therefore believe that, in this complex, despite the openness of "outside" there gradually formed community of foreigners from Asia with high separation elements to mainstream society and the nature of what a "naked ghetto". But more significant

criminal activity in this area was not recorded, so it is just the type of separation community-based based on common trade. More significant visual signs of Asian culture (architecture, building exterior decoration and so on) were not recorded at this locality.

Conclusion. The object of this paper was examining the issue of social and spatial manifestations of Sino-Vietnamese imigrants in Slovakia. We draw our attention to the site of storage facility on Old Vajnorská street in Bratislava, on the basis of their increased concentration gradually forming Chinatown. It shows signs of social and spatial separation of the majority and to the surrounding environment. Despite the different characters of immigration in both communities, local Chinatown area is a sign of economic cohesion. However, those below the spatial and social dimensions, as is the case in western countries, especially the EU and the U.S. In contrast, the local business and social center is faced with significant and distinctive exterior architectural elements of Asian decor to individual buildings. Asians, however, reveal the presence of numerous brand names and billboards in the Chinese sign language as well as their increased concentration. Complex simultaneously perform several functions, in addition to the business or social function, we observed and residential, which is inconsistent with the permitted use of the space. Efforts to establish communication with the Asian people was not possible for their reluctance, which shows the strong closeness to the majority.

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THE DINAMICS OF CULTURAL IDENTITY IN THE LEFT-BANK UKRAINE AND NEIGHBORING REGIONS OF RUSSIA

Mikhail Krylov, Anton Gritsenko
Institute of Geography Russian Academy of Sciences, Moscow, Russia
mpkrylov@yandex.ru, antohaha@yahoo.com
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Abstract. *During the XX century historically formatted cultural transition between Russia (Moscow state) and Ukraine (Hetmanate) was under considerable transformations. After 1991, the goal-directed impact on the natural processes of ethno-cultural dynamics took place in the territory of Ukraine, while numerous elements of Ukrainian ethnic culture remained in Russian territory of the former Slobodska Ukraine, becoming a part of the regional identity. Based on collected during the field researches in 2008 – 2009 and 2012 authors developed a model of Russian-Ukrainian ethno gradient observed within eight neighboring regions of Russia and Ukraine. Within of Russia the historical boundaries of former Hetmanate and, in particular, Slobodska Ukraine largely preserved not only as a historical relict, but as a significant trait of the living culture. At the same time in Ukraine configuration of Russian-Ukrainian gradient only partly coincides with the historical boundaries, reflecting the complex interference of sustainable inherited and variable constructed features of identity.*

Крилов М.П., Гриценко А.А. **Динаміка культурної самосвідомості у Лівобережній Україні та сусідніх регіонах Росії**. *Протягом XX століття культурний перехід між Росією (Московською державою) та Україною (Гетьманщиною), що історично склався, зазнає значних трансформацій. Після 1991 року на території України відбувався цілеспрямований вплив на природні процеси етнокультурної динаміки, в той час як на території Росії у межах колишньої Слобідської України численні елементи української етнічної культури зберігалися, перетворившись на складову частину регіональної ідентичності. На основі зібраних в ході польових досліджень 2008-2009 та 2012 років даних авторами було розроблено модель російсько-українського етнокультурного градієнту, що спостерігається у межах восьми сусідніх областей Росії та України. В межах Росії історичні кордони колишньої Гетьманщини і, особливо, Слобідської України, значною мірою збереглися не лише як історичний релікт, але і як значний фрагмент живої культури. Водночас на території України конфігурація російсько-українського градієнту лише частково співпадає з історичними кордонами, відображаючи складну інтерференцію успадкованих та мінливих рис ідентичності, що конструюються.*

Assumptions and Methodology. The report of the authors is devoted to the understanding and generalization of the observed phenomena in the consciousness of the population of the historically border regions at the junction of the Left-bank Ukraine and Russia. In the historical literature, these regions are known as the Hetmanate and Sloboda Ukraine. In different historical periods, Hetmanate and Sloboda Ukraine presented themselves, in turn, the parts of Russia or its western neighbors – that are the Grand Duchy of Lithuania, the Polish-Lithuanian Commonwealth, and later – an independent Ukrainian state. Since the end of XVIII century, and within a half centuries the territory under consideration, was an interior region of the Russian Empire. XX century was marked by contradictory trends related to the appearance (or revival) of the independent Ukrainian state and its subsequent relegating to the level of one of the republics of the USSR, as well as the interchange of the cultural policy: Ukrainization, Indigenization ("korenizatsia") and Sovietization. Since 1991, the area under the study finally lost its former "unity", and acquired its own vectors of the cultural development.

Left-bank Ukraine and the neighboring territories of Russia have always been a focus of contacts between the different political systems and cultural interpenetration of similar peoples - Ukrainians and Russians. This made it possible to form the long-term cultural dualism, constantly bringing to life the oscillatory processes in identity, and the tension in the dynamics of the internal components of identity, such as local historical memory, spatial images or ethno-cultural preferences.

The components of identity often find themselves under the purposeful political and cultural pressure that can transform them in the direction of the "necessary" (reasonable) adjustments. In such cases, the most of researchers prefer to talk about "identity construction" (political identity, ethnic identity or civil identity), highlighting its specific forms – first of all that are the policy of memory, the symbolic policy, and the identity policy.

Such pressure becomes specific challenge for the regional identity that produce a lot of response reactions that show the features of the local identity, which are largely unique in each place. Therefore, the policy of identity and overall socio-political situation in the country can present the background for analyzing of the communities reactions while exploring the local and regional identity. In this regard, the authors decided to include a variety of controversial questions that haven't a quite clear answer, in their interviews. Such questions are the following, for example:

- the relationship to the different historical persons or periods of history;
- the relationship to Russia (in Ukraine) or to Ukraine (in Russia);
- the problem of Slavic unity;
- the emergence of the new state border and the division of the Russian Orthodox church, etc.

On the other hand one should remember that the regional identity lies in the sphere of a different historical and cultural context in which the community is submerged and that is a definite barrier for studying of the identity, because it

doesn't allow to the researcher to abandon the position of an external observer, and to become one of the local (native) people in his thinking.

Regional identity expresses the attitude of people to their "small homeland". In contrast to the choice of "nationality" in the official census of population, the regional identity as a kind of non-official thing presents an impartial and non-political phenomenon. In addition, regional identity often compensates the weakness (or uncertainty) of ethnic identity among the people [Gritsenko, 2011]. For example, the existence of the phenomenon of "local by conviction," and not only "local by birth" shows a possible way to preserve the historical memory and maintain various features of ethnicity and ethnic identity [Krylov, 2009].

Our understanding of ethnic and ethno-cultural factors, and the factors of regional identity associated with the recognition of their very considerable autonomy and even independence of regional identity in society. Regional identity, being the result of interaction between mobility and rootedness allows us to understand the existence of the historical and cultural inertia as a normal and natural phenomenon in the Russian-Ukrainian borderland.

As one of the tools for the study of regional identity we use the model of ethnocultural gradient.

Ethnocultural Gradient. Since 2008, the authors began the field research in Russian part of the Russian-Ukrainian borderland. During the expedition within the Russia (2008 – 2010, Belgorod, Bryansk, Kursk, Voronezh regions) 400 questionnaires were obtained and 75 in-depth interviews were received. At the same time the last expedition (2012, Chernigov, Kharkov, Poltava and Sumy regions of Ukraine, Poltava) made it possible to collect more than 500 questionnaires with the support of Ukrainian geographers and historians.

According to the results of field research, the authors managed to make the ethnic and cultural map (Figure 1), which puts together the situation on the Russian side and the Ukrainian side. The ethnic and cultural map is a model proposed by the authors that reflects the historical and ethno-cultural interference, the degree of presence of modern Ukrainian and Russian culture in the consciousness of the population of the Russian-Ukrainian borderland. We proposed to call this model "ethnocultural gradient".

Gradient in Russia. In the process it was discovered a certain ratio, which can be described as harmonious, between landscape and mentality of the people, by the natural and cultural landscapes, as well as elements of Ukrainian culture in the language and architecture. It became possible by the search features of Ukrainian identity in the physical and mental landscape.

The authors considered components of these landscapes that participate and are significant for worldview and identity of the local population. In general terms these components are shown in Table 1.

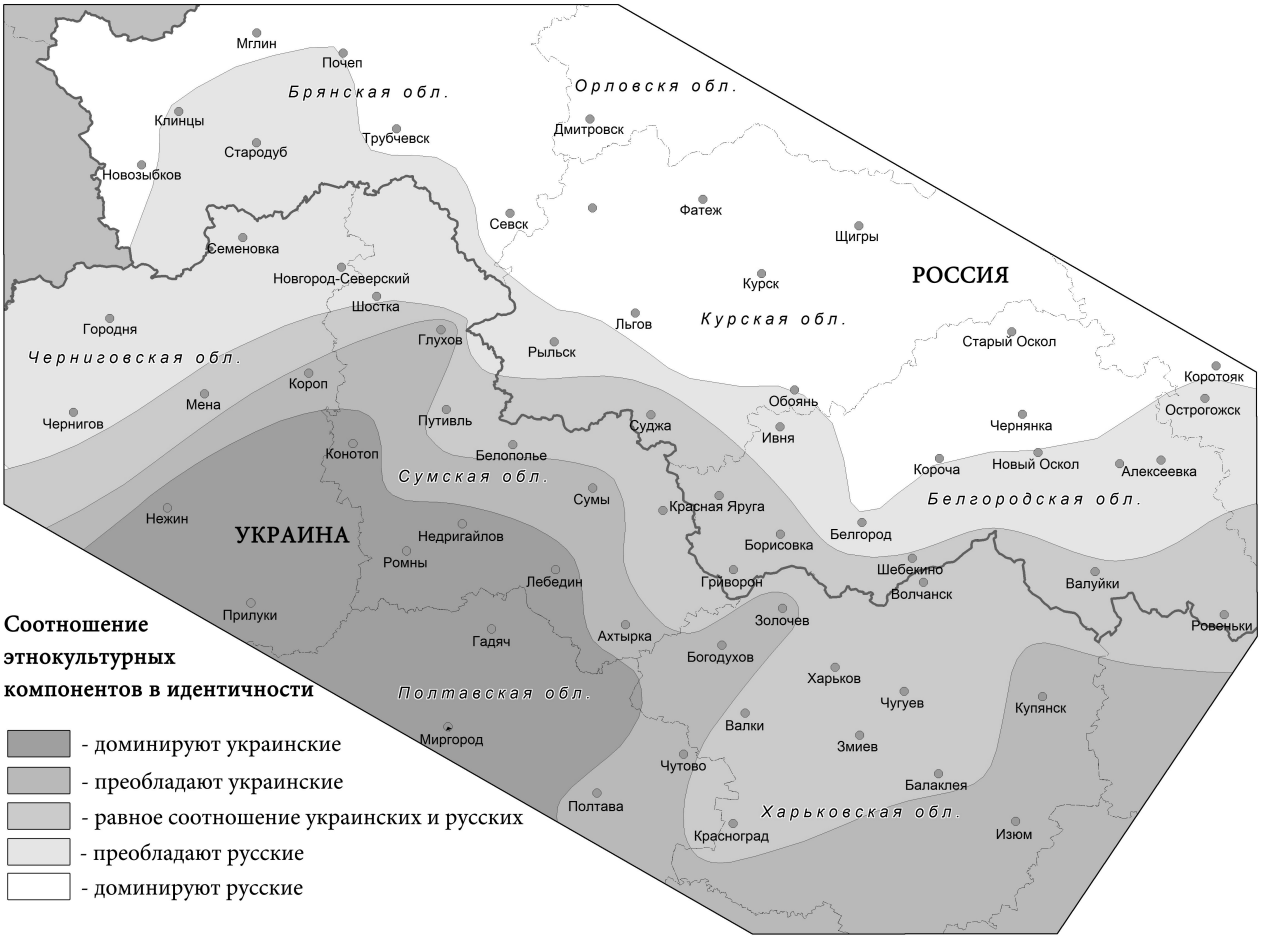

Figure 1 – Russian-Ukrainian ethnocultural gradient

Table 1 – The components of the regional identity (RI) and ethnic culture (EC)

№ №	Components of RI and EC
1	**Language** (dialect), which is spoken by the majority of the population, and **cultural and historical preferences** of the population, reflected in the peculiarities of the local urban and rural architecture
2	Awareness of the population **specificity** of their **place** of residence ("the spirit of place")
3	**Memory of territorial entities** of the past (the historical provinces, etc.), including Ukrainian (Hetmanshchyna) and Russian-Ukrainian (Sloboda Ukraine)
4	**Memory of** Ukrainian **roots** and the **territories of origin** of his **family**
5	**Ethnic Identity** (What man himself "**believes**" to a greater extent?)
6	**Self-identification** in the polls (What man himself "**called**"?)

Note: The components are down from more stable, long-term to a less stable

Calculating the frequency of occurrence of Ukrainian culture elements in the above components in Russia, we found three zones of the gradient. See some concrete results that generalized in these three areas in [Gritsenko, 2011].

We came to the conclusion that the assimilation of the local indigenous Ukrainian population was proceeded in Russia in the vast borderland area. The process of this assimilation is natural, gradual and not completed yet. It should be noted that elements of Ukrainian culture continues organically include into the regional identity of the inhabitants of the territories bordering Ukraine, this organic

is enhanced by the preservation of traditional elements of Ukrainian culture in the landscape.

In Russia, the gradient is characterized the spatial order in the distribution of the elements of Ukrainian culture in the consciousness of the Russian inhabitants, and their presence in the landscape, in the presence of the inhabitants of the "Ukrainian roots" and the spatial orientation to Ukraine, expressed through a consideration of the neighboring Ukrainian regions as areas where the countrymen are living (regardless of ethnicity belonging in both Russian and Ukrainian territories). The appearance of the gradient goes back to the existence of Sloboda Ukraine - a kind of the Russian-Ukrainian formation inside Russia. A feeling of closeness and belonging continues to hold in Russia and Ukraine, as well as Russian and Ukrainians within the limits of the once united Sloboda Ukraine (and conjugated historical territories). Outside the Sloboda Ukraine the effects that are associated with mental closeness of citizens of Russia and Ukraine, of the Russians and Ukrainians are considerably weakened (more precisely, to a small extent a feeling of closeness are remained, but it is less sustainable, as no longer a part of the regional identity).

Gradient in Ukraine. Elements of Russian culture in the Eastern Ukraine as ethnic culture (the culture of "Great Russians") are quite clearly, that is shown to the recent past in the classic works of L. Chizhikova. However, the gradient in Ukraine can hardly be considered to be sufficient, because they are more turned to the traditional culture and do not relate to many aspects of modern "ethnicised" regional identity of the Russian-Ukrainian borderland, particularly in the cities. However, in general the problem of Russian in Ukraine and Ukrainians in Russia is not symmetric.

In Ukraine, considered the gradient is determined primarily by the nature of the relationship with Russia as a whole (in Russia - with respect to neighboring regions of Ukraine as his own). This ratio depends on many factors, including various opportunistic - often spatially differentiated. Relationship with Russia can be as "sister" as a friendly, but sometimes as unfriendly, a neighbor, to put pressure on Ukraine, in particular, on the border regions. The stereotype of this attitude to Russia is largely made up of local and revealed through indicators that reflect different aspects of distancing or closeness (cultural, ethno-cultural, ethno-political) to Russia. Therefore, cultural (ethnic-cultural, ethnic and political) distance between Russia and Ukraine can be considered a model of the gradient, indicating its dependence on the position factor.

As well as in Russia, the gradient reflects the nature of spatial variation in the ratio of "Ukrainian" and "Russian" identity component of the population. The components considered are:

- understanding of their roots and about area residence "fellow";
- images of neighboring country;
- reviews on natural or artificial new state border and the feasibility of strengthening the bilateral relations between Russia and Ukraine;
- feeling the pressure exerted by the neighboring regions of Russia and Ukraine;

• individual relationship to Russia (Ukraine), including interpretation of the common historical past;

• relationship to the idea of Slavic unity, and to the division of the Russian Orthodox Church;

• social interaction associated with the use of the Ukrainian language, or one of the variants of the hybrid Russian-Ukrainian dialect ("surzhyk").

One should pay attention to the fact that the increase of the degree of "ukrainization", according to the model of the gradient, are not in general spatially correlated with the historical borders of the Hetmanate and Sloboda Ukraine, although in the long run tends to him. Perhaps here affects an ancient 'single Slavonic "nature of the population Severskaya land (Novgorod-Seversky, Chernigov).

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TERRITORIAL IDENTITY OF UKRAINIAN POPULATION: IMPACT ON SPATIAL TRANSFORMATIONS

Anatoliy Melnychuk, Olexiy Gnatyuk, Maria Rastvorova
Taras Shevchenko National University of Kyiv, Kyiv, Ukraine
melan97@ukr.net, alexgnat22@ukr.net, m.a.r.r.y@mail.ru

Abstract. *The regularities and factors of territorial identity of Ukraine's population formation and transformation are revealed at different hierarchical levels. The interdependence between development and transformation of the physical and mental space is investigated. Perception of territorial transformation is depicted through the prism of regional identity on certain historical-geographical cross-sections. The determination of spatial transformations by the territorial identity of the population is studied.*

Мельничук А.Л., Гнатюк О.М., Растворова М.О. **Територіальна ідентичність населення України: вплив на просторові трансформації**. *Закономірності і фактори територіальної ідентичності формування і трансформації населення України виявлено на різних ієрархічних рівнях. Досліджено взаємозалежність між розвитком і трансформацією фізичного і ментального простору. Сприйняття територіальних трансформацій відображено через призму регіональної ідентичності на певних історико-географічних зрізах. Досліджується визначення просторових трансформацій територіальної ідентичності населення.*

Perception of residence place by its inhabitants reveals their understanding of habitat and prospects of its use [7]. Cognition and perception of the environment belongs to the sphere of geographical knowledge [6]. The investigation of personal geographies provides knowledge about the objective world and its transformations [10].

Study of regional identity as a factor that allows the individual to find his way and position in globalized world becomes crucial in geography [3; 4; 9]. Students of the Faculty of Geography of Taras Shevchenko National University of Kyiv have initiated and developed several projects in the course of socio-geographical research, dedicated to the territorial identity of Ukrainian population. Empirical data of the study were obtained by questioning in different regions of Ukraine.

We consider the following model of territorial identity hierarchical levels, especially marking out four macro levels: I. Local macro level: 1. Intra-local identity; 2. Local identity. II. Regional macro level: 3. Sub-regional identity; 4. Regional identity; 5. Sub-ethnic identity. III. National macro level: 6. National identity. IV. Supranational macro-level: 7. Macro-regional identity; 8. Global identity [1].

The previous findings indicate significant relationship between the different levels of territorial identification of Ukrainian population. Generally, regional identity strength is defined as attachment to the respondent's place of birth and residence. Among residents of Vinnytsia region 55.4% of people with lacking territorial identity declared the willing to leave Ukraine, while in the whole regional population this figure was only 40% [2].

The high level of local and regional consciousness itself usually correlates with the perception of European ideals and values. Respondents' geographical origin and the degree of their rootedness have a direct impact on the regional and local identity development and define belonging to European civilization. Native people love their city primarily as a small motherland, and agree to move to other places only following the dictates of heart. But newcomers love their city of residence for its convenience, transport accessibility, the ability to find employment. Regional identification in the younger generation is less developed than in the older one, but still strong enough. Young people tend to have increased strength of European self-identification [2].

Across Ukraine the highest local identity strength is observed in the western part (20 – 30% of respondents associate themselves with a settlement in which they live), and the lowest – in the eastern part (only 10 - 15%). The most significant sub-regional identity develops when the central place of the district has a rich historical and cultural heritage or functions as a significant resettlement center [1].

In the south-eastern part of Ukraine sub-regional identity is weakened in favor of the regional identity. Generally within Ukraine sub-ethnical level of identity is most developed within the historical provinces of Galicia, Volhynia and Podolia. In the rest of Ukraine this level strength appears weakened (the large majority of respondents are not able to correlate their place of residence with some historical-geographical region), and the identity of those who have developed it varies extremely [1].

The highest strength of national identity has been evidenced in Kyiv metropolitan area and also in the western and central Ukraine. Ukrainian self-identification reaches its greatest values in the western and central Ukraine (60 - 80%) and is somewhat reduced in the eastern Ukraine and Transcarpathia (40 - 50%). A high level of knowledge about the origin of the State Emblem of Ukraine and about the author of the national anthem of Ukraine was observed in Kyiv (over 80% respondents gave the correct answer). About 50% of respondents from Kyiv indicated close personal identification with Eastern Europe, 55% - with Europe as a whole, 39% are proud of their European descent, 20% take pride in originating from Eastern Europe and 16% in originating in the former Soviet Union [1].

The next chart shows the relation between the force of historical-geographical background reflection in the minds of residents from Vinnytsia and Vinnytsia region on the one side, and local and national patriotism on the other side. Besides the lower level of knowledge about local geographic specificity shown by the respondents from countryside (so called "village effect"), a noticeable trend is the decline in both local and national patriotism levels with the decrease in the level of integration into the historical and cultural environment of person's habitat.

Chart 2 shows the relationships between the local and national patriotism indices in Vinnytsia residents and students of Vinnytsia universities coming from Vinnytsia region. It is obvious that national patriotism tends to drop with the decrease of local patriotism.

Chart 3 shows the answers of Kyiv respondents to the question about how close they consider for themselves the city of Kyiv and Ukraine. Respondents were grouped by the strength of Kyiv identity, and for each group the average index of national identity was calculated. This chart once again demonstrates the positive impact of local identity on the national one.

Along with the actual physical space its reflexive image exists in people's minds, i.e. mental, subjective space. Key, significant and unique characteristics of physical space are reflected in the mental space of the majority of the territorial community. Mental space is the pattern that the community seeks to realize in physical space. Also mental space serves as the controlling factor that determines the direction of physical space transformation, or leads to a particular ethical or aesthetic assessment of changes that occur in the physical space outside the will of the community [8]. During the designated dialectical interaction physical space becomes every time near to that ideal, and corresponds more and more to the mental values of territorial identity. As a result, territorial identity becomes further enhanced, and mental space appeared more structured. In practical terms this means that the territory functions as a basis for a sense of identity, and precisely because of these feelings territory could be transformed without losing its cultural specificity.

Based on the foregoing, the impact of territorial identity on spatial transformation should be looked for in both physical and mental space. Transformation of physical space is represented by the changes in the all aspects of society organization, namely economical, architectural and planning, infrastructural, functional. Transformation of the mental space can be described through the changes in place perception, perceptual landmarks, cultural standards, business relationships,

ethical and aesthetic values, social behavior, public cooperation and the institutionalization of social movements [7; 8].

The role of territorial identity in human space transformation is most visible at the local level. On this basis, the three most common historical-geographical cross-sections can be distinguished in terms of regional centers: 1. Transition from small township to the really urban form of existence (small town), or the rapid growth of newly established towns due to the benefits of demographic growth in the late 19th - early 20th century; 2. Accelerated urban industrialization and the predominance of the industrial sector as a city forming base (the decades of 1930-1990); 3. Search for harmonization with the social and environmental development.

Here are some examples of such transformations on cities Vinnytsia and Zaporizhia.

The most important result of historical and cultural complex "Zaporizhian Sich" construction and spatial expansion was the perceptual transformation of space, and not just a specific area where the complex was built, but a much larger territory. This transformation consists of:

1) Change of functional zoning (from residential to recreational);

2) Change of historical meaning of the territory – as man-made landscape it was actually created in 1920-1930 by Dnieper Hydroelectric Station builders, but now in the minds of the local community and tourists it is attributed much more to the early events of Cossack Age. Changing the image of the territory made possible its rapid and versatile development.

The phenomenon of mental space transformation through the change of physical space indicates the existence of such a relationship, where the phase of material changes is primary, and the phase of mental changes is secondary. This can happen in the case when successful concepts of territory are selected and invented. Such concepts should be the most bright and positive in terms of the perception of territory. At the same time, in the context of this example, the idea of transforming the physical image emerged from the goal of creating a mental image. We can assume that mentioned here historical and cultural complex would be popular among visitors even if it had been built in a different location on Khortytsia island (or even at the place of the former Zaporizhian Sich, for example, near Kodak rapids), but provided a good panoramic sight and transport accessibility. High probability of this hypothesis indicates that even in the case of physical transformation primacy perception remains based on the mental component.

Identity and localization of spatial transformation in the city of Vinnytsia. In the urban area a few loci of intensive transformations can be distinguished (in both physical and related mental space). Analysis of those loci shows that they are historical cores of Vinnytsia bearing unique cultural burden. Here are basic objects of reconstruction and restoration during 2007-2012:

1. Capital reconstruction of Kozytsky Square, historical mansions restoration on Hrushevsky Street, construction of the modern shopping and entertainment complex “Magicenter” instead of early abandoned industrial zone. 2. Reconstruction of Independence Square. 3. Reconstruction of Theatre Square and adjacent buildings, especially M. Sadowsky Music and Drama Theatre and former non-

classical secondary school, where famous Ukrainian writer M. Kotsiubynsky took examination for the title of public teacher (now the building of Commerce and Economics University). 4. Restoration works in the complex of historical sacral and fortification architecture, known as "Murals of Vinnytsia". 5. Reconstruction of V. Stus square and installation of the monument to famous poet-dissident. 6. Restoration of other buildings in the center, including Vinnytsia Regional State Administration, Musical School, K. Tymiriazev Regional Universal Scientific Library etc. 7. Reconstruction of the area around the monument to M. Kotsiubynsky near his memorial museum-estate. 8. Renewal of N. Pirogov Boulevard, including the area around the monument to M. Pirogov. 9. Reconstruction of the Southern Bug River embankment.

By restoring and preserving these objects, the city authorities wants to show, firstly, their respect to the feelings of community, and secondly, to create unique and attractive face of the city, which will serve as its brand for VIP-guests and ordinary tourists.

Obvious innovations (including a controversial decisions, such as "Magicenter" trade center location in the historical center of Vinnytsia) were seamlessly incorporated into the historic space and don't look like extraneous objects. Moreover, those innovations provide historical space a new meaning, a new life. Designers and those who approved architectural solutions managed to find a compromise between the functional content of new objects and historical environment. By the way, objects of any functional purpose, located in those key points of mental space, automatically obtain status, image, and therefore high popularity.

Mental space of the city can be characterized in the terms of spatial structuring and hierarchy. This is also reflected in the transformation of physical space: most radical of them occurred just in the central part of the city. Mental representations of the center are cementing the image of identity. This cannot provide individually taken Kotsiubynsky and Pirogov museums, located on the semi-periphery and periphery of the city, respectively.

Thus, we can assume the balance between the perception of space and its physical organization. Space perception forms the essential part of the territorial identity, that itself has a significant impact on decisions regarding spatial transformations in the interests of society and the prevailing ideological mindsets of community.

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RUSSIA IN THE ETHNO-CULTURAL DIMENSION: THE SPATIAL SHIFTS AT THE END OF XX – BEGINNING OF XXI CENTURY

Vladimir Streletskiy
Institute of Geography, Russian Academy of Sciences, Moscow, Russia
vstreletski@mail.ru

Abstract. *Ethnic-cultural space of Russia is viewed through the prism of its regional structure. A brief description of the historically formed framework of ethnic settlement and its basic structural units is done. The main shifts in the configuration and network of the ethnic settlement in Russia in the second half of XX – in the beginning of XXI century are revealed based on statistical data of Soviet Union census of 1979 and 1989 and the Russian census in 2002 and 2010. A comparison of spatial configurations of ethnic, linguistic and dialect, religious, and regional-cultural differences in the Russian Federation is conducted. The phenomenon of cultural regionalism in Russia in the early XXI century is discussed.*

Стрєлєцкій В.Н. **Росія в етнокультурному вимірі: просторові зрушення наприкінці XX – початку XXI ст.** *Етнокультурний простір Росії розглядається через призму його регіональної структури. Дається коротка характеристика каркасу етнічного розселення, що історично склалося, та його основних структурних ланок. На основі обробки статистичних даних Всесоюзних переписів населення 1979 та 1989 років. та Всеросійських переписів населення 2002 та 2010 років виявлено найважливіші зрушення в конфігурації та мережі етнічного розселення в Росії протягом другої половини XX ст. – на початку XXI ст. Проводиться порівняння просторових конфігурацій етнічних, лінгво-діалектичних, конфесійних і регіонально-культурних відмінностей в Російській Федерації. Обговорюється феномен культурного регіоналізму в Росії на початку XXI століття.*

The subject of this paper is a brief description and analysis of ethnic and cultural transformation processes within the space of Russian Federation at the end of the 20th – beginning of the 21st centuries.

The concrete topics of research are the following:

1) Historical framework of ethnic settlement patterns in Russia and their dynamics in the last decades;

2) Phenomenon of regional / local identity as one of the key driving forces of cultural regionalization in Russia.

On the one hand, the historically inherited and evolved spatial structures are considered; on the other hand, the emphasis is made upon changes at the end of the 20th and beginning of the 21st centuries.

Ethnic settlement patterns in Russia and their historical dynamics. Ethnic diversity and the spatial configuration of ethnic differences are among the main driving forces determining the cultural-geographical variety of the country. Namely the ethnic differentiation of the country's space is reflected especially evidently in the regional consciousness of people living in different parts of the country. The base for research of ethnic settlement patterns are official data of the Population censuses.

According to the Population census data 2010, there are about 160 different ethnic groups in Russian Federation; there are about 40 peoples among them with the population number more than 100 000 persons (Results, 2010). The ethnic Russians account for about 77,7% of the total population of Russian Federation. This share is, however, gradually decreasing. In 1959 it was 85% (in the former RSFSR), in 1989 – 81,5%, in 2002 – 79,8% (Table 1).

The specific cultural-geographical feature of Russia is an enormous space corresponding to the so-called Russian ethnic mega-core, both in European and Asiatic parts of the country. The ethnic mega-core of the country includes the majority of Russian administrative units (so-called "oblasts" and "krays") where the share of ethnic Russians in total population is much more than the average index for the whole Russian Federation (more than 80%). Exclusions are relatively rare; some examples for them are Orenburg oblast and Astrakhan oblast (Orenburg region and Astrakhan region) where the share of ethnic Russians is below the average. The Russian ethnic mega-core of the country is much more than the ethnic peripheries of Russian Federation, both in surface and in demographic potential. The situation like this is extremely rare for multiethnic and multicultural countries.

On the other hand, the share of ethnic Russians in total population is less than 80% (the average for the whole country) in almost all national republics of Russian Federation. The only exclusion among national republics in Russia is Republic of Khakassia where ethnic Russians account for 81,7% of its population (2010). Outside the Russian ethnic mega-core there are three large cultural regions within Russian Federation characterized by striking ethnic specificity: the Northern Caucasus (to be more precise, its highland part populated by so-called mountain peoples), the Volga-Ural multicultural area and the Turkic-Mongolian belt of Southern Siberia (Buryatia, Tuva, Khakassia, Altai).

The most important changes in ethnic structure in Russian Federation at the end of the 20th – beginning of the 21st centuries are the following. The first tendency is a gradual and slow transformation of the ethnic structure, due to demographic changes and migration processes. The ethnic groups with high birth rates increase their total amount and their share in total population of Russia. And vice verse.

The second tendency is a rapid growth of the share of "titular" (indigenous) ethnic groups of national republics of Russian Federation in the total population of those republics. So, the share of Tatars in Republic of Tatarstan increased since 1989 until 2010 from 48% to 53%, the share of Kalmyks in Republic of Kalmykia – from 45% to 56%, the share of Ossets in Republic of Northern Ossetia – from 52% to 65%, the share of Yakuts in in Yakutia – from 33% to 49%.

The third tendency is a growing concentration of "titular" (indigenous) ethnic groups within "their" national units (national republics, first of all). The concentration rate of "titular" peoples within the national republics is very different for various ethnic groups. Some cases illustrate the examples of high concentration rates. So, 94% of Tuvinians live in Russia within Republic of Tuva (2010), 89% of Komi people – within Komi Republic, etc. Contrary cases illustrate the dispersal settlement patterns of ethnic groups. For instance, 62% of Tatars live in Russia outside Tatarstan, 55% of Mordvins – outside Mordovia. Nevertheless, the general trend is now a growth of the concentration rate within the national republics for prevailing majority of ethnic groups inhabiting Russia. This trend is relatively new. Before the disintegration of the USSR the concentration rate of some "titular" peoples decreased (in many cases), nowadays it's increasing overall (Table 2).

Cultural regionalism development patterns in Russia. Some authors (Smirnyaghin, 1999) argue that the Russian culture is, in a certain sense, "a-spatial" (that implies the absence of significant regional cultural contrasts within the space of Russian ethnic settlement structure and, as a result, weak point of local patriotism). The Russian people settled within the enormous space, on the vast territory with relatively small natural barriers and borders. Russian people didn't have to change fundamentally their way of life in process of long-distance migrations. Among those conditions the cultural traits didn't change significantly from place to place, from area to area. In other words, the Russian culture remained to be relatively uniform in spatial dimension, "a-spatial" in terms of afore-mentioned concept (Smirnyaghin, 1999).

This concept has its "pro" and "contra". On the one hand, the arguments in favour of this concept are predominance of all-Russian cultural features on a huge territory of the ethnic mega-core of the country and its relatively small variability among Russian cultural regions. To be compared to other cultural realms, the distance between contrast cultural regions in Russia is very long; the vast and relatively homogeneous cultural areas in Russia could exceed, sometimes, the aggregate surface of several European countries with the striking different cultural patterns.

Table 1 – Ethnic composition of population of Russian Federation **(according to Population censuses 1989, 2002, 2010)**

Ethnic groups	1989		2002		2010	
	thousand persons	%	Thousand Persons	%	thousand persons	%
Russians	119866	81,5	115868	79,8	111017	77,7
Tatars	5522	3,8	5558	3,8	5311	3,7
Ukrainians	4363	3,0	2943	2,0	1928	1,3
Bashkirs	1345	0,9	1674	1,2	1585	1,1
Chuvashs	1774	1,2	1637	1,1	1436	1,0
Chechens	899	0,6	1361	0,9	1431	1,0
Armenians	532	0,4	1130	0.8	1182	0.8
Avars	544	0,4	757	0,5	912	0,6
Mordvins	1073	0,7	979	0,7	744	0,5
Kazakhs	636	0,4	655	0,5	648	0,5
Azeri	336	0,2	621	0,4	603	0,4
Dargins	353	0,2	510	0,4	589	0,4
Udmurts	715	0,5	637	0,4	552	0,4
Mari	644	0,4	605	0,4	547	0,4
Ossets	402	0,3	516	0,4	529	0,4
Byelorussians	1206	0,8	815	0,6	521	0,4
Kabardians	386	0,3	520	0,4	517	0,4
Kumyks	277	0.2	423	0,3	503	0,4
Yakuts	380	0,3	444	0,3	478	0,3
Lezghins	257	0,2	412	0,3	474	0,3
Buryats	417	0,3	445	0,3	461	0,3
Ingushs	215	0,2	412	0,3	445	0,3
Germans	842	0,6	597	0,4	394	0,3
Tuvinians	206	0,1	280	0,2	264	0,2
Komi	336	0.2	293	0,2	228	0,2
Jews	537	0,4	230	0,2	157	0,1
Total population of Russia	147022	100,00	145164	100,0	142857	100,0

Sources: (Results …, 1989; Results …, 2002; Results…, 2010).

But on the other hand, the historical experience of development of cultural regionalism in European part of Russia contradicts, in a certain sense, to the hypothesis of "a-spatiality" of Russian culture. The cultural originality of historical Russian lands, emerged still in Medieval times (Stshapov, 1906; Kostomarov, 1992 et al.), is a real and strong precondition of Russian regionalism. Spatially changeable patterns of the role of traditions are found to shape the contemporary regional identities of Russians (for example, Krylov, 2010). In my view, the real phenomenon interpreted sometimes as "a-spatiality" is not a "genetic", ancestral, inherited feature of Russian culture. It is rather one of results of deformation of traditional rural culture during the Soviet period.

Table 2 – Concentration rate of "titular" peoples of national republics of Russia within "their" national administrative units (according to Population censuses 1989 and 2010)

"Titular" peoples of national republics of Russia	Total number within "their" national administrative units, 1989, thousand persons	Total number in RSFSR, 1989, thousand persons	Concentration rate within "their" national administra-tive units, 1989, %	Total number within "their" national administra-tive units, 2010, thousand persons	Total number in Russian Federation, 2010, thousand person	Concentration rate within "their" national administrative units, 2010 %
Karelians	79	125	63,2	46	61	74,8
Komi	292	336	86,9	202	228	88,7
Adygeis	95	123	77,2	107	125	85,6
Karachais	129	150	86,0	194	218	89,1
Circassians	40	51	78,8	56	73	77,4
Kabardians	363	386	94,0	491	517	94,9
Balkars	71	78	91,0	109	113	96,1
Ossets	335	402	83,3	460	528	87,1
Ingushs	164*	215	76,2	386**	445	86,8
Chechens	735*	899	81,8	1207***	1431	84,3
Kalmyks	146	166	88,0	168	183	88,9
Tatars	1765	5522	32,0	2013	5311	37,9
Mordvins	313	1073	29,2	333	744	44.8
Chuvashs	907	1774	51,1	815	1436	56,7
Mari	324	644	50,3	291	547	53,1
Udmurts	497	715	65,3	411	552	74,4
Bashkirs	864	1345	64,2	1172	1585	74,0
Altaians	59	69	85,5	69	74	93,0
Khakasses	63	79	79,7	64	73	87,1
Tuvinians	198	206	96,1	249	264	94,4
Buryats	250****	417	60,0	287*****	461	62.2
Yakuts	365	380	96,1	432	443	97,6

* in the Chechen-Ingush ASSR ** in Republic of Ingushetia *** in Chechen Republic **** in the Buryat ASSR ***** in Republic of Buryatia; taking into account the former Aginski and former Ust-Ordynski Buryat autonomous districts as well, the concentration rate of Buryats within "their" national administrative units in 2010 should account for 84%

Sources: (Results …, 1989; Results…, 2010).

The basic factors determining cultural regionalism development patterns in Russia have to be mentioned in this respect:

1. The crucial role of the inherited cultural-geographical distinctions within the historical core of European part of Russia.

2. The long-distance transfer of people and their cultural traits from historical core in Eastern Europe into Northern Asia; impact of that process on regional identity patterns.

3. Cultural borrowings from the aboriginal populations.

4. A continuing cultural interchange between the ethnic mega-core of the country and the ethnic peripheries of the former Russian Empire.

5. Drastic social transformations during the Soviet period and their impact on erosion of local consciousness, regional identity and cultural regionalism patterns.

Two decades of the end of the 20th century and the beginning of the 21st century form, in my view, a new historical period in cultural regional development in Russia. This new period is characterized by evident revival of regional and local identity in various parts of Russia, including both the European part of the country and Siberia. A trend of great importance is a gradual increase of cultural-geographical distinctions within the space of Russian ethnic settlement.

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CHOSEN ASPECTS OF THE TOURIST FUNCTION DEVELOPMENT OF MEDIEVAL CASTLES IN THE SMALL TOWNS IN POMERANIA AND WARMIA-MASURIA REGION, ACCORDING TO OPINION OF LOCAL COMMUNITIES

Łukasz Musiaka
University of Lodz, Loda, Poland
musiaka@wp.pl

Abstract. *During last 20 years we can observe in Poland intensive process of changes in functions and the ownership of medieval castles. The strongholds as the main tourism centers has an extraordinary impact on the social and economical life of small cities in analyzed region. We may easily notice growing tourist influx, tourism infrastructure development, formation of the new places of work, or renovation of historical estates. Except positive changes, some problems like restricted access to the castles for the local community or monopolization of the tourism market, may occur. The main goal of the article is to present respondent's opinion about the role of castle's tourist function in the six examined cities in Pomerania and Warmia-Masuria region.*

Мусіяка Л. **Окремі аспекти розвитку туристичних функцій середньовічних фортець у малих містах регіону Померанії та Вормії-Мазурії згідно думки місцевих громад**. *Протягом останніх 20 років ми можемо спостерігати в Польщі інтенсивні процеси зміни функцій і власності середньовічних замків. Фортеці як основні центри туризму мають надзвичайний вплив на соціальне та економічне життя малих міст в досліджуваному регіоні. Ми можемо легко помітити зростання туристичного потоку, розвиток туристичної інфраструктури, формування нових робочих місць, або реконструкцію історичної нерухомості. Крім позитивних змін, можуть виникати деякі проблеми, як обмеження доступу до замків для місцевих громад або монополізація туристичного ринку. Основною метою даної статті є представлення думок респондентів щодо ролі туристичних функцій замків у шести містах Померанії і Вармінсько-Мазурського регіону.*

Pomerania, Warmia and Masuria are the areas of particular importance for the history of contemporary perception of both northern part of Poland and other southern Baltic states. In these areas in the Middle Ages, on the lands of the Prussian tribes, there was established the State of the Teutonic Order and the bishoprics of Warmia. The remnant of a bygone era is a regular settlement pattern of towns and villages founded by the Teutonic Knights (Czaja 2000, Kulesza 2011) and unique on European scale concentration of military architecture (Dygo 2008). Settlement complexes as castle-town ones were in close spatial and functional connection for centuries. In addition to the military role castles were of political, administrative, economic, social and cultural importance. Moreover, functions, role and importance of towns and castles evolved over the centuries. Some features have changed or developed, others diminish and disappeared.

Completely new feature of towns and castles began to develop in the twentieth century. Consequently, both castles and towns gained new, tourist function. The growing popularity of cultural tourism has contributed to increased interest in monuments (Liszewski 1999) including military heritage (Kowalczyk 2003). The historic towns with medieval castles within their borders have become popular tourist attractions. Pararell to increase of tourism demand its supply area has also transformed. Development of infrastructure and tourism was required as well as creation of new tourist products, advertising and promotion.

Tourist function of medieval castles in northern Poland entered a new phase in the last few years. One can see that the spatial development for local communities, with such facilities as offices, agencies or cultural institutions is slowly giving place to tourism development.

Functional changes occur next to ownership ones. Maintaining monuments in good condition requires considerable funding. Therefore, some local governments as Ryn, Gniew, Lidzbark Warmiński[19] or Ełk which can not afford to maintain the surface of architectural monuments, put castles up for sale. The new, private owners are investing lump sums of money in the castles' adaptation to modern standards of customer service. Strongholds are rebuild and adapted in order to provide a high level of hotel services. Moreover, private owners (like former proprietors) organize in historical monuments events inspired by rich historical and architectural heritage.

The transformation did not also spare the towns in region. The exceptional nature of this phenomenon was affected by the changes that have taken place in former strongholds. Castles' impact on the surrounding space is diverse. Economy affects development of towns tourist function (e.g. new working places, investments, capital inflows, cooperation with local partners) and their social sphere (the feasibility of inhabitants' cultural needs and interests, local patriotism). Renovation works in castles are accompanied by old towns restoration. This process can be clearly seen in small towns, where the number of inhabitants is less than 20,000.

The article is largely based on the results of survey conducted among residents of six selected small towns, as: Bytów, Gniew, Lidzbark Warmiński, Nidzica, Reszel and Ryn. Research results are fragmentary and they should be treated as an introduction to in-depth analysis of the subject. It is a small part of the research process, carried out by the author during his works on a doctoral thesis on the impact of tourism functions of medieval castles on the economic and social life of small towns.

The number of visitors and their territorial origin can provide the position of mentioned castles and their importance for tourism development. Number of tickets sold per annum range from 4,700 in Reszel to 37,600 in Bytów (Table 1). Taking into account the number of overnight stays in the castle hotel facilities these values range from 2,800 in Reszel to 46,500 in Ryn[20].

[19] The castle remains in the hands of the Museum of Warmia and Masuria. The castle's wards were sold (http://www.hotelkrasicki.pl/).
[20] Data for 2008.

Table 1 – Number of overnight stays in hotels and the number of museum tickets sold in castles in Bytów, Lidzbark Warmiński, Nidzica, Gniew, Reszel and Ryn in 2008

Data/towns	Bytów	Lidzbark Warmiński	Nidzica**	Gniew	Reszel	Ryn
Nr of overnight stays	5,088	-	5,000	9,488	2,830	47,500
Nr of sold tickets	37,680	31,417*	12,900	26,322	4,723	11,204 ***

*data for 2007, ** estimates of the Gregorovius and NOK hotel employees; the number of tickets sold in 2006, *** the number of people who took part in a guided-tour in the castle.
Source: (Musiaka 2012).

Although, the author conducted his research on the castles which are not amongst the most popular ones and the most frequently visited in the country, (contrary to the Royal Castle in Warsaw and the Malbork Castle Museum[21], where the annual number of visitors reaches 400,000 and 500,000 people a year), the castles mentioned by the author are an important element of the Polish tourist product. According to surveyed population, in the years 2008 and 2009 (Musiaka 2012), the largest group represented domestic visitors. They can be divided in two groups. The first group consists of travelers who take summer trips from the center and the south of the country to the sea through the lake districts and they are resting in Warmia, Masuria and Pomerania. The second group consists of local inhabitants. Among foreign travelers, a large number of visitors came from Germany and German-speaking countries as well as Russia, Lithuania, the United States and Canada.

The main objective of the research was *the role of castles and tourism in the life of local communities, as well as desired changes in the functioning of castles and towns and their changes under the influence of tourism over the last twenty years*. Selection of the research sample can be defined on a degree of availability. The surveyed population is diverse in terms of social and demographic features. However, according to some assumptions, respondents may be divided into three groups:

a) inhabitants with a university degree who take an active part in towns' social and cultural life,

b) inhabitants working in tourism and castles,

c) other inhabitants.

It was assumed that in every town there will be carried out at least 100 surveys among the residents. In total, in 2008-2009, the author conducted 661 questionnaires. In order to achieve the research objective surveys' results were analyzed and they present respondents' answers to questions about the reasons for supporting tourism development in towns, castles' impact on personal life and their role in the socio-economic situation, benefits of castles' activities, expected changes in castles and towns, and transformations observed under tourism influence.

[21] Data on the size of tourism for the castle in Warsaw provides i.a. Pluta 1994, and for the castle in Malbork i.a. Kostrzewa (1991).

The vast majority of respondents (80%)[22] declare support for tourism development in town. Respondents mention the following benefits: funds inflow, towns' advertising and promotion in the country and abroad, more working places for residents, towns' increased attractiveness as well as the development of infrastructure and improvement of aesthetics (Figure 1 1). Declared level of local patriotism also increases. Interestingly, respondents who do not support tourism development cannot justify their opinions.

Figure 1 – View of the castle in Ryn before and after renovation.
Source: Hotel Castle Ryn materials, the author's photography.

Only a third of respondents felt castles' impact on their personal life. These are usually inhabitants working in a castle or people active in cultural and social matters, who take part in events which occur in castles. It should be emphasized that effects of castles' existence and operation to a large extent depend on their contemporary development, and whether the entities within the castle are set to support residents and tourist movement. The majority of respondents who do not normally come into direct contact with tourists do not feel visitors' impact on their life.

Despite this, it can be stated that medieval castles play an important role in life of explored towns. Additionally, high percentage of respondents (almost 74%) notices castles' impact on the place of residence. According to respondents, castles play an important role mainly in such spheres as tourist services, town's promotion and advertising, and its cultural activity. More than half of respondents identifies castle's role in town's activity as large or big (Figure 2).

As for tourism impact on a town respondents identify it mainly with economic effects. A small group of inhabitants, who usually work in tourism, derive personal economic and non-economic benefits. Town as a unit gets greater benefits from tourism as a result its impact is more visible (mainly through tax revenues, working places, investments).

[22] Averaged data for all analyzed cities.

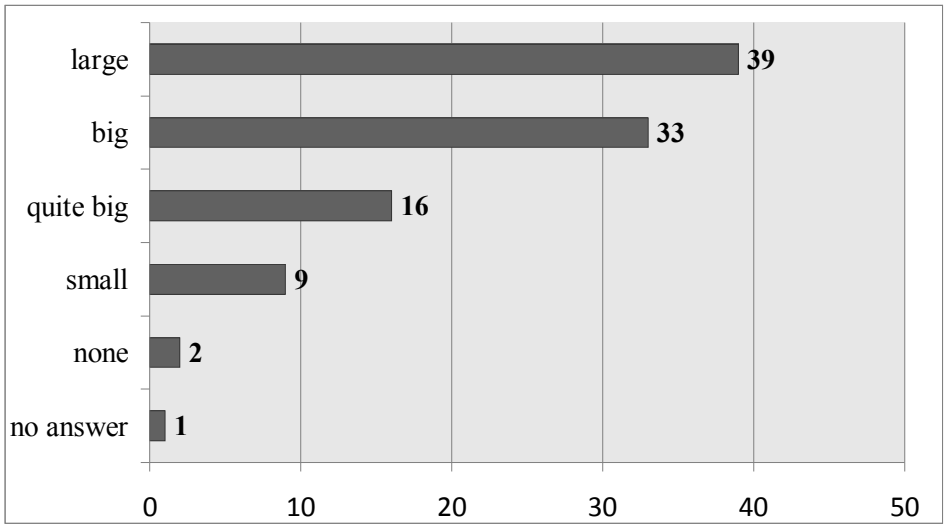

Figure 2 – Castle's role in town's activity (percentages)
Source: own study based on the survey.

Consequently, castles' impact on towns can be perceived twofold, as direct one (working places, taxes, other public events) and indirect – a result of tourism (Musiaka 2012).

When asked about desired changes in town, most respondents mentions: roads quality improvement and traffic organization, tourism development, need for restoration of historic urban areas, greater number of cultural events and attractions, and infrastructure improvement. Moreover, respondents list also such spheres of life as aesthetics improvement, increased number of working places, grater variety of leisure activities (especially for children and young people), promotion improvement, change of town's local authorities and more investments.

According to respondents, the most anticipated changes of castles include: wider range of events and attractions, property revalorisaton and its accessibility, richer museum exhibition, promotion, information and advertising improvement, lower ticket prices, tourism infrastructure development, increase in service standards, infrastructure improvement (including car parks construction, reorganization of label directions to monuments).

It should be emphasized that mentioned by respondents areas of improvement are not only important for quality of life, but they are also important from visitors point of view. They are both a part of the so-called "hard investments" as technical infrastructure, spatial development, as well as "soft investments" which occur within the community.

Nearly 50% of respondents notes that all changes took place under the tourism influence in last twenty years. There are primarily beneficial changes, mainly in urban area. Towns' aesthetics and their infrastructure significantly improved. Inner city areas, which along with castle hills are explored tourist space, were subjected to revalorisation (details: Figure 2).

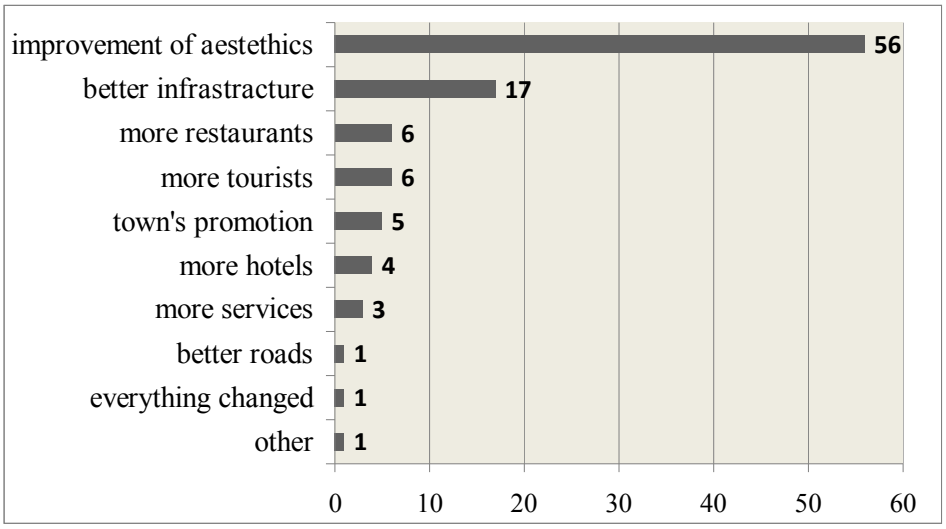

Figure 2 – Town's changes perceived by respondents in last twenty years (%)
Source: own study based on the survey.

At the same time these are the areas in which, according to surveyed inhabitants, the largest changes are yet to be done. Respondents when asked about observed changes frequently point out that there are: more visitors, more gastronomic and accommodation facilities. Additionally, there is and increase in town's fame and its reputation, increase in number of different types of service facilities, and roads' quality improvement.

In conclusion, respondents usually positively estimate changes which occur due to castles' existence and activity as well as tourism development. Positive image is, however, distorted by critical opinions. In spite of complaints about the traffic problems in the summer period, mainly local tourism entrepreneurs voice heavy charges. These are for example such issues as the local tourist market monopolization by castle entities, difficult access to castles-hotels for local residents, creating in castles a "tourist ghetto", where tourists spend most of their time and do not benefit from the goods and services available in town. Therefore, the competition between castle and town deepens.

In spite of mentioned factors, both the author and respondents positively assess changes which take place in towns and cities under the influence of tourism and castles' tourist function development. At this point, however, one must note that in order to prevent further deepening of differences between private castles-hotels and the rest of towns, there is government action needed aimed at creating new tourist attractions outside the castle hill. Such investments should be regarded not as a competition for castles, but as an important addition to their services. Due to the author Lidzbark Warmiński may be an example of such good practices where arise Warmia Baths which are perfect complement to the tourist offer of the town.

According to the author, co-operation between castles and towns should be carried out locally and regionally, so as to create a strong and attractive tourist brand of Pomerania, Warmia and Masuria as an area rich in natural beauty and cultural heritage. The benchmark to follow should be the French castles of the Loire or the Rhenish castles.

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HOTEL CHAINS IN SLOVAKIA

Alena Dubcová, Lucia Šolcová
Constantine the Philosopher University in Nitra, Nitra, Slovakia
adubcova@ukf.sk, lsolcova@ukf.sk

Abstract. *Slovakia's accession to the EU have been lift travel restrictions on persons and increased demands for quality services, which increased competition in the tourism market, as reflected in hotel industry of SR. Development of tourism in the world and thus in Slovakia is influenced by globalization, which is one of the landmarks of the 21st century. Globalization is a multi-layered process in which the most important role is played by megacorporations, international companies, but this process also involving the small and medium business as well as the tourism industry customers. Globalization starts when the internationalization of economic life develops in the space across the planet.*

Дубцова А., Кольцова Л. **Готельні ланцюги у Словаччині**. *Вступ Словаччини до ЄС зняв обмеження на поїздки людей і сприяв підвищенню вимог до якості послуг, що посилило конкуренцію на туристичному ринку, як це спостерігається в готельній індустрії Словацької Республіки. Розвиток туризму в світі і, отже, в Словаччині зазнає впливу глобалізації, яка є одним з поворотних пунктів 21-го століття. Глобалізація являє собою багатогранний процес, в якому найважливішу роль відіграють мегакорпорації, міжнародні компанії, але цей процес охоплює й малий та середній бізнес, а також споживачів індустрії туризму. Глобалізація починається, коли інтернаціоналізація господарського життя розвивається в просторі всієї планети.*

Introduction. The globalization creates a new universal lifestyle that interferes with fashion, music, food, human behavior, rest, recreation....Globalization also means increased international division of labor achieved through international fragmentation of production, as well as political trends towards more liberal economic order (Smeral, 1998, 372). It translates not only into institutional market changes (mergers, acquisitions, cooperation agreements, marketing alliances) but also in the strategies of companies in terms of territorial scope, access to foreign markets and distribution network and also finds its reflection in the internal organization of companies (for example outsourcing, individuality, means of communication, the establishment of foreign branches) (Palatková, 2012). Globalization is a multi-layered process in which the most important role is played by megacorporations, international companies, but this process also involves the small and medium business as well as the tourism industry customers. Tourism has become big business and is operated by the big trusts. In tourism, globalization affects the demand and supply in several ways. The supply factors include, for example, using of computer and reservation systems, reducing transport costs of traveling by airplane and other transportation to chosen destination, new forms of management, exploring new destinations etc. Regarding a demand factor of globalization in tourism, rising of salary and rising of living standards, experience and education of tourists, interested in the new destination, etc. may be included. Characteristic features of the globalization of tourism by Feig (Smeral, 1998) are:

Economy

• Horizontal and vertical integration strategies of tourism enterprises
• Foreign investment in hotels and tourist attractions ("globaltourismmarkets")
• Global players and strategic alliances (air companies, hotels, tour operators)
• Global tourism management
• Global competition of holiday resorts

Technology

• Global booking systems
• Standardized technologies in transport systems

Culture

• Global tourist: uniform traveller behaviour
• Creation of "global tourist village"

Ecology

• Tourism as "global syndrome of ecology problem"
• Climate changes and their effects on destinations

Politics

• Increasing importance of international tourism organizations
• Necessity for global coordination and regulation of passenger circulation
• Sustainable development as quality and dominant idea

By Slovakia's accession to the EU travel restrictions were lifted and the requirements for service quality have been increased, which has increased competition in the tourism market, as reflected in the hotel industry in Slovakia. Trends in the hotel industry are based on the needs and behavior of the market, respectively clients. In the Western Europe a long-term continuing trend is spending holidays in their own country, which is based on the fact that people not realize vacation only one but two or three times per year. This trend is slowly starting to develop also in Slovakia. The number of domestic guests in Slovak hotels is slowly growing, but still the share of overnight stays of domestic and foreign guests is still around 60:40.

Hotel industry is related with activity of hotels - property used for temporary accommodation for guests, which has more than ten rooms. Except accommodation, catering and ancillary services, entertainment and community services, commercial passenger services and recreational sports services on the active leisure are also provided. It is the service sector, which meets the individual needs of consumers. We see it as part of tourism and it is also a prerequisite for its further development. The development of hotel industry is one of the residence conditions in the frame of tourism development. Tourism and its sub-sector - hotel industry - develop in parallel and influence each other, this dependence is twofold:

1. dependency of tourism on hotel industry – without hotel business, there can be no residential tourism

2. dependency of hotel business on tourism where the important factor is the capacity of hotel business and its development.

Globalization brings many new ways of business and in the hotel business, which is reflected in particular by creating a new domestic hotel chains or the introduction of foreign hotel chains that offer a higher standard of service levels, design, and equipment of hotels, which are reflected in the brand and differentiate types of hotels. Until the socio-political changes of 1989, Slovak hotels were not linked to international information and international reservation systems, with notable exception of the largest hotels, namely Interhotels. After their collapse, the first international hotel company entered to Bratislava market was the company InterContinental Hotels Group, which opened hotel Holiday Inn in Bratislava in 1996.

The current state of hotel industry in Slovakia. Although the hotel business in Slovakia has not a rich history as for example in the United States and European countries like France or Germany, it has achieved a comparable level with the hotel business in neighboring countries. The transformation of the economy after 1989 allowed the changes in this sector. Most large hotels, especially interhotels, became independent (which in this period were used primarily by the foreign clients from the Eastern Bloc countries), for example Interhotel Bratislava, Interhotel Ružomberok Interhotel Tatras Starý Smokovec (which belong to the travel agency

Čedok, which is subject of Ministry of Commerce of Czechoslovakia), as well as other hotels operated by consumer cooperatives, social organizations, such as for example „ROH“, „SZM“. By restitution some hotels have become the property of original owners. In the privatization process, the hotel owners become people who had sufficient funds and often absent professional readiness. Unprofessionalism in such hotel management not only led to a decline in the quality of services offered by the hotel, but often to bankruptcy, and respectively to the change of the hotel owner. Although a number of large and medium class hotels *** and **** preserve and maintain the range and level of service, the transformation led to many changes. New home networks have been created, for example, the largest national network of Sorea hotels was formed in 1993 from hotels and recreation centers of “ROH”, which today operates by 14 hotels in the most attractive areas of Slovakia (High and Low Tatras, “Ľubovnianske Spa”, “Liptovský Ján”, Bratislava, Piešťany). Free hotel chain, Slovakia Inn, has been operated since 2001, which includes hotels with keeping strict criteria established by Internet Security Schemes for the desired service standard. The network includes hotels: Hotel SLOVAKIA - convention center Žilina, Hotel CARPATIA Bratislava, Hotel SMREČINA Párnica-Zázrivá, Hotel POD SOKOLÍM – “Vrátna Valley”.

Slovakia with its position in Central Europe has become attractive for foreign investment in the tourism sector. Foreign hotel companies entered to the Slovak hotel industry in the early 90's. The first company, that opened a new hotel in Bratislava – Hotel Forum – today Crowne Plaza and Holiday Inn, was Intercontinental Hotels Group chain. At the beginning of the 21st century multinational hotel companies such as Accor, Carlson and Orea Hotels joined, which also established the first hotels in Bratislava (Mištík, 2007) and later penetrate in other regions of Slovakia.

Slovakia with its small area, but more conveniently located in the heart of Europe and having rich natural and cultural attractions offers to visitors a constantly growing hotel market with increasingly higher quality services. In 2008 3434 accommodation establishments were in Slovakia (with 57 860 rooms with a capacity of 187 698 beds), of which the number of hotels has 596. In these hotels 27 465 rooms were available for visitors with a capacity of 58 357 beds, which benefited more than half (2 357 603 of visitors) guestin the accommodations (4082 645 million of visitors). Number of overnights in accommodation establishments in Slovakia reached 12 464 104, of which 6 263 042 million overnight relate to hotels. Development of the hotel capacity is shown steady development without major fluctuations, which is characteristic for this sector (Figure 1, Figure 2).

The distribution of hotels in Slovakia is very uneven. They are closely linked to the tourist destinations. Almost half of hotels are concentrated in three regions. Most hotels up to 115 (19%) of the number of hotels in Slovakia are situated in Žilina region with interesting tourist, natural, cultural and historical areas such as Kysuce, Orava and Liptov. Followed by the Žilina region, accounting for 19,57 % of beds (12569 beds) dominated with recreational hotel located in mountainous areas, the major water areas (Orava, Liptovská Mara) or cultural and natural heritage. It is followed by Prešov with 105 hotels (17,1% of the hotels SR), where is located in the

most beautiful and most visited mountains in Slovakia - High Tatras. The High Tatras concentrate the largest number of hotel beds in the Prešov region, which has big available capacity (16,65% - 10 692 beds) of hotel beds in Slovakia. The third region by the number of hotels is the Bratislava region (88), its capacity is concentrated in the Slovak capital city Bratislava (66 hotels). Except Bratislava, the city hotels are mainly represented in the larger regional cities (Košice, Banská Bystrica, Žilina, Prešov, Trnava, Trenčín, Nitra), satisfy a needs for short-term tourism and congress tourism especially in spa towns (Piešťany, Bojnice, Bardejov, Trenčianske Teplice), where visitors are able to use them for the needs of long-term treatment.

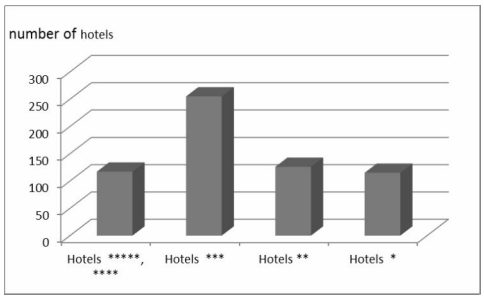

Figure 1 – Number of hotels in 2011

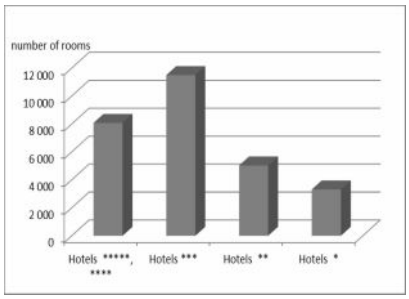

Figure 2 – Number of rooms in 2011

The number of foreign clients of hotelsreached the figure of 2 110 732 visitors. In the structure of Slovakia's visitors dominant position have guests from the surrounding countries, especially from the Czech Republic (29,1%) and Poland with 14,5%, followed by Germany with 10,4%, Hungary with 5,6%, United Kingdom with 3,8% and Austria with 3,7% (2011).

Hotel chains in Slovakia. Economic transformation and globalization has brought new trends also to the hotel ownership structure. Form of business may be independent or may be implemented through lease respectively through franchise agreements. Under the ownership structure hotels in Slovakia are divided into the following groups:

a) Individual - hotel owner is a person or a group of persons, or a company with more than one manager (whether with domestic or foreign capital), for example, Hotel Sitno in Vyhne

b) Franchise "rent" - the hotel is owned by another company than the one which manages its operational activities (e.g. Grandhotel Kempinski High Tatras, which is owned by a Slovak company J & T Hotel Management, but the operator is a German company Kempinski Hotels A.G)

c) Hotel chains - owner and operator is an international hotel chain, for example, Hotel Ibis in Bratislava. Hotel chain consists of two or more hotels.

Standards of global hotel chains significantly improve services for both guests and visitors of hotel. Today visitors use to pay attention by choosing hotels that offer more complex service – they are interested in luxury, comfort, relaxation, but also in the opportunity to combine business duties with a pleasant evening relax in the hotel. This leads to the development especially of hotels that meet all the following conditions - situation in the city center, a warm atmosphere and modern design.

Development of hotels and comparation between them cause a need to establish minimum requirements for international hotel classification. World Tourism Organization (UNWTO) has recommended to member states the minimum requirements to lead the world towards a single class hotels star labeling with the name of the hotel. This marking is not internationally compatible. Rules are set by the state or individual professional associations (Vavreková, 2007). Determining the class of hotel in Slovakia is based on current legislation (decree no. 277 of June 26, 2008) which ranks hotels to 5 classes from * to *****. In the hotel structure relatively balanced ratio of lower category hotel (* 104 – 17,45% of hotels and ** 149 - 25,0%) and middle category (*** 249 – 41,78%) of hotels is observed (figure 2). The frequency of higher category hotels achieves 15,77% (**** 91- 15,27% and ***** 3 – 0,6% of hotels in 2011, their number increased to 4 (Table 1, Table 2). In order to achieve maximum profits the category (according to the focus – for example wellness, congress, Spa hotel) is determined by the hotelier himself (Figure 3). New types of hotels were established that globalization has brought about mainly by foreign capital. You can find international hotel chains in Slovakia such as Accor (Ibis), Best Western, InterContinental Hotels (Holiday Inn, Crowne Plaza), Carlson / SAS Rezidor (Radisson), Hotel Kempinski. They are located in the beautifully reconstructed historic buildings or newly constructed modern buildings and provide international standards of quality fortified by Slovak distinctive charm.

Table 1 – Level classes of hotels in Slovakia in 2011

Category	Number of accommodation	Number of rooms in total	Number of beds in total	of which permanent beds
Hotels *****, ****	117	8 080	17 451	15 685
Hotels ***	255	11 502	26 368	22 623
Hotels **	126	5 030	11 969	10 530
Hotels *	115	3 318	8 428	7 630
total	613	27 930	64 216	56 468

Table 2 – Capacity and performances of tourism accommodation establishments by types of hotels in 2011

Category	Number of accommodation	Number of rooms in total	Number of beds in total	of which permanent beds
Mountain hotels*** to *	71	2 196	6 422	5 335
Congress hotels***** to ***	14	1 188	2 550	2 232
Wellness hotels***** to ***	9	443	1 135	939
Spa hotels ***** to ***	5	620	1 131	1 124
boutique hotely ***** a ****	5	150	298	295
hotels	509	23 333	52 680	46 543
total	613	27 930	64 216	56 468

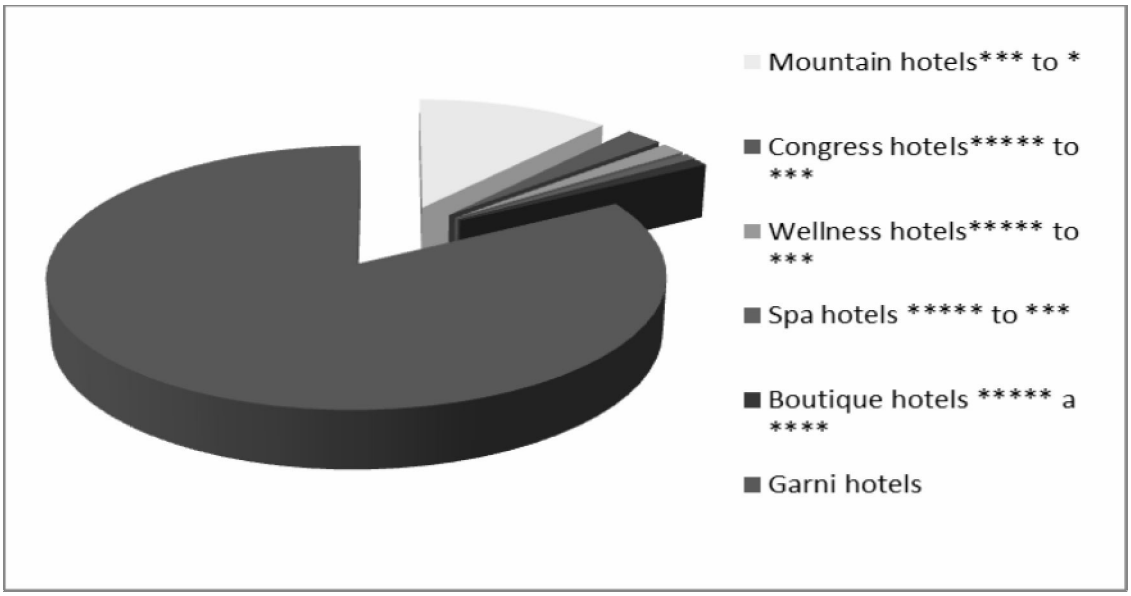

Figure 3 – Hotels category in 2008

Garni hotels reach the lowest level (one *) and are mainly focused on short-term temporary residence. They provide serving breakfast for effortless guests. **They** are examples of cheap but stylish accommodation in small rooms. Hotels of this type are located mainly in cities, for example, Hotel Garni (Považská Bystrica), Garni Hotel Mado (Bojnice), Garni Hotel Urpin City (Banská Bystrica), Hotel Garni Veronia (Košice), Hotel Garni Oáza (Prešov) and Thorin Garni Hotel (Bratislava). The opposite of this hotel type is a boutique-type hotel that meets the requirements of the hotel of the highest grade ****. They are characterized by luxurious and exclusive interior and less rooms located in historic buildings of the town, respectively in houses with interesting architectural or artistic solution. Small boutique hotels with sophisticated architecture and design are especially popular, where owners feel a personal approach which is based on a personal approach to guests. This type of hotels are located in larger cities such Marrol's Hotel, Hotel Arcadia, Mama's Design & Boutique Hotel, Hotel Tulip House (Bratislava), Hotel Dubná Skala (Žilina), Golden Royal Boutique Hotel, Boutique Hotel Rokoko, Hotel Bristol, Hotel Maraton (Košice) or Hotel Zlatý Kľúčik (Nitra). The last is a four-star Abba Bratislava Hotel. The high level hotels are mostly **** hotels located in renovated historic areas such as castles, mansions, town houses (e.g. **** Hotel Château Belá, Liptovský Hrádok Grand Castle **** Hotel U Leva *** in Levoča and others).

There is a tradition of spa hotels in Slovakia that belong to hotel class of *** and more. These hotels provide a range of services assured for the relevant hotel class offering medical care for the guests. They are located in the spa center. These include e.g. Thermia Palace, Balnea Esplanade, Balnea Palace (Piešťany), Aphrodite Hotel, Hotel Veľká Fatra (Rajecké Teplice), Hotel Krym, Hotel Flóra, Hotel Atlantis (Piešťany), Morava Hotel, Hotel Central (Smrdáky), Hotel Astória, Hotel Ozón (Bardejov), Hotel Jantár (Dudince) and Grand Hotel Strand (Vyšné Ružbachy). In addition they also have dozens of special procedures associated with the healing water to prevent such a recovery treatment of musculoskeletal mass. These services

can extend the length guests' staying. are Wellness hotels are the new hotel type in spa center and cities that are especially designed for specific short-term stay associated with professional care and rehabilitation of guests. A newer type of hotel includes a wellness hotel, which are not only equipped with sporting and recreational facilities, but also provide a rational diet. To the *** class and upper class include for example Patince Wellness Hotel, Hotel Park (Piešťany), Hotel Comfort (Nitra), Hotel Rubín (Dudince) Hotel Termál (Vyhne), Wellness Hotel Diplomat (Rajecké Teplice) and Hotel Aquacity Mountain View (Poprad), etc.

Another type of hotel, located in a natural environment, are mountain hotels, which are represented by all classes except class of **** stars. They are characteristic mainly for central, northern and northeastern parts of Slovakia. The famous mountain hotels are, for example, the following: Hotel Šachtička (Banská Bystrica) Golf Hotel (Tále), Sport Hotel Donovaly, Hotel Poľana (Hriňová), Hajnice Mountain Hotel (Horný Vadičov) Mountain hotel Mních (Bobrovec), Sliezsky dom pod Gerlachom (High Tatras), Mountain Hotel Hutník (Krompachy), Hotel Polianka (Krpáčovo) or Hotel Podjavorník (Papradno). In the mountain areas also apartment hotels that consist of a minimum of eight apartments are situated. They provide a range of services assured for the relevant hotel class. These include e.g. Apartment Hotel Liptovský Dvor (Liptovský Ján), Apartment Hotel Vili (Tatranská Lomnica), Hotel Vila Grand (High Tatras), Hotel Crocus (Štrbské Pleso). Apartment hotels also have been established in urban environment e.g. Hotel Residence MaMaison (Bratislava), Hotel City Residence (Košice), Hotel Darmoon, Adam Eva Resort (Piešťany) and apartment hotels Tatran and Magura (Donovaly).

The higher-class hotels with more than *** belongs to congressional hotels, located not only in urban but also the recreational environment. These hotels are equipped with negotiating spaces that allow flexibility of their use and the technical conditions for the provision of conference services. This type of hotel is currently experiencing a great surge in Slovakia and is represented by mainly Bratislava hotels: Apollo, Crowne Plaza, Holiday Inn, Austria, Trend Hotel. Hotels of this type are located also in all other parts of Slovakia: Senec Hotel, Capital Hotel (Nitra), Holiday Inn (Žilina), Hotel Patria (Štrbské Pleso) Grandhotel Jasná, Grandhotel Starý Smokovec (Starý Smokovec), Congress Hotel Gala (Sielnica), Doubletree by Hilton (Košice) and Grand Hotel Kempinski High Tatras (Štrbské Pleso).

These new hotels brought foreign capital which is entering to the hotel industry through independent companies or through chains. Making of chain in the hotel industry is also one of globalization elements. Slovakia has been traditionally conservative, especially small and medium-sized hotels have private owners who keep guests through the familiar name of the hotel, which represents a guarantee of quality services. In Slovakia independent hotels dominate, while in the global hotel sector even 30% of all shares in the hotel industry are controlled by hotel chains. It is expected that to 2050 more than 60 % of the hotels will belong to the multinational companies (Gúčik - Šípková, 2004). We know transnational (global) and national hotel chains, which benefit from the advantages of connection to the global distribution systems. Transnational hotel chain is a hotel group connected by one hotel brand, or hotel group acting under multi-brand, so that their brands cover

most market segments and are mutually complementary (Mištík, 2007) under agreements between hotels and the owner of hotel brand rights. The owner of the brand, the hotel company, provides hotel services in such sphere, which is achieved by centralizing cost savings or more efficient. In Slovakia hotel chains are:

a) transnational – hotels with international brand (3,34% of the hotels SR) - are located in attractive regions of Slovakia,

b) national – domestic hotel chains – with a small number of hotels - often are not typical hotel chain.

Transnational hotels are organized in closed or open strings. All hotels that are part of the chain must meet the same level of comfort and service. Hotel chains such as InterContinental Hotels Group (UK), Cendant (U.S.), Accor (F) and Hilton Corporation (U.S.) are famous examples of closed hotel chains. Management of such branded hotels is usually associated with compliance with standardized services, providing a similar product in all of hotels belonging to one brand in several world countries. The second type are called open strings that create untypical international hotel chains, which combine independent hotels and form a consortium under a common brand and a freedom of choice is provided in individual hotels. This type benefits from joining the group. Such hotels retain their Identity and business philosophy. This group includes e.g. Best Western.

Hotels from 10 international hotel chains are situated at Slovak territory, , and their number is growing. The first chain, InterContinental Hotels Group, came to Slovakia in 1990, when in the capital city of Bratislava Forum Hotel was built, which was converted into a Crowne Plaza Bratislava under a management contract in 2005. Chain is characterized by multi-brand operation. Since 1995 the brand Holiday Inn operates in Bratislava under a franchise agreement. Holliday Inn is a brand of mid-level hotels. The second hotel of this brand is located in Žilina. InterContinental Hotels Group chain in Slovakia has available capacity of 525 rooms including 133 rooms in Žilina. Unlike the InterContinental Hotels Group, hotel chain Best Western International operates in the global marketplace under one brand of Best Western. Its hotels are independent, mostly minor. This hotel chain in Slovakia has the largest number of hotels, located in Bratislava (Hotel West the member of Best Western since 1999) and Bučeková (2007), but represented also in several cities - Palace Hotel Polom – Źilina –Tulipán Hotel - Tatranská Lomnica, Hotel Teledom & Conference Center – Košice, Hotel Reduta – Lučenec, Hotel Karpatia – Humenné and Capital Hotel in Nitra. Total capacity is the 273 rooms.

The famous Starwood Hotels and Resorts chain consists of luxury hotels and unites various brands. In 1999 it launched the brand of W Hotels, which became the first successful hotel chain in the segment of boutique hotels. In 2005 Starwood has changed the strategy from the owner of estate towards franchising and hotel management. On the territory of Slovakia string came in 2010. It is represented by one Sheraton Hotel in Bratislava with 211 rooms. The chain CarlsonHotels is also represented by one hotel. It belongs to the most famous hotels in Slovakia Carlton **** with 168 rooms. In the Europe, for most brands of the company's have exclusive franchise rights. The Rezidor Group subsidiary is based in Brussels. MaMaison Hotels & Residencessie chain is focused on embacious clients, and

consists of mainly medium-high luxury hotels of boutique & business class conference hotels, as well as residential all-suites hotel, meeting and exceeding the requirements of international standards. In Slovakia, it is represented by a small hotel near Bratislava – MaMaison Residence Šulekovo with 32 rooms, which was built on ecological principles, which is specific for this international network. Such international chain as Kempinski Hotels and Resorts is one of the oldest in Europe (1897). Brand represents the hotels that are oriented to embacious clients in the field of recreation and tourism employment. It is represented by ***** Kempinski Hotel River Park in Bratislava. This city conference hotel was opened in 2010. Hotel Grand Kempinski High Tatras in Štrbské Pleso belongs to a luxury mountainous hotel, which was built in 2009.

The relatively young chain is AccorHotels. This hotel chain is a known leader in the segment of cheap hotels, and manages a number of brands, for example, Accor, Ibis, Mercure, Sofitel, Motel 6, Etap and RedRoofInn. On the territory of Slovakia is only one hotel in this chain - Hotel Ibis in Bratislava with 120 rooms, this chain was obtained by the Hungarian subsidiary company AccorHotels. Since 2010 the Mercure brand is represented in the capital city of Slovakia.

The atypical international hotel chain is Small Luxury Hotels of the World that does not produce typical international hotel chain, but rather an association of hotels, occupying common standards and trends. In Slovakia this association provides two hotels in Bratislava -Marrol (54 rooms) and Albrecht (12 rooms). The international companies have their hotels OreaHotels in Slovakia, which is one of the largest hotel chains in the Czech Republic, which followed the tradition of union hotels, represented by Club Hotel in Bratislava. Hotel Group Summit Hotels & Resorts is part of an international hotel chain Preferred Hotel Group, which has established two congressional Gate Hotel **** in Bratislava with a capacity of 116 rooms.

The international companies have their hotels OreaHotels in Slovakia, which is one of the largest hotel chains in the Czech Republic, which followed the tradition of union hotels, represented by Club Hotel in Bratislava. The latest hotel chains include Spanish network Abba Hottels, which located, apart from London and Berlin, its hotel in Bratislava (2011). Specific situation in Slovakia have a group of Danubius Hotels Group, which belongs to one of the largest networks of hotels operating in Central Europe. Since 2002 it took major hotels from the biggest spa in Piešťany in Slovakia - Danubius Health Spa Resort Thermia Palace hotel, Danubius Health Spa Resort Balnea Esplanade Hotel, Danubius Health Spa Resort Balnea Palace Hotel Piešťany, as well as smaller hotels in Smrdáky.

Conclusion. Entry of foreign capital and especially multinational hotel chains in the Slovak hotel industry also in Slovakia is starting to show elements of the globalization of the industry. Foreign hotel chains use their expansion as various investment options, for example construction of modern hotels respectively reconstruction of historic buildings such as castles, curias, bourgeois houses etc. for hotels especially in areas with significant tourism potential, whether cultural, historical or natural. It is in the rural areas there is a fusion of traditional style with modern recreational facilities (such as wellness centers, different types of spas, tennis courts, gym, swimming pools ... etc.) thus hoteliers try to bring as much to the

requirements of visitors. Chains are oriented to hotels with middle to high class luxury like boutique, business & conference hotel as well as residential all-suites hotels that are oriented to demanding clients, particularly in the area of recreation and business trip.

Hotel chains are more attractive for visitors, have available the latest technology and the most effective methods of marketing, especially programs for loyal customers, allowing them to maintain constant clients and get out of unfavorable period, such as crisis, earlier than independent hotels with the standard service, offering average quality.

In Slovakia hotels are concentrated mainly in the capital city - Bratislava, where there are more than 20 foreign chains. For foreign chains are interesting also High Tatras and the second metropolis in the east of Slovakia - Košice. The most significant spatial dispersion in the territory of Slovakia has the Best Western International chain, which has its hotels in major cities. Their number in Slovakia, which has a rich natural and cultural-historical potential is still growing.

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TEMPORARY CLUSTERS – A FUTURE RESEARCH AGENDA FOR CENTRAL AND EASTERN EUROPE? INSIGHTS FROM RESEARCH ON CORPORATE CONFERENCES IN TORONTO

Sebastian Henn
Leibniz-Institute for Regional Geography, Leipzig, Germany
s_henn@ifl-leipzig.de

Abstract. *As wider economic networks develop connected through relational ties, permanent spatial proximity is no longer a prerequisite for ongoing knowledge creation. Rather, temporary gatherings either based on physical proximity (i.e. trade fairs) or virtual proximity (i.e. Internet-based communities) can also support interactions between economic agents over great distances and play an important role for processes of inter-firm communication, learning and the corresponding creation and dissemination of knowledge. An increasingly important, albeit largely unexplored form of knowledge generation occurs during international and national corporate conferences. For understanding the role of corporate conferences as events that generate important economic knowledge flows we explore the scale of such face-to-face-encounters, the type of trans-local communities involved, the importance of these short-term meetings and the nature of the specific ecology of information and communication processes involved.*

Генн С. **Бізнес-конференції як field-maintaining події. Уроки з досвіду Торонто?** *З розширенням розвитку економічних мереж, що поєднуються реляційними зв'язками, постійна просторова близькість більше не є необхідною умовою для створення знань. Більшою мірою тимчасове зібрання, що базується або на основі фізичної близькості (наприклад, торгові ярмарки), або віртуальної близькості (наприклад, інтернет-спільноти), може підтримувати взаємодію між економічними суб'єктами на великих відстанях і відігравати важливу роль у процесах міжфірмових комунікацій, навчання і відповідного створення і поширення знань. Більш важлива, хоча і менш вивчена форма генерації знань з'являється під час міжнародних і національних корпоративних конференцій. Для розуміння ролі корпоративних конференцій як подій, які створюють важливі потоки економічних знань, ми досліджуємо масштаби таких зустрічей типу «обличчям до обличчя», як різновиду залучення транс-локальних громад, а також важливість цих короткострокових зустрічей і природу специфічної екології інформаційних і комунікаційних процесів.*

1. Introduction. In the knowledge-based economy, the competitiveness of firms depends on their ability to engage in and benefit from creating and circulating knowledge both with their regional environment and beyond. While economic geographers have for a long time been particularly interested in analyzing the role of spatial proximity in the creation and transfer of new knowledge, relying primarily on local factors in more recent studies has been found to bear the risk of over-embeddedness, affecting the competitiveness of individual firms and even entire clusters. In addition, as wider economic networks develop that are connected through relational ties (proximity), permanent spatial proximity is no longer a prerequisite for ongoing knowledge creation.

In fact, practices of trans-local and global knowledge flows based on different forms of professional mobility have become widespread and must be considered as important determinants in gaining and maintaining competitiveness (Saxenian 2006; Bathelt and Glückler 2011; Henn 2012). Although many studies underline the importance of such translocal pipelines, their creation has thus far only been poorly understood. Recent work suggests, however, that temporary gatherings either based on physical proximity or virtual proximity (i.e. Internet-based communities) can support interactions between economic agents over great distances and play an important role for processes of inter-firm communication, learning and the corresponding creation and dissemination of knowledge over space (Amin and Cohendet 2004; Bathelt and Glückler 2011).

2. Trade-fairs and Corporate Conferences as Temporary Clusters. Recent research has highlighted the role of trade-fairs as one important type of temporary professional gatherings that allow for the generation and circulation of new knowledge (Bathelt and Spigel 2012; Bathelt and Schuldt 2008; Maskell et al. 2004). When applying a knowledge-based understanding of clusters, such events, even though only temporary in nature, resemble (permanent) regional clusters in manifold ways. First, trade fairs have both a vertical (customer-supplier-relationships) and a horizontal dimension (competing firms) which enable learning processes and the generation of new knowledge about markets and technologies. Second, the participants of trade fairs are exposed to different opportunities which enable them to establish new and to deepen existing relations to business partners on both an interregional and international level. The different information flows between the agents have been conceptualized as global buzz reflecting the external cluster dimension (Bathelt and Schuldt 2008).

Like trade-fairs, corporate conferences bring together professionals from different backgrounds for only a limited period of time. This raises the question of whether conferences represent another type of temporary clusters that enables processes of knowledge generation and circulation.

According to the International Congress and Convention Association (ICCA) (2012), conferences are defined as participatory meetings "designed for discussion, fact-finding, problem solving and consultation. As compared with a congress, a conference is normally smaller in scale and more select in character – features which tend to facilitate the exchange of information. The term 'conference' carries no special connotation as to frequency. Though not inherently limited in time, conferences are usually of limited duration with specific objectives".

Rooting in the early 1930s (Bowers 1930), conference research so far has mainly been interested in the economic impacts of such events (e.g., Grado et al. 2008), in aspects of site-selection (e.g., Kim et al. 2004), the meeting participation process (e.g., van Dijk and Maier 2006), destination marketing (e.g., Davidson and Rogers 2006) and in advances in technology like telephone conferencing (e.g., West and Upchurch 2001). Little research, however, has been carried out on how conferences contribute to the creation and spatial dissemination of new knowledge.

3 Research Design and Methodology. To provide a better understanding of the role of corporate conferences in knowledge circulation processes, the nature of

the ecology of information and communication processes was studied on basis of a qualitative research design. The empirical analysis has focused on different corporate conferences in the Greater Toronto Area and been based on guided interviews with 57 firm representatives conducted at seven corporate conferences in the Greater Toronto Area in 2012.

4. Generation of Global Buzz and Pipelines. The results of the empirical analysis suggest that corporate conferences, similar to trade-fairs, are characterized by global buzz, i. e. unintended and intended flows of communication between the attendees of such an event. As was stated in different interviews, conferences provide the attendees with both trends and expertise, for example on newest technological developments or of existing applied solutions in new contexts. Important sources for such information are conversations with people whom are known and trusted and who have similar knowledge-bases and experiences and thus can be viewed as community of practice. Global buzz, however, is not only a mere product of chance but rather can be facilitated by different means. For example, depending on the seating, discussions and information exchange can be stimulated (e.g., when sitting on round tables). But also informal events like common dinners, cocktail parties, field trips and so on generate a certain atmosphere which allows for an easy flow of knowledge.

Aside from the generation of global buzz, corporate conferences also enable the creation of global pipelines. In particular, the temporary spatial proximity between the participants allows for a low-cost generation of new contacts to (potential) business partners. Whether a partner seems apt for future collaboration in many cases is evaluated during discussions, key notes, lectures and so on. However, there are also many unplanned opportunities for collaboration, arising for example on common dinners, luncheons, spontaneous talks during coffee breaks which allow for networking and socializing. The new contacts created on a business conference are not necessarily of direct relevance but rather may be important only in the future. In many cases, the participants of conferences are particularly interested in connecting to partners in regions not yet covered by their firms. In fact, some interview partners highlighted that close spatial proximity is essential for forming the initial contact and that a conference provides the attendees with manifold opportunities for doing so. Once established, the contacts can be easily activated over distance at later stages of collaboration.

5. Results and Implications for Future Research. The results of the study suggest that an increasingly important, albeit largely unexplored form of knowledge generation occurs during national/international corporate conferences. Aside from the members of a defined community, who are designated or self-selected, such events include experts such as well-known scientists or outstanding businessmen, who contribute to the collective sense-making amongst the participants. Through their comments and statements, they become important anchor or reference points for the evaluations of other participants. In addition, the attendees, due to their related knowledge bases and similar professional positions, are able to effectively exchange and circulate knowledge and to translate it into different corporate contexts in the aftermath of an event. Yet, we know only little about conferences as

temporary clusters which calls for more research in this field in general. In this context, it is suggested for different reasons that research on such events as well as on other types of temporary clusters should put a stronger focus on Central and Eastern Europe in particular: First, so far most studies in that field have clearly focused on Western Europe, North America and Asia while neglecting other regions of the world. Against this background, (comparative) empirical studies in Central and Eastern Europe could provide us with additional insights about processes of knowledge generation. Second, many Central and Eastern European countries have a long tradition in trade-fairs or are well-known locations for corporate conferences etc. and thus offer many opportunities for carrying out empirical studies. Third, aside from the sheer academic potential of such studies, both economic promotion councils and private event management companies will likely be interested in identifying and addressing room for improvements of such events.

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SPATIAL ANALYSIS AND RETAIL SATURATION OF THE SHOPPING CENTERS IN CZECH REPUBLIC

Marek Záboj
College of Business and Hotel Management in Brno, Brno, Check Republic
zaboj@hotskolabrno.cz

Abstract. *The paper deals with spatial analysis of the shopping centers according to individual regions in Czech Republic. The centers over 10 000 m^2 were identified with their total retail space and gravitational model was utilized to determine the break point between two competing regions – the point at which a person residing in an intermediate community would be likely to travel to one region rather than the other. Next part is aimed to calculation of saturation indicators. The main result is comparison of regions according to their shopping centers saturation and recommendation to possible investors, developers and retailers where is the best place to invest and build a new complex of retail stores according to given indicators of spatial analysis.*

Забой М. **Просторовий аналіз та насичення роздрібною торгівлею торговельних центрів у Чеській Республіці** *У статті представлено просторовий аналіз торгових центрів у розрізі окремих регіонів Чеської Республіки. Було ідентифіковано центри, що мають загальну торгову площу понад 10000 м^2, і з використанням гравітаційної моделі визначено точки розриву між двома конкуруючими регіонами – точки, в яких люди проживають в перехідних громадах, де ймовірність поїхати в один чи інший регіональний центр є однаковою. У наступній частині статті розраховано показники насичення. Основним результатом роботи є порівняння регіонів за насиченням їх торговими центрами і надання рекомендацій для можливих інвесторів, девелоперів і ритейлерів щодо найкращого місця для інвестицій та будівництва нових комплексів роздрібної торгівлі за показниками просторового аналізу.*

Introduction. In the frame of expansion of big shopping and entertainment complexes it is necessary to point out the classification of individual types of retail formats. According to definition of ICSC (International Council of Shopping Centres) the traditional shopping centre is realty used for retail purposes and it is one complex with total area bigger than 5 000 m^2 with 10 independent units at least. [1]

Retail park can be defined as a block of three and more trade units with total area ca. 5 000 m^2 and more. Part of these projects is always a parking lot which is shared by all operators in the park. Retail park is used to be usually developed by one developer in the uniform design. [2]

The space of shopping centres including retail parks reaches almost 2 millions m^2 in Czech Republic in 2011. Besides of extending of successful centres (Prague, Brno, and Ostrava) this retail format penetrates through still smaller and smaller towns. There does not exist the city with more than 50 000 thousands of inhabitants in Czech Republic where is not any shopping centre.

Materials and methods. Statistic data was gathered from public databases of Czech Statistical Office and statistical yearbooks to fulfil successfully the stated goal. It is necessary to determine border (limit point) of gradient (interest) area of place **b** versus place **a** (these places are individual regions of Czech Republic in the paper). Attractiveness of both places (here it is partly number of inhabitants and partly portion of sales area of shopping centres in m^2 per 1 000 inhabitants in the given locality) and distance (here it is distance between county towns) is considered as two factors affecting gravitation of individual places. It is possible to use the method of trade gravitation to set the gradient area of business unit. This method is based on the fact that effective demand in smaller urban units is pulling into bigger seats [3].

Transformation of original Reilly's equation onto the following form has very practical importance:

$$H_b = \frac{D_{ab}}{1 + \sqrt{\frac{P_a}{P_b}}},$$

H_b – border point of gradient area of place *b* (here the distance from county town),

D_{ab} – distance between both places *a* and *b* (here the distance between two county towns),

P_a, P_b – numbers of inhabitants in places *a, b* (here the sales area of shopping centre in regions per 1 000 inhabitants).

Index of retail saturation can be then calculated through the following formula:

$$IRS_i = \frac{C_i \times RE_i}{RF_i},$$

IRS_i – index of retail saturation for area **i** (here i = individual Czech regions),

C_i – number of inhabitants in area **i**,

RE_i – retail expenditures per customer in area **i**,

RF_i – total sales space in area **i** (here sales area of shopping centres in the region).

Results and conclusion. The coefficient of saturation (total sales area in shopping centres in the given region per one inhabitant) is determined to measure the level of saturation by shopping centres in individual regions. Then it is possible to calculate also saturation index which is moreover considering consumer expenditures of one inhabitant for products offering by shopping centres (food, drinks, tobacco, clothes, footwear, furniture, household articles and personal services). According to survey of Czech Statistical Office these expenditures are 61.1 % of total consumer expenditures. In the next step these expenditures are determined like a portion of average disposable income and this figure was then used to calculate consumer expenditures in individual regions (see Tab. 2).

Table 1 – Selected characteristics of the individual regions in Czech Republic

Region	Number of inhabitants	Net disposable income per 1 inhabitant [CZK]	Sales area of shopping centres [m^2]	Sales area per a thousand of inhabitants [m^2]
South Bohemia	641 839	160 981	21 188	33.011
South Moravia	1 187 295	161 124	215 545	181.543
Karlovy Vary	316 994	145 819	11 062	34.897
Hradec Králové	561 684	159 905	27 800	49.494
Liberec	446 185	154 030	122 600	274.774
Moravia-Silesia	1 269 475	149 659	65 617	51.688
Olomouc	648 568	155 025	77 242	119.096
Pardubice	519 668	156 257	36 212	69.683
Plzeň	578 180	165 947	91 000	157.390
Central Bohemia*	2 518 311	201 892	637 465	253.132
Ústí nad Labem	856 990	146 564	98 990	115.509
Vysočina	517 320	142 876	25 000	48.326
Zlín	597 698	159 530	62 264	104.173

* Central Bohemia includes Prague because of geographic location of these regions
Source: Ministry of the Interior of the Czech Republic, statistic regional yearbooks of Czech Statistical Office

Table 2 – Level of retail saturation of shopping centres in the regions in Czech Republic

Region	Consumer expenditures ** [Kč]	Coeffic. of saturation of SC [$m^2 \cdot inhab.^{-1}$]	Saturation index of SC [$CZK \cdot (m^2)^{-1}$]
South Bohemia	5 807	0.033	175 909
Karlovy Vary	5 260	0.035	150 731
Hradec Králové	5 769	0.049	116 560
Vysočina	5 154	0.048	106 651
Moravia-Silesia	5 399	0.052	104 453
Pardubice	5 637	0.070	80 895
Zlín	5 755	0.104	55 245
Olomouc	5 593	0.119	46 962
Ústí nad Labem	5 287	0.116	45 771
Plzeň	5 987	0.157	38 039
South Moravia	5 813	0.182	32 020
Central Bohemia*	7 283	0.253	28 772
Liberec	5 557	0.275	20 224
Average	5 715,46	0.115	77 094.77

* Central Bohemia includes Prague because of geographic location of these regions
** Consumer expenditures are based on portion of average month consumer expenditures for assortment in SC (shopping centres) from disposable income in the individual regions
Source: Elaborated by author

Through the values of index and coefficient of saturation it is possible to define the regions with the highest and the lowest quotient of shopping centres, namely not only according to sales area but the number of inhabitants and different consumer expenditures in the given regions are considered as well. The numeric results achieved in Tab. 2 refer to the lowest saturation by shopping centres in South

Bohemia region that is followed by regions Karlovy Vary, Hradec Králové, Vysočina and Moravia-Silesia. On the contrary the highest level of saturation by observed retail units is in regions Liberec, South Bohemia (including Prague), South Moravia and Plzeň. Relatively high rate of saturation by shopping centres is discovered in regions Ústí nad Labem, Olomouc and Zlín and in the case of Pardubice region the indicators reach middle values.

The main goal of the paper was to determine level of retail saturation by chosen retail formats (i.e. shopping centres) in Czech Republic according to individual territorial-administrative units. Due to the methods of spatial analysis the border spots of gradient areas were discovered. The potential customers are pulled from these spots to shopping centres in the given region. Then the rate of saturation by shopping centres was assessed with considering to different consumer expenditures for individual regions. The determination of border spots provides to shopping centres the important information during identification of target group of potential customers namely from geography viewpoint. The suitable indicators were used to fulfil the given aim. First one is coefficient of shopping centres saturation – measured like portion of retail space in all shopping centres per capita in each region (the average in Czech Republic is 0.115 $m^2 \cdot cap^{-1}$.; the lowest ratio was determined in South Bohemia region – 0.033 and next is Karlovy Vary – 0.035; Hradec Králové – 0.049 and Vysočina – 0.048 regions; the highest ratio was determined in Liberec region – 0.275 and next is Central Bohemia including Prague – 0.253; South Moravia – 0.182 and Plzeň – 0.157 regions). The second one is index of retail saturation – the population of the region is multiplied by the monthly expenditure on the goods and services the retailer wants to sell in shopping centres and it is divided by the total retail space in all shopping centres in the given region (the average in Czech Republic is 77 094.77 CZK$\cdot$ $(m^2)^{-1}$; the same rank was determined – the highest index in South-Bohemian region – 175 909 and the lowest index in Liberec region – 20 224).

The final values of retail saturation indicators can help to subjects whose are interested in possibility of establishing of the new shopping centre (i.e. investors, developers and retail firms). However it is at the same time necessary to mention that this figure cannot be only one deciding factor. The very last decision must be accept based on the other criteria which are directly influencing success of such hard project. This project means construction of the shopping centre. These other circumstances are demographic impacts, quality of infrastructure, total retail saturation, economic effectiveness of investments and consumer behaviour. Nevertheless the indicators which were used in this paper (as number of inhabitants, sales area and consumer expenditures) should not be certainly missing during decision making on allocation of each retail unit.

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INTERNATIONAL TRANSPORTATION IN CENTRAL EUROPE AFTER 1989 – ORIGINS AND DIRECTIONS OF CHANGES

Piotr Trzepacz, Arkadiusz Kołoś
Jagiellonian University, Krakow, Poland
piotr.trzepacz@uj.edu.pl, arkadiusz.kolos@uj.edu.pl

Abstract. *Central Europe may be thought to possess a favorable location in terms of transcontinental transportation. The location of the region makes the growth of the transportation sector quite feasible – especially international transportation. However, the region is decades behind in terms of infrastructure such as highways and airports, which does not allow it to use its full potential. The purpose of the research is to identify the direction and scale of changes in international transportation in the region since its transition to a market economy in 1989.*

Чжепач П., Колос А. **Міжнародні транспортні перевезення у Центральній Європі після 1989 року – походження та напрями змін**. *Можна вважати, що Центральна Європа має вигідне розташування з точки зору трансконтинентальних перевезень. Положення регіону цілком реально забезпечує зростання транспортного сектору, особливо міжнародних вантажних перевезень. Тим не менш, регіон десятиліттями відстає щодо насиченості інфраструктурою, такою як дороги та аеропорти, що не дозволяє використати весь його потенціал. Мета дослідження полягає у визначенні напряму та масштабу змін у галузі міжнародних перевезень в регіоні з часу його переходу до ринкової економіки у 1989 році.*

Introduction. Recently observed phenomena of globalization such as hypermobility lead to an increase in demand for international transport. Availability of cities or regions on a global scale has become one of the key determinants of growth. The Central European countries (Austria, Czech Republic, Hungary, Poland and Slovakia) tested within the scope of passenger transportation represent different levels of development of both the amount of traffic crossing their borders, as well as the infrastructure necessary for its operation. The aim of this article is to identify the main directions of change which the international traffic was subjected in these countries after 1989.

Conditions for the development of international transport in Central Europe. Central European countries meet a number of conditions, giving them the opportunity to develop dynamically the international communication. This is affected both by the traditional factors that accounted for the power of cities such as Cracow or Prague in the Middle Ages, as well as new factors related to European integration and freedom of movement, which determine their chances for development in the twenty-first century.

Their geographical position relative towards the traditional trade routes linking the western and eastern parts of Europe as well as the northern and southern part of the continent was one of the first major development impulses. Thanks to this, the towns of Central Europe had a chance to develop the features of trade and commerce centres and now they are driven towards the role of transport hubs even of the intercontinental importance. The role of this factor shows and reminds both the concept of Pan-European transport corridors, which largely consisted of researched Central European countries, as well as adopted by the European Union plans to develop the Trans-European Transport Networks (TEN-T), which are also largely just taking into account the cities and regions of states located in the central part of the continent.

Changes in the political map of Central Europe had a significant impact on the functioning of the international traffic in the region (Hall 1993). In connection with the dissolution of Czechoslovakia, the connections that to late 80s have had national status, currently are functioning as international – between Slovakia and the Czech Republic. In addition, thanks to the changes initiated in the late 80. and 90. of the XXth century the transport links established with the countries of Western and Southern Europe have taken of a new meaning. First of all, they have become just possible and available due to the normalization of relations connected with the end of the Cold War. Socio-economic ties in this direction have been strengthened both by the migration flows coming from countries such as Poland, the Czech Republic, Hungary, and Slovakia as well as foreign investment in these countries.

The previously mentioned concepts and investment programs should be expected to lead to overcome one of the biggest barriers currently faced by Central European countries, that is the accessibility issues in different spatial scales (Trzepacz 2008). Accessibility in an international or even global dimension is now vital for determining the rank of cities, or even countries in the global system.

It should be also noted in the context of international traffic development conditions in Central Europe, that the analyzed group of countries is highly variable both in terms of socio-economic development and the characteristics of the settlement, as well as the degree to which the natural environment determines the possible development of transport. In this group Austria is a country of very wealthy economy, while in the other countries the problem concerns the profound interregional disparities. Although in all tested cases the dominant element of the settlement is the capital city, however, these countries differ with respect to the rank of regional centres and their opportunities to develop a function of the node in the international transport. Central European countries are largely of mountainous nature, which is an impediment to the development of infrastructure. Regardless of

the size of these countries and other conditions, their common feature is the increase of international transport importance.

International bus (coach) transport. The dynamic development of the international bus transport in case of Poland and Slovakia, has even anticipated the moment of entry of these countries into the EU (Figure 1). The people migrating from these countries to the UK and Ireland often decided to use this mode of transport. The decision on the choice of such mode was purely of a practical nature as it was associated with the need to transport larger loads conditioned by travel destination and purpose (permanent migration associated with taking up employment) (Trzepacz 2010). For migrants opening of labour markets in these countries meant, that the threat of arrival end before passing the English Channel has been eliminated. The buses departing from the smaller cities of the poorest regions in Poland, marked with a sign "London Victoria" constitute a symbol of this exodus, in which could participate from 1 to up to 2 million people and have become quite typical phenomenon even in the provincial landscape. The only researched country, in which after accession to the EU the buses transported most passengers of international traffic is Slovakia. The overall high result for this transport mode in this case, is the result in part achieved due to the popularity of connections with so-called near abroad countries (which include mainly the neighbouring Czech Republic) which are usually carried out just by bus and rail (in many cases as typical commuting).

International rail transport. For the rail as a mode of international transport in the case of the Central European countries, the transition period was clearly divided into two phases (Figure 2). The first phase lasted from the fall of communism in the region up to the first years of the XXIst century is a period of drastic and permanent decline in the number of passengers. The second phase is characterized by stability and durable approaching of performance achieved in this respect by Hungary, the Czech Republic, Slovakia and Poland (about 2 million passengers per year).

Austria clearly stands out from the surrounding post-socialist countries. 6 million passengers a year is an achievement resulting both from the importance of rail transport between Austria and neighbouring Germany, but also the high quality of travel offered by Österreichische Bundesbahnen.

International air transport. The Central and Eastern Europe countries in terms of the dynamics of the development of air transport can be classified as emerging markets. By analyzing this indicator you can easily identify the course of the former Iron Curtain (Figure 3). These results are largely a reflection of the success of low-cost carriers operating in these markets (Dobruszkes 2009, Rekowski 2011). It is worth noting that just the Hungarian Wizz Air has had its significant share in this fact. Meanwhile in case of Hungary itself, the previous market structure so far has not shown any dominance of LCC. Following the collapse of Malev, the national carrier, their share in 2012 will significantly increase.

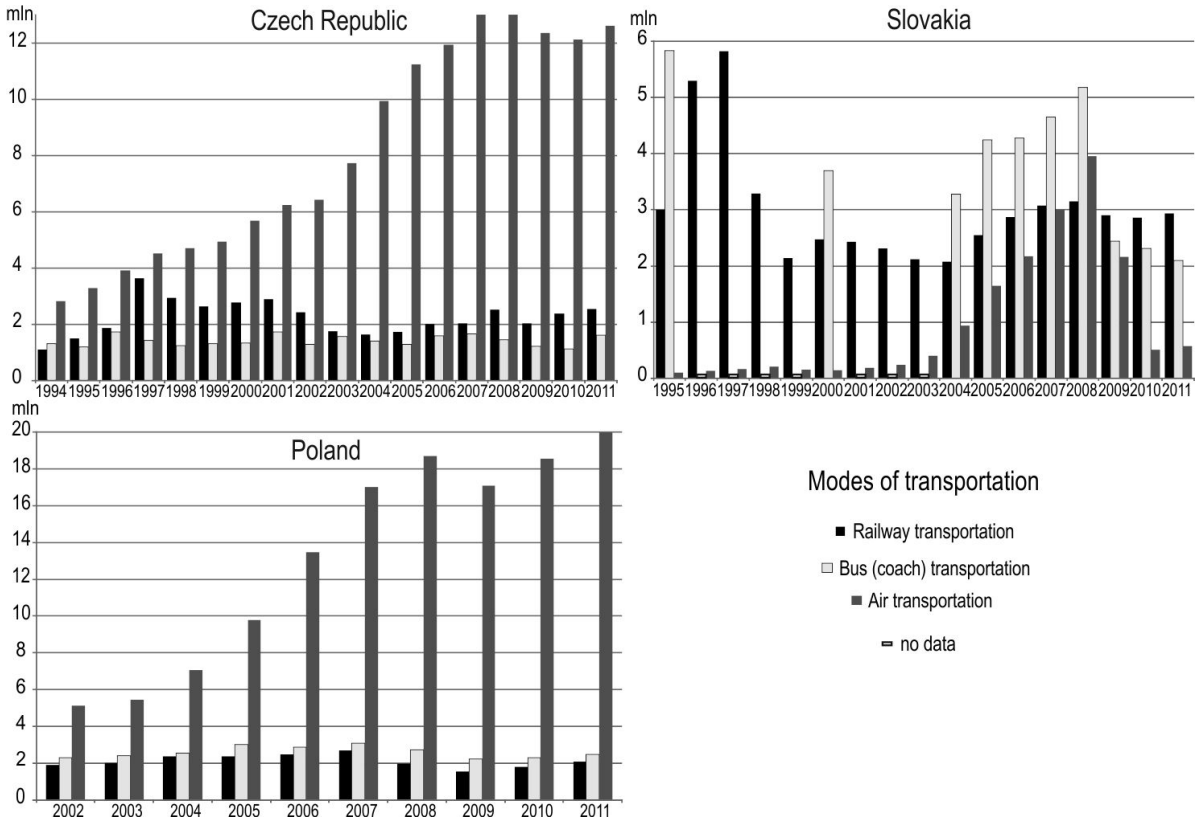

Figure 1 – Passenger growth according to the modes of international transportation in Czech Republic, Poland and Slovakia during transition period

Source: authors elaboration based on data published by Central Statistical Office of Poland (http://www.stat.gov.pl), Czech Statistical Office (http://www.czso.cz), Štatistický úrad Slovenskej republiky (www.statistics.sk), Ministerstvo dopravy, výstavby a regionálneho rozvoja SR (http://www.telecom.gov.sk)

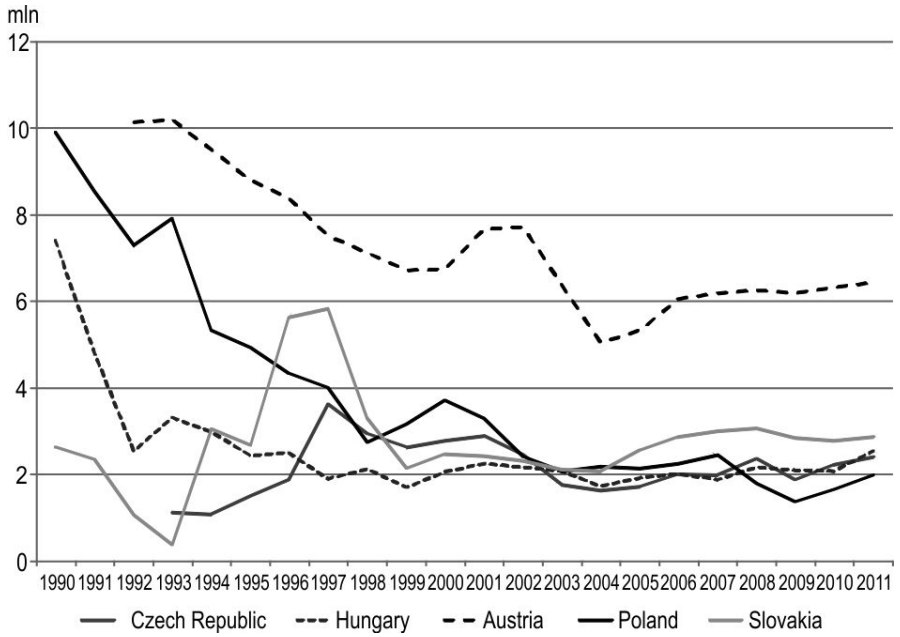

Figure 2 – Rail transportation in Central Europe (mln of passengers)

Source: authors elaboration based on data published by Central Statistical Office of Poland (http://www.stat.gov.pl), Czech Statistical Office (http://www.czso.cz), Štatistický úrad Slovenskej republiky (www.statistics.sk), Ministerstvo dopravy, výstavby a regionálneho rozvoja SR (http://www.telecom.gov.sk)

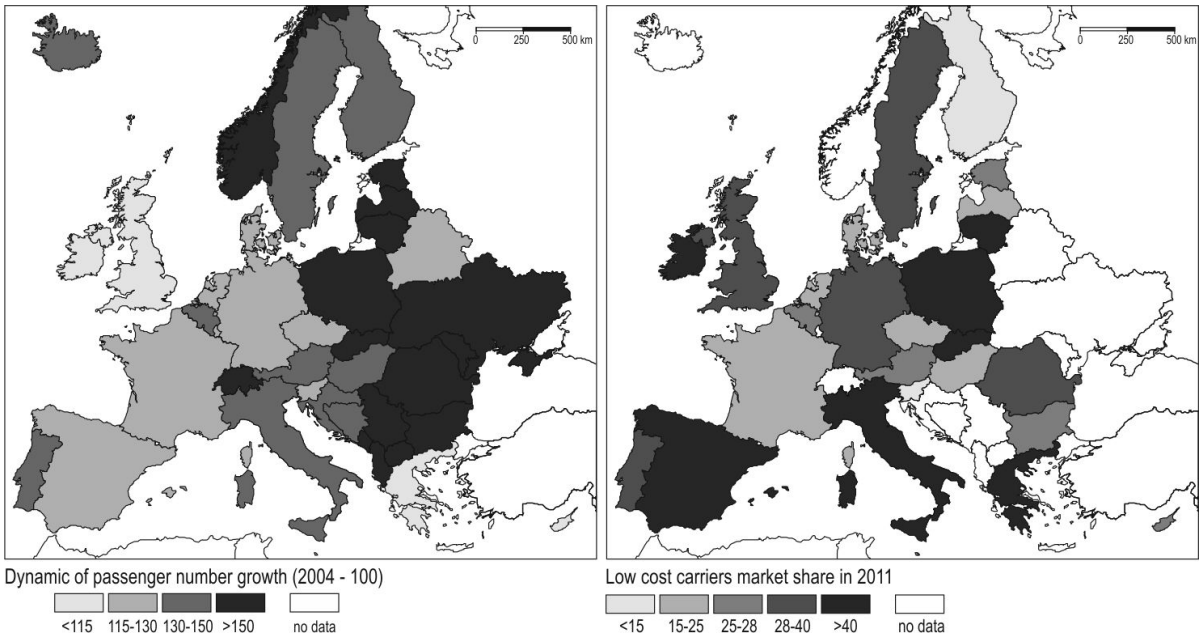

Figure 3 – Air transportation in Europe in the liberalization era – selected features
Source: author's elaboration based on data published by airports and Eurostat database and www.oagaviation.com

The changes in the popularity of transport modes in the researched region have different character for international traffic than domestic one. This may be illustrated by an example of Cracow – one of the most important tourist centres in Central Europe (Figure 4). As in the case of foreign tourists you can see a clear increase in the importance of air transport at the expense of rail and the individual transport, so in the case of domestic tourists the transport is dominated by affection to their own cars.

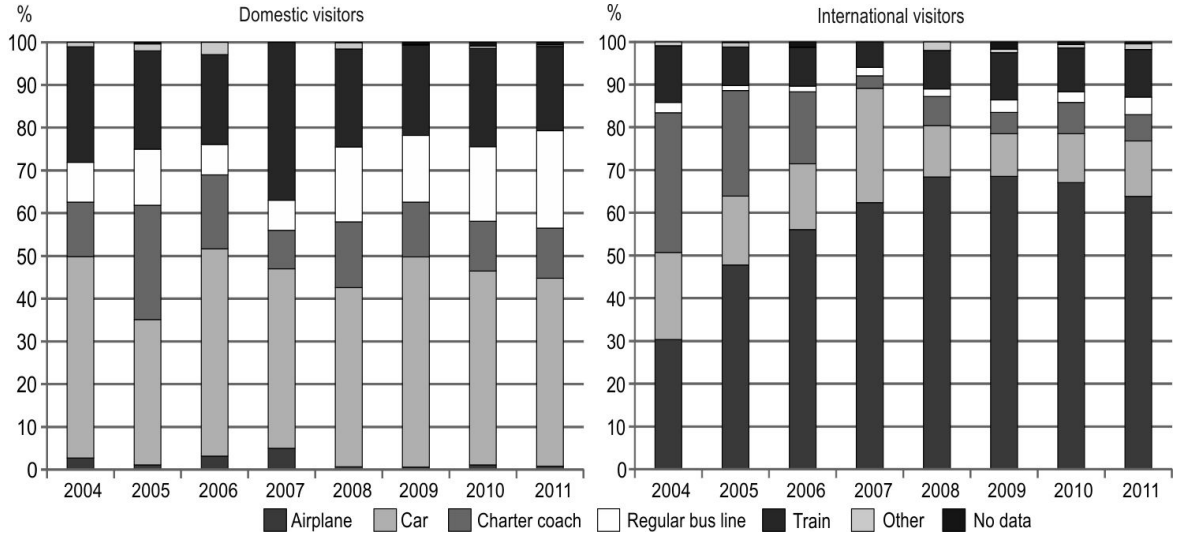

Figure 4 – Transportation nodes for tourism purposes in the case of Kraków, Poland (2004–2011) *Source:* author's elaboration based on data published by Małopolska Organizacja Turystyczna (http://www.mot.krakow.pl)

One of the key features differentiating a group of studied countries is the geographical aspect of the international traffic functioning (Figure 5). Poland,

Hungary and Slovakia are the countries that are communicatively oriented mainly to serve the western destination, supplemented by important migration and tourism oriented connections and links to Scandinavia and Southern Europe. Eastern direction (especially in the context of air transport) is marginal. In case of the Czech Republic and Austria, this disparity also exists, but is significantly smaller. Especially in the case of Austria, certain balance exists in the importance of international traffic directions. This is a response to the aspirations of Vienna to take up the role of a key interchange node in Central Europe.

Conclusion. The analyzed group of the Central Europe countries is characterized by the rapid development of international traffic. This may be evidenced by, among others, results and performance achieved by the different modes of transport as well investments corresponding to them. The most visible and perceptible change is, however, a record growth of air transport, which is partly at the expense of rail or bus transport in international traffic. Countries of the studied region are still considered far inferior to other EU countries in terms of international transport results. This confirms the exception, which is Austria, which, although both in terms of population, and the area is much smaller country such as Poland, however, still gets much better results in terms of passenger volume of international traffic.

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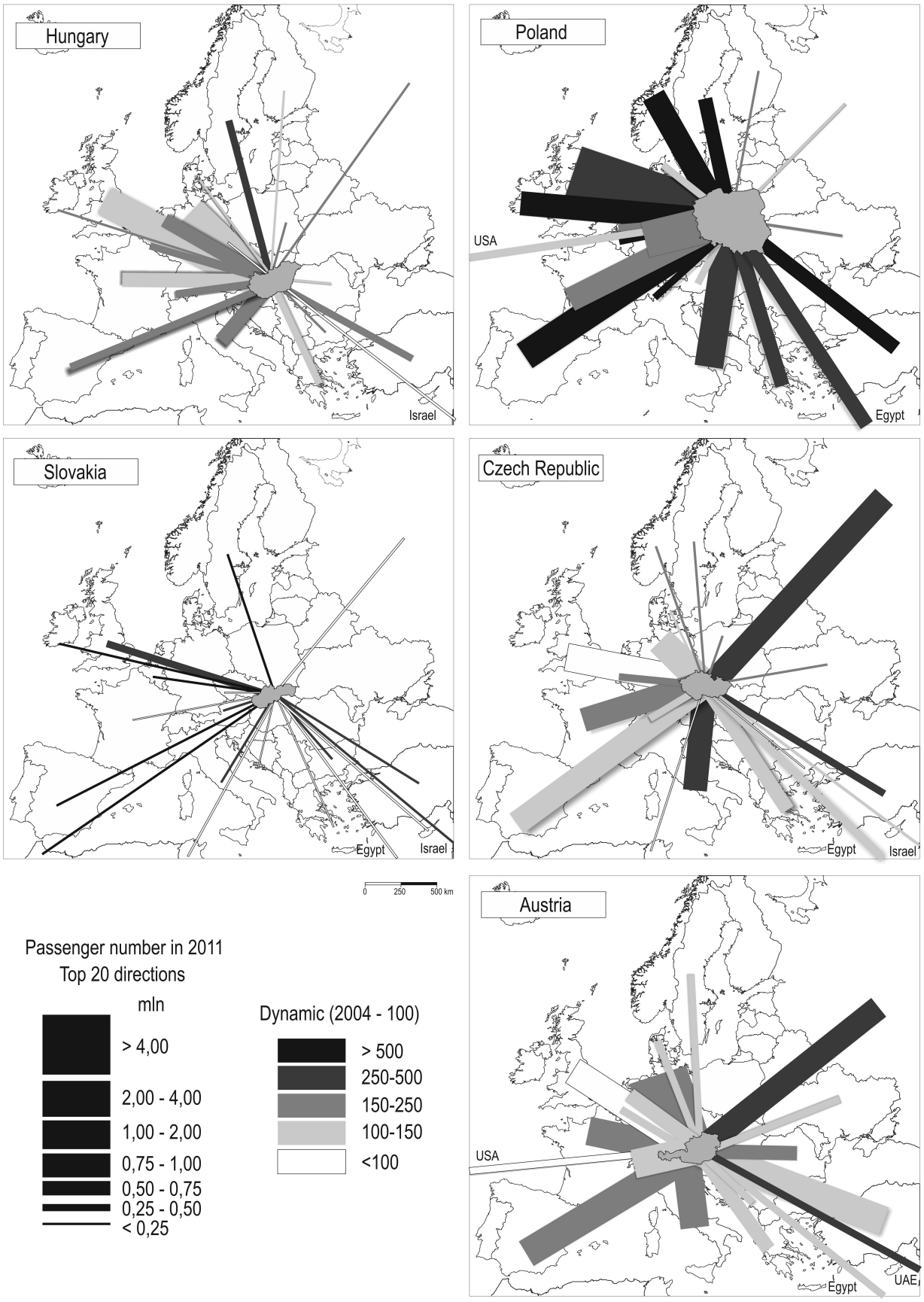

Figure 5 – Top directions in international air travel from Central Europe in 2004 and 2011

Source: author's elaboration based on Eurostat database

CURVATURE OF MOTOR TRANSPORT SPACE AS A CAUSE AND EFFECT OF ITS TRANSFORMATION

Volodymyr Grytsevych
Ivan Franko National University of Lviv, Lviv, Ukraine
gvsmg@ukr.net

Abstract. *The development of motor transport space reflects the level of the development and transformation of the territory on the whole. The curvature of space decreases in the process of a progressive development of a transport network . The paper formulates a definition of the notion of curvature of motor transport space. Geographical factors effecting the curvature are described. The possibility to quantitatively measure and cartographically depict the curvature of motor transport space is substantiated. A method is proposed for quantitative evaluation of curvature based on a specially constructed triangulation network. Since the present research has a fundamental character, it is performed upon the real territories, and has already been fulfilled for the territory of western region of Ukraine. Triangulation network has been built for this region, and the curvature ratio has been determined for each triangle. Maps of spatial distribution of the curvature have been made. Space analysis of curvature distribution has been performed. A conclusion has been made stating that territorial distribution of the curvature indicates promising trends in transport transformations.*

Грицевич В.С. **Кривизна автотранспортного простору як причина і наслідок його трансформації**. *Розвиток автотранспортного простору відображає рівень освоєності та трансформованості території. У процесі прогресивного розвитку транспортної мережі кривизна простору зменшується. Кривизну автотранспортного простору можна кількісно виміряти і картографічно відобразити. Таке дослідження має фундаментальний характер і вже виконане для території Західного регіону України. Територіальний розподіл кривизни вказує на перспективні напрямки транспортних трансформацій.*

In the process of public development and social-economic transformations, there takes place the settling of the territories of human habitation, which manifests itself in the spatial development of transport networks.

In the present research we make an attempt to study the curvature as a metric property of the motor transport space of a particular territory, such as western Ukraine including eight regions, i.e., Volyn, Rivne, Lviv, Ternopil, Khmelnitsky, Transcarpathian, Ivano-Frankivsk, and Chernivtsy.

We define the motor transport space as a part of geospace where trucking takes place. Motor transport space has numerous qualitative and quantitative characteristics that depend on the development and configuration of a particular motor transport network. Transformation of a motor transport space causes the changers of its topological and metric characteristics, such as curvature. On the contrary, comprehension of territorial peculiarities of camber distribution is a starting point in predicting and planning the further transformations. In case a motor transport network undergoes a progressive development, the curvature of its space decreases.

The curvature of motor transport space is defined as a geographical effect which resides in the assumption that the distance between two points defined along the motor transporting roads exceeds the distance between these two points defined along geodetic line.

Curvature ratio is proposed to be introduced for purpose of numerical evaluation of the degree of curvature of motor transport space of a particular territory. Its magnitude depends on a number of factors, as configuration of terrain, the arrangement of big stands and nature-protected sites, economical-geographical location, historical-geographical agent, the available hydronetwork, etc. Let's consider the effect of above mentioned factors on curvature of motor transport space.

Configuration of terrain produces a great effect on the curvature of motor transport space. Firstly, the development of transport network having a complicated configuration of terrain lags behind the flat territories Moreover, one should also take into account the difference in altitudes in a mountenous region, which considerably increases the length of the roads being quite straight upon the plan. It is for these reasons that the curvature of transport space increases in mountainous regions.

Continuous big stands of forest, especially in a mountainous area, where an dissection of the terrain is observed, appear to be natural areal barriers for the development of transport networks. Building autoroads through big stands is quite often economically inexpedient. Sometimes, forests are spatially combined with nature-protected and preserved objects, where the road construction is banned.

Among other things, the effect of economical and geographical position manifests itself in the frontier location of the territory in case of international transporting corridors passing here.

Historical and geographical factor is primerily considered from the viewpoint of ekistic preconditions of forming the transport networks, such as interlinking of separate settlements, forming a system of settling, increasing the role of central settlement, construction of magistral hiway.

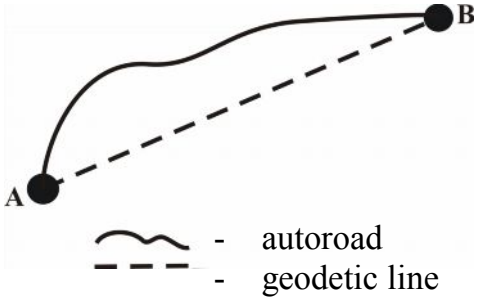

Figure 1

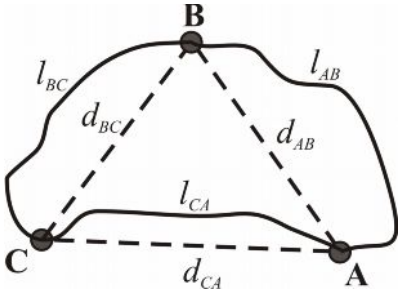

Figure 2

Curvature is also effected by the available hydronetset. After all, the bigger is a river the greater transport-barrier effect is produced. Factors that hinder the construction of roads are the necessity to build bridges, fortification structures well as fighting boggy areas in river valleys.

The idea and the techniques of measuring the curvature is as follows (Figure 1). Let us denote the distance of qeodetic line between the points A and B by d, and the length of real autoroad between them by l. Then, we define curvature measure of the space between the points A and B as a relative surplus of l over d expressed in percentage:

$$k = \frac{l - d}{d} \cdot 100\%$$

Thus, if the road between the points runs along the geodetic line, then $k = 0\%$.

In order to cartographically study the curvature of space on the territory of a region, let as lay a specially selected triangulation chart grid over the territory studied, so that triangulation vertices represent the settlements which are motor transport nodes. Let us examine a fragment of a chart grid in Figure 2. Here, A, B, C are nodal points, d_{AB}, d_{BC}, d_{CA} are geodetic distances between the nodes, l_{AB}, l_{BC}, l_{CA} are real lengths between the nodes.

Let us calculate the geodetic D and real L perimeters of the triangle ABC:

$$D = d_{AB} + d_{BC} + d_{CA},$$
$$L = l_{AB} + l_{BC} + l_{CA}$$

In a similar way we determine the curvature ratio of motor transport space upon the triangle studied:

$$k = \frac{L - D}{D} \cdot 100\%.$$

Then, we tie the obtained value to the middle of the ABC triangle.

Having performed this operation all the triangles of the triangulation chart grid, we get a general picture of spatial distribution of the curvature of the motor transport space upon the territory studied. This picture can be interpolated and cartographically depicted using the method of isolines.

For the purpose of a cartographic study of the curvature of space, let us cover the territory of the researched area with a specially selected triangulation grid where the triangulation vertices represent the settlements are motor transporting nodes or road junctions.

In order to quantitively evaluate the curvature of motor transport space of the Western region of Ukraine, we have constructed a triangulation network that includes 392 triangles. Within each triangle we determined the real motor transport and geodetic perimeters as well as calculated the ratio of curvature.

Distribution of triangles according to the ranges of the curvature logarithm is shown as a diagram in Figure 3 The calculations show that over half of all the triangles are characterized by the curvature of 12,5%-25%, over 27% have the curvature of 25%-50%, 3,6% of the triangles have the curvature of 50%-100%, and only 1% of the triangles have the curvature of over 100%. Sixteen percent of triangulation triangles have the smallest curvature less than 12,5%.

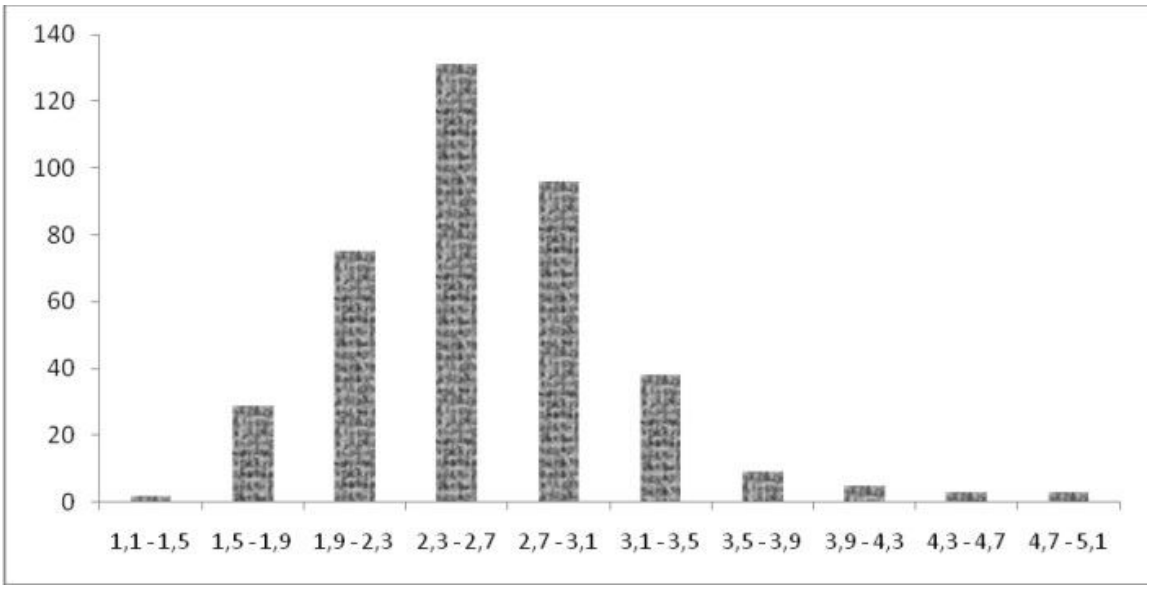

Figure 3 – Distribution of triangles according to the ranges of curvature logarithm

Let us now perform a geographical analysis of the curvature of real motor transport space of the region. The can observe the maximum values of curvature in high-altitude areas such as Gorgany, Chornohora, Svydovets range, and Gryniava mountains. The highest curvature ratio (over 180%) was noted at the scantily developed area between the nature park "Synevir" and the natural reserve "Gorgany" where there are no motor roads at all. The territories of the nature protected fund have an elevated curvature of motor transport space. High curvature ratio (over60%) is observed within the Carpathian national nature park and the adjoining territories. The curvature also rises on the territory of the mountain Polonyna Borzhava (Transcarpathian region) as well as in the mountainous frontier part of Turka and Starosambirsky district in Lviv region.

The smallest of curvature is observed within part of the Lviv region, where the motor road network is generally well developed, as well as along the Precarpathian frontal flexure. Here, the development of communication is connected with historical and geographical preconditions caused by the peculiarities of the configuration of terrain, which is comparatively favourable for the development of a network of settlements, including the roads. Curvature of motor transport space is quite low within the flat areas of Volyn region.

Mean values of curvature (30%-60%) are observed along the massif of the eastern Beskyds in Lviv region, as well as in Transcarpathians in the vicinity of the Uzhansky national nature park. The curvature rises in the east of Ivano-Frankivsk region, in the north and north-east of the Chernivtsy region along the powerful Dnister river. Farther on to the north, this stripe of an increasing curvature of motor transport space continues in the eastern part of Lviv region within the low-altitude massifs of Opillia and Gologory.

The territory within the international transporting corridor №5 south of Stryi has the curvature ratio lower than the mean ratio, where, despite a complicated configuration of terrain, there is branched system of roads linked with the arterial road. Low indices of curvature of space are also observed in some parts of

Transcarpathian region in particular, to the south of the transport node of Mukatchevo, in the east of Khust and in the south of Tiachiv regions along the national automobile road having numerous branches.

Elevated value of curvature ratio is observed within the Voroniak and Kremenetsky mountains, Mizotsky ridge, Medobory and in the mid Prednistrovia.

A special characterization deserves a suburban area of Lviv, which is the largest city and the most powerful transport node in the region.

We can see that the curvature of motor transport space essentially increases to the north-west of Lviv within the boundaries of physical-and- geographical region of Roztochya having a continuous road network. It is the adjoining territory of the frontier zones of the Yavorivsky national park and of the "Roztochya" reserve that actually hiders the process of building automobile roads. Futhermore, an elevated curvature in this part of suburban zone is caused by, the unfinished northern section of the ring road.

Curvature of space higher than the average one is observed in the wooded partitioned locality between Bibrka and Mykolaiv within the Opillia massif. High curvature is also typical of the wooded and boggy territories in the valley of the Poltva river in the far west of Pustomity district, where there runs a railway that does not intersect any high–class automobile roads.

On the whole, the curvature ratio of almost half the territory of the suburban zone ranges from 20% to 40%. Separate patches of an increased curvature ratio are observed between Didyliv and Zhovtantsy as well as to the south-east of Pustomity.

Conclusions. Studying the curvature of motor transport space reflects the extent of transport development of a territory and its metric peculiarities. The value of curvature ratio is effected by a number of factors of natural and socio-geographical character. In particular, within the western region of Ukraine we can observe a stronger effect of natural conditions. Trying to consider a separate suburban zone of Lviv we can state that topological characteristics of the transport network are decisive here. A low curvature ratio is typical of the territories of the flat part of the region with a high antropogenic development. The highest values of curvature are observed in mountainous localities – over 30%, while in high-altitude regions it exceeds 180% on separate patches. Localities of elevated curvature are potential territories for the development of a motor transport network taking into consideration socio-economic interests which are the basis for considerable social transformations in the region.

GEOGRAPHICAL ASPECTS OF AIR TRANSPORT DEVELOPMENT IN UKRAINE

Piotr Trzepacz
Jagiellonian University, Krakow, Poland
piotr.trzepacz@uj.edu.pl

Abstract. *21st century brought about significant changes to the way air transport operates in all of the Central and Eastern Europe. The political transformation itself, which took place at the turn of 80s and 90s, opened up a possibility of travel beyond country borders to citizens of Ukraine, Poland and all the other countries of the region. At the same time, air transport was forced to operate under the laws of market economy, which meant exposure to competition. With liberalization and deregulation of this branch of transport sector in majority of European states, begun a period of unprecedented growth dynamics, ended* only in 2008.

Чжепач П. Географічні аспекти розвитку повітряного транспорту в Україні. *21-е століття принесло значні зміни у механізм функціонуванні повітряного транспорту у всіх країнах Центральної та Східної Європи. Політичні трансформації, що відбувалися на рубежі 80-х і 90-х років, відкрили можливість зарубіжних подорожей для громадян України, Польщі та всіх інших країн регіону. У той же час, повітряний транспорт був змушений діяти відповідно до законів ринкової економіки, що означало вплив конкуренції. З лібералізацією і дерегулюванням цієї галузі транспортного сектора в більшості європейських держав почався період безпрецедентного зростання, яке зупинилося тільки в 2008 році.*

Introduction. 21st century brought about significant changes to the way air transport operates in all of the Central and Eastern Europe. The political transformation itself, which took place at the turn of 80s and 90s, opened up a possibility of travel beyond country borders to citizens of Ukraine, Poland and all the other countries of the region. At the same time, air transport was forced to operate under the laws of market economy, which meant exposure to competition. With liberalization and deregulation of this branch of transport sector in majority of European states, begun a period of unprecedented growth dynamics, ended only in 2008.

Above factors surfaced in unison with deep changes to the concept of mobility itself. The airplane as a means of travel lost its clout of exclusivity and became accessible for a far greater portion of the society, while frequency of air travel became higher than ever before. Ukraine, along with other emerging markets from the central and eastern part of the continent may be characterized as having the highest air transport growth dynamics. At the same time, it comes face to face with a qualitative and quantitative deficit of infrastructure necessary for maximizing gains from the rapid increase of demand. The main goal of this article is to identify directions which passenger air transport in Ukraine may take, including their spatial preconditions and implications.

Conditions for growth of air transport in Ukraine. From the demographic standpoint, Ukraine counts among the biggest European aviation markets. Having 45.5 million inhabitants, it holds a great potential, although tapping it is subject to numerous factors. The overall air travel mobility index for Ukraine, defined as the number of passengers to the number of inhabitants amounted to 0.31 in 2011. Both internal and external conditions forecast quick improvement of this result.

While discussing conditions for growth of air transport in Ukraine, one cannot omit the geographical placement of the nation. Thanks to its central location in the Eurasian plane, local airports may serve as transfer hubs of traffic coming from other parts of Europe to Central Asia or to Arab states. A growing international interest in Black Sea tourist resorts and establishment of international economic linkages by Ukrainian cities also positively influence local air transport sector.

Passenger air transport in Ukraine. Following independence of Ukraine, the volume of passenger air transport saw an outright drastic plunge (Figure 1). The lowest figures came at the end of 90's as a result of an economic crisis Ukraine then experienced. A clear upward trend returned only after 2000. Although it too was hampered by yet another economic crisis resulting in a decrease in number of passengers, momentum was quickly regained and within a short time the volume of air travel saw the best figures to date (at least for the transformation period) and air transport generally returned to the path of dynamic growth.

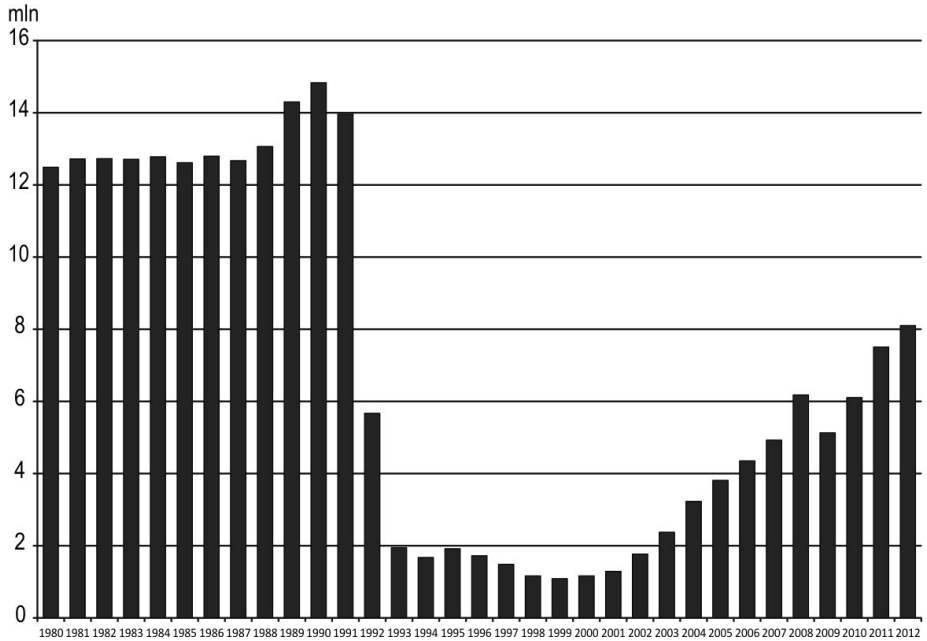

Figure 1 – Passengers using air transport in Ukraine (1980–2012) in millions

Source: based on data published by http://www.ukrstat.gov.ua/

Geographic aspects of Ukrainian air destinations. Kiev holds a particular potential of being a high ranking Eurasian hub, by having an extensive array of destinations to former republics of the USSR and to the Middle East in its offer, at the same time by being well connected to the western Europe (Figure 2). Thus, it may well function in that role. In the city-centric reality of the world economy (Szymańska 2008), connectivity by air with the most important decision-making

centers is of top priority. Connections with London, Paris, and Frankfurt am Main directly tie Kiev with the network of global-rate cities. Direct connections by air with cities of that status allow for a fast transfer of people and cargo, which in current age of globalization counts among the fundamentals factors of growth.

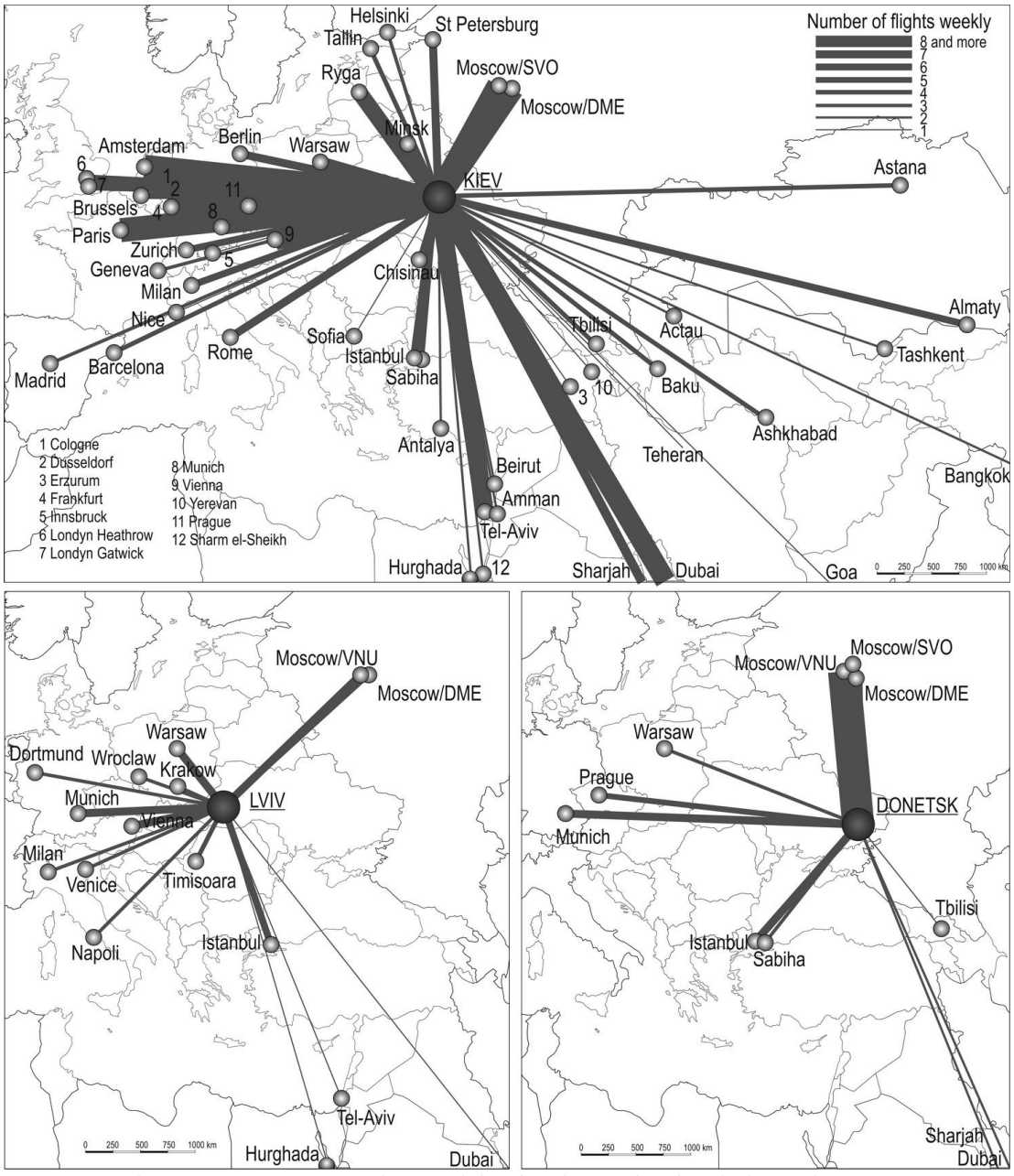

Figure 2 – Connection grid of selected Ukrainian airports

Source: author's own elaboration based on timetables published by airports

Further growth of the Zhulhany airport based on extension of its offer to low-fare carriers will translate into inclusion to the list of destinations those from the European network of secondary airports, popular among passengers characterized by different socio-economic behaviors than those choosing traditional carriers. Kiev's airports are therefore complementing each other and together they form a hub which is open to a wide spectrum of passengers and carriers.

The network of connections offered by Ukrainian airports adopted predominantly a parallel system. A comprehensive offer of flights to Western Europe is counterbalanced by Russian destinations (represented mainly by Moscow, but at the same time to all of its three main airports), connections with Kazakhstan (including its regional airports) and other countries of the region. The meridian system includes flights to the Baltic Republics and Finland; however northern destinations are dominated by flights to the south, such as those to Israel, Lebanon or United Arab Emirates. Egyptian sea resorts gain importance especially during summers, thanks to charter flights.

Regional airports, depending on their location, present a different orientation of their connections. This is well evidenced in cases of Lviv with its domination of western destinations and Donetsk with its domination of north-eastern destinations. In both cases connections with Poland are present – in case of Lviv not only with the central airport in Warsaw, but also with major regional airports.

Expansion of offer with new European Union destinations reflects the demand evidenced by individual destination-country statistics (Figure 3). Most passengers fly on routes to Germany. In the 2001 – 2011 period, the number of passengers travelling between Ukraine, Germany, Poland, Austria and Italy grew at least threefold. Although the global financial crisis had a negative impact on connections with eastern and western parts of Europe, after a short period the volume of travel in majority of destinations returned to their pre-crisis levels. This should also be reflected upon as an indication of their importance.

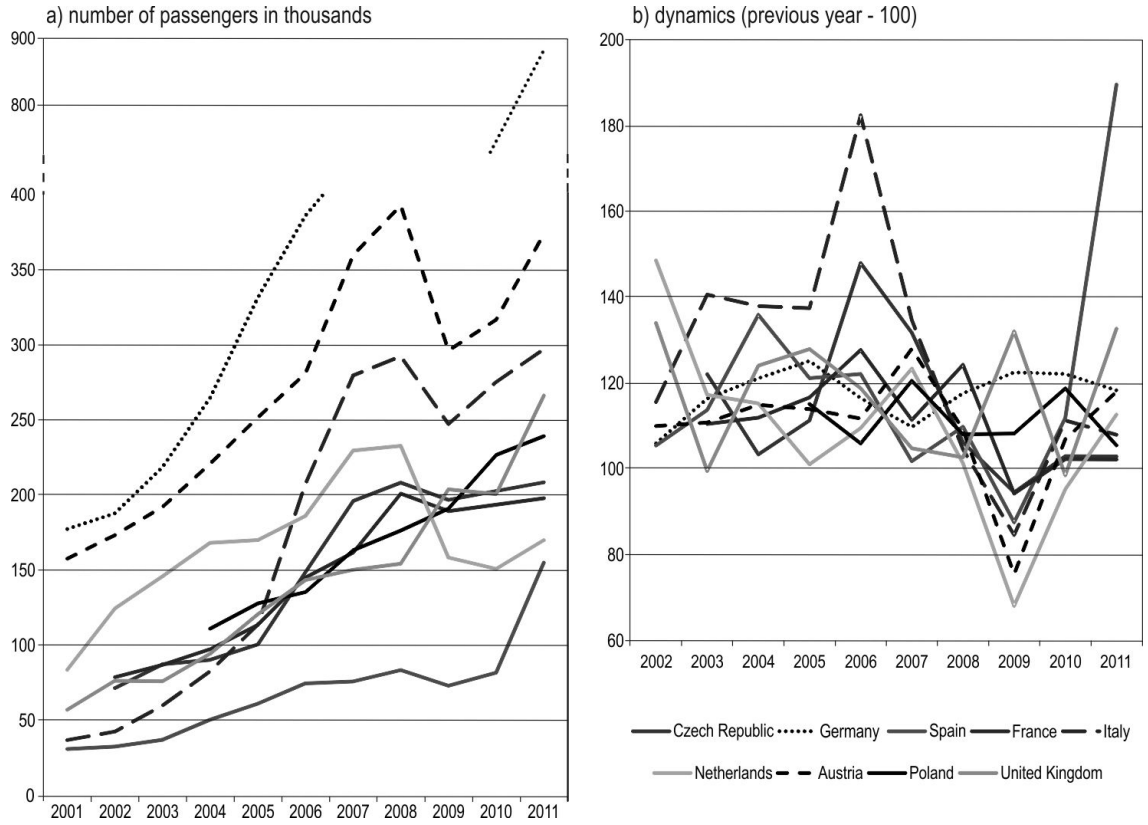

Figure 3 – Passenger air transport between Ukraine and EU member states

Source: author's own elaboration based on Eurostat data

Ukraine's airport system. The growth of air transport does not stop at the overall number of passengers who choose an airplane as a means of travel. It also impacts the necessary infrastructure. The fundamental problem lays not so much in the number of airports, as in their capacity and accessibility.

In Ukraine, three areas of concentration can be distinguished for airports offering regular scheduled flights (Figure 4). Their placement reflects characteristics of the settlement network.

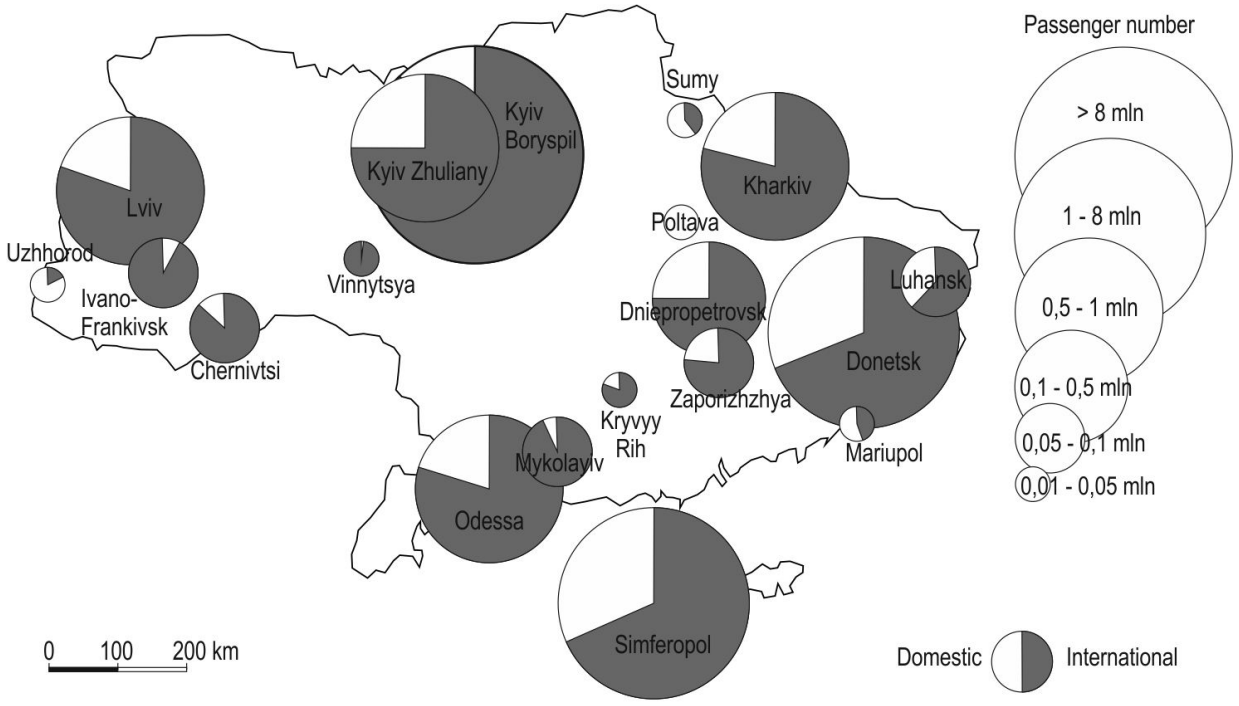

Figure 4 – Air traffic at Ukrainian airports

Source: author's elaboration based on data published by http://www.avianews.com

The first area of concentration is created by Kiev's airports. Reaching the level of 8 million passengers annually, it comes close to volumes of the most important Central European airports such as Warsaw, Prague or Budapest. The second area of concentration is in the eastern and south-eastern part of the country, i.e. regions with the highest urbanization and industrialization. Extending this area towards south-west are the airports servicing the most important cities located on the coast of Black Sea. The third area encompasses western regions of Ukraine, with domination of the dynamically growing Lviv airport which recently saw construction of new terminal in connection with the Euro 2012 football championships.

Capital city's air transport node dominates Ukrainian structure of passenger air transport (Figure 5). Kiev's airports handle close to 70% of all passengers. Boryspil's share has seen a slight decline over the last 8 years. At the same time, in large part due to the presence of low-cost carrier Wizz Air, importance of Kiev–Zhulhany secondary airport grew considerably. This pattern is typical to all multi–airport regions of Europe. Regional airports' share in passenger air transport does not fluctuate significantly. Experience of Central European countries (e.g. Poland)

shows, that only decisive entry of low-cost carriers on the air transport market may lead to weakening of capital city's node in favor of regional airports.

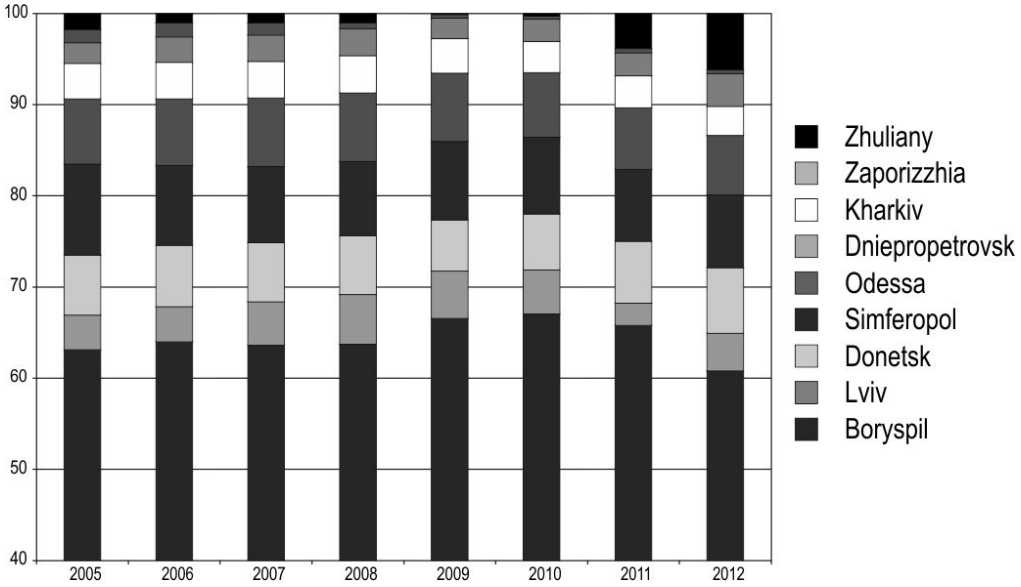

Figure 5 – Structure of aviation market in the Ukraine

Source: author's elaboration based on data published by http://www.avianews.com

Summary. Ukraine's air transport, due to geographical conditions as well as country's demographic potential, holds a great promise for further dynamic growth. Country's location and its socio-economic ambitions are shaping, among other things, geographic characteristics of air transport connections. Continuing rise of interest in air travel will be subject to airline policies and Ukraine's overall socio economic progress. The fundamental supporting factor should be a further development of infrastructure – including construction of new airports and expansion of those operating currently.

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TRANSFORMATION OF TRANSPORT ACCESSIBILITY IN UKRAINE: SPATIAL ANALYSIS

Nataliia Pashynska
Institute of Geography of the National Academy of Science of Ukraine, Kyiv, Ukraine
n_pashynska@ukr.net

Abstract. *In the last decades the transport system of Ukraine has undergone significant changes. There are transformation spatial organization, new structural elements, concentration of traffic, increasing mobility. These processes are largely reflected at the transport accessibility, which is the main product of the transport system and determine the geographic advantages of a region, city or territory from the placement and use of transport infrastructure in their territory. Dynamics of transport accessibility on the example of changing the transport distance regional centers of Ukraine during the 1989-2010 was studied. The study used network analysis, spatial interaction models and models of transport accessibility, which are implemented using GIS.*

Пашинська Н.М. **Трансформація трансфпортної доступності в Україхні: просторовий аналіз**. *В останні десятиліття транспортна система України зазнала значних змін: трансформувалася її просторова організація, з'явилися нові структурні елементи, відбувається концентрація транспортних потоків, зростає мобільність. Ці процеси значною мірою відобразилися на транспортній доступності, що є основним продуктом транспортної системи та визначає географічні переваги певного регіону, міста або території від розміщення та використання транспортної інфраструктури на їх території. Динаміка транспортної доступності вивчалася на прикладі зміни транспортної віддаленості обласних центрів України протягом 1989-2010 рр. У дослідженні використано мережевий аналіз, просторові моделі взаємодії, моделі транспортної доступності, що реалізовані за допомогою ГІС.*

Introduction. The transport system is an important component of the infrastructure in the economy of Ukraine, which creates and implements the conditions for the operation of production and life of the population. Level of transport services, the technical condition of transport infrastructure significantly affects the cost of freight and passenger, mobility, the accessibility of settlements and socio-economic development of the region.

Now in modern studies in geography transport to the fore qualitative aspects of the transport system are nominated, including mobility, accessibility, connectivity, transport discrimination population, behavioral geography, increasing its value in the spatial development of countries and regions (Farrington, 2007; Hall, 2010). Along with this was a change of paradigm in regional planning and transport planning - a departure from the planning the volume indicators to of socio-oriented indicators that reflect a turn digression from manufacturers of transport services to their customers (Bugromenko, 2011). However, the Ukrainian geography almost no research on the issues of transport accessibility, this indicator is only used in city planning practice. Insufficient development of this area requires a thorough study of the concept of transport accessibility, models and methods of research.

The definition of transport accessibility. Transport accessibility is the main product of the transport system. It defines the geographic advantages of the territory (region, city) for all other territories. Indicators of accessibility measures the benefits received by people and businesses of the territory on the availability and use of transport infrastructure in the area. The important role of transport infrastructure for regional development in the simplest form is that areas with better accessibility to places of raw materials and markets, ceteris paribus, more productive and competitive and accordingly more successful than those that are remote and isolated (Linneker, 1997). Thus, the capacity and location of transport infrastructure are key elements in determining accessibility.

There are difficulties in the selection of indicators for measuring transport accessibility. Traditionally, for the determine of transportation development used area density coefficients and Engel's, Goltz's, Uspensky's coefficients, later - the index of the graph theory.

We can identify three steps in the complexification of the concept (of accessibility) (Table 1). Accessibility as a topological concept: physical measurement of the properties of space or the transport system. Accessibility as a relationship between opportunities of interaction and cost, based on the gravity model of spatial interaction. Accessibility as the net utility of the transport system, based on the neo-classical theory of consumer behaviour. The topological indicators of accessibility measure the differentiation of (physical) space created by the transport system. The gravity type indicators introduce weighting of accessibility by interest attached to a specific location. The utility type indicators further develop this model of spatial interaction by integrating the friction of space into the optimisation calculation of economic agents, not as distance in itself (or connectivity), but as the (negative) utility of distance (Martinez, 2013; Miller, 1999).

Table 1 – The conceptual development of accessibility

Type	Measurement	Theoretical background
Topological indicators:	- Distance - Time - Transport cost - Connectivity	Topology of the transport network: Euclidean space Graph Theory
Economic indicators:	Spatial interaction (attraction function / impedance function) utility function (net utility: gross utility of nodes – transport cost)	Gravity model Neo–classical theory of consumer

Source: Bruinsma, 1998.

Transformation processes in the transport system of Ukraine and their impact on the accessibility. Ukraine has a developed transport network (road, rail, waterways). Total transport network of Ukraine includes 21.700 km of railways, 165.800 km of roads paved, 4.800 km of oil pipelines, 39.800 km of gas pipelines,

2.200 km of river waterways with access to the Azov and Black seas. According to the Ministry of Infrastructure of Ukraine is now in the transport function 32 airports, 20 public seaports, 10 river ports, 6 railways, 97 aviation and 150 shipping companies of different ownership, over 58 thousand entities that operate market of motor transport.

In last decades, integration processes, globalization, new transportation technologies, increasing container traffic, the use of information technology to manage traffic flows led to the transformation of the territorial organization of the transport system. Improving transportation systems increase global cooperation and determine changes in the concept of "location" is the process of "compression of space" - an increase in the space-time accessibility. There are changed speed traffic volume traffic flows between countries and regions, narrowed distribution by specialization of certain types of traffic, new elements of the territorial structure (container terminals, intermodal logistics centers). In conditions of integration processes multisectoral transport system is modified into unified supply chain, actively developing intermodal combined transport, the formation of a unified market for transport services (Pashynska, 2011).

These modern processes and trends greatly influence on transport system of Ukraine. There are processes concentration of traffic flows, formed transportation corridors, multimodal transportation hubs that combine different types of transport service for large international cargo and passenger traffic. In particular, advantageous transportation and geographical position of Ukraine towards the main transit flows between Europe and Asia through Ukraine the 4 Cretan international transport corridors, corridors The Organization for Cooperation of Railways and the Baltic - Black Sea, Europe - Asia, TRACECA are transiting.

The intermodal combined transport is developing. The most active intermodal technology implemented on Ukrainian railways. Now Ukrzaliznytsya organized more than 10 container trains and combined transport trains, including "Viking", "Zubr", "Yaroslav". They are an example of the growth of transport accessibility in freight traffic. There are intermodal transportation, the rapid growth of container traffic, thereby accelerating of cargo delivery. Ukraine also is forming a network of transport and logistics centers, which also accelerates the cargo delivery. For example is the development of transport and logistics centers in the metropolitan area.

At the same time the disparities in the development of transport systems, key indicators of transport, provision of transport infrastructure increases in regional context.

Dynamics of transport accessibility of regional centres of Ukraine during the 1989-2010. Dynamics of transport accessibility was studied on the example of changing the transport distance of regional centers of Ukraine. In particular, it was determined by the difference in time spent on travel by rail in 1989 and 2010.

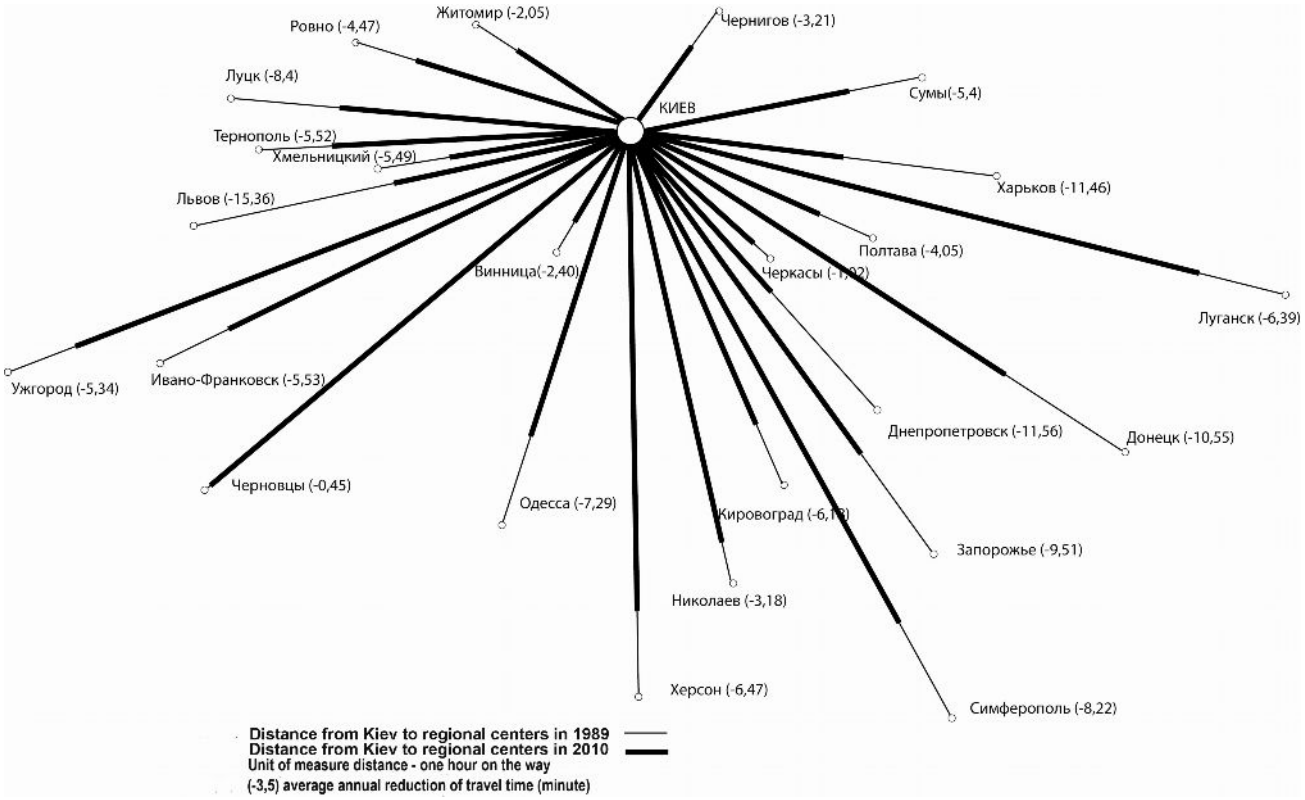

Figure 1 – The change of the transport distance of the regional centers of Ukraine

Figure 1 shows the linear anamorphosis, which shows the change of the transport distance of the regional centers of Ukraine. From the center (Kyiv) conducted direct line to the regional centers, which delayed the distance (time spent on the trip by rail) in 1989 and 2010. Analysis of changes in transport accessibility to the regional centers of Ukraine relatively Kyiv during 1989-2010 was shown that intensive loss of distances and changes in transport accessibility occurs between Kyiv and powerful economic centers - the city of Kharkiv (-11,46 minutes/year), Dnipropetrovsk (-11,56), Donetsk (-10,55), Lviv (-15,36), Zaporizhya (-9,51). This is due to the fact that between the capital and cities there are intensive economic, financial, business, information and cultural relations. However, socio-economic relations and transportation accessibility between regional centers of Ukraine is much weaker than between the capital. The exception is the Odessa - the largest Ukrainian of port city, which operates as an international transport and logistics center. Process of reducing the distance and increasing transport accessibility is "time-space compression". Thus, the greatest rate of "time-space compression" occurs between the capital and powerful economic centers of Ukraine through the introduction of high-speed means of transport (in this case, increasing the movement of rail transportation). In 2012 introduced the Intercity high-speed trains on the directions of Kyiv-Lviv, Kyiv-Kharkiv, Kyiv-Donetsk, Kyiv- Dnipropetrovsk. In addition to improving transport accessibility, speed compression space between the economic centers of Ukraine depends on their socio-economic development, including population (correlation coefficient is 0,69) and size of GRP (correlation coefficient 0,61).

Using Spatial Analyst was conducted interpolation of data on the dynamics of transport accessibility by Inverse Distance Method (*Fig. 2.*). The largest a temporary reduction in the distances occurs between major economic centers of Ukraine. At the same time, the accessibility between the central and peripheral regions has not changed.

Conclusions. In the last decades the transport system of Ukraine has undergone significant changes. There are transformation spatial organization, new structural elements, concentration of traffic, increasing mobility. These processes are largely reflected at the transport accessibility, which is the main product of the transport system and determine the geographic advantages of a region, city or territory from the placement and use of transport infrastructure in their territory. Dynamics of transport accessibility on the example of changing the transport distance regional centres of Ukraine during the 1989-2010 was studied. The intensive loss of distances and changes in transport accessibility occurs between Kyiv and powerful economic centers. At the same time, the accessibility between the central and peripheral regions has not changed.

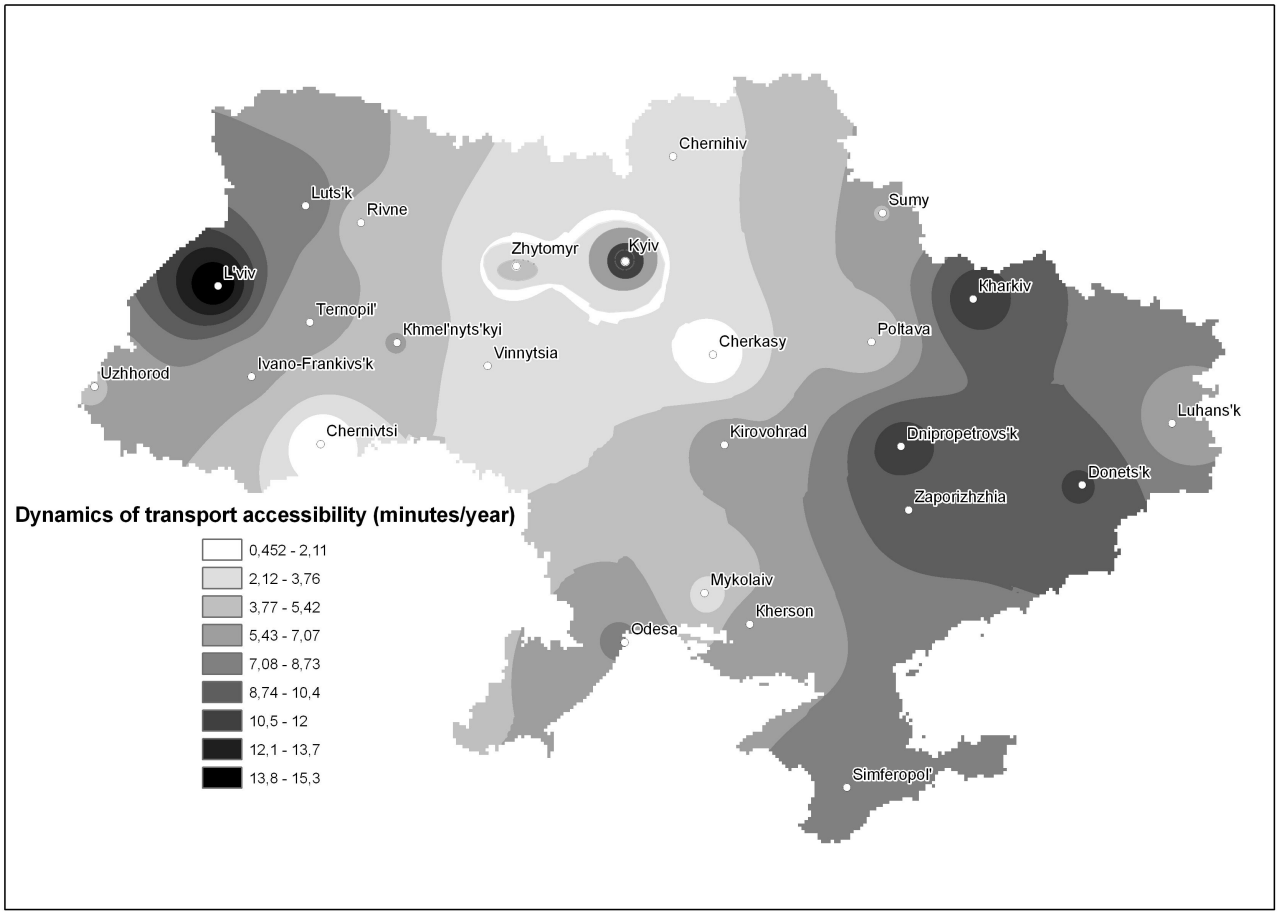

Figure 2 – Ukraine. Dynamics of transport accessibility

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BALTIC-BLACK SEA GEOPOLITICAL REGION: THE NATIONAL INTERESTS OF UKRAINE IN THIS SYSTEM OF REGIONAL INTERACTIONS

Nataliya Koroma
Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

Abstract. *The research is dedicated to the investigation of the geopolitical region (the example of the Baltic-Black Sea geopolitical region), which is a key category for study the world geopolitical structure and place of separate country in the system of regional relations. Influence of political and geographical conditions on the appearance of specific geopolitical regions on the world political map, over the processes of their formation and operation was studied. The mechanisms of interaction between the countries in the geopolitical region were disclosed through characterization functional spaces of the system of regional interactions. Conceptual foundations of political and geographical position of Ukraine in Eurasian geopolitical axis are marked at the regional level. Mechanisms of realization of the national interests of Ukraine in regional Baltic-Black Sea space both at the bilateral level of relations with all countries in the region and collaboration within the framework of regional structures are formulated.*

Корома Н.С. **Балтійсько-Чорноморський геополітичний регіон: національні інтереси України в системі регіональної взаємодії**. *Дослідження присвячене вивченню геополітичного регіону (на прикладі Балтійсько-Чорноморського геополітичного регіону), що є ключовою категорією для вивчення світової геополітичної структури і місця окремої країни в системі регіональних відносин. Досліджено вплив політичних і географічних умов на виникнення конкретних геополітичних регіонів на політичній карті світу через процеси їх формування і функціонування. Механізми взаємодії між країнами в геополітичному регіоні було розкрито через характеристику функціонального простору системи регіональної взаємодії. Концептуальні основи політичного та географічного положення України на Євразійській геополітичній осі розкрито на регіональному рівні. Сформульовано механізми реалізації національних інтересів України в регіональному Балто-Чорноморському просторі, як на двосторонньому рівні відносин з усіма країнами в регіоні, так і щодо співробітництва в рамках регіональних структур.*

The geopolitical processes were always inhering for the world system. Today as in the past the nature of geopolitical processes determines development of the world system: confrontation or cooperation? As a response to the challenge, the essence of geopolitical processes takes on new meaning. We are witnessing when local calls quickly turned on global and vice versa. Such conditions promote the active forming of systems of regional interactions between countries. A large regional space often serves like a *geostrategic zone* controlled and influenced by geostrategic players. The *geostrategic players* play a key role in world politics. These zones consist of geopolitical spaces of smaller size, called *geopolitical regions*. System of regional interactions in the format of geopolitical region is a causal effect of regional interests which may conflict with the interests of other regions: today confrontation (interaction) between the regions is starting to be much more substantial from confrontation (interaction) between the neighboring countries.

The appearance of specific geopolitical regions on the world political map is preceded by the following *politico-geographical conditions*: (1) geographical proximity of the countries within the region; (2) development of geocivilizational space; (3) cultural, ethnic, linguistic affinity; (4) a big and long-lasting political problems; (5) the existence of common long-term interests relating to neighborhood; (6) the intensity of socio-geographical and economic ties; (7) integral effect on a transformation in the society (general level of economic and social development of the countries, the presence of similar strategies in the future).

The geographical space between the Baltic Sea and the Black Sea (or Pontic) is known as the Baltic-Black Sea region (in European geopolitics as the Ponto-Baltic Isthmus). Countries incorporated in common regional Baltic-Black Sea space form a geographic unit but which has ever been embodied by political cohesion among its diverse nations. Today, the Baltic-Black Sea region on the world political map exists factually, not as judicially, without any system of politico-territorial division and management with centers that would ensure its sustainability, manageability, integrality at the whole.

Due to the politico-geographical features, *the Baltic-Black Sea geopolitical region* includes several subregional units – subregions (Figure 1): (I) Baltic States (Lithuania, Latvia and Estonia), (II) Central Europe (Poland, Czech Republic, Slovakia and Hungary) (III) Black Sea subregion (Ukraine, the South of European Russia, the Caucasian countries, Turkey, Bulgaria, Romania, Moldova). Black Sea subregion can be considered as a separate region, including Eastern Europe and the Transcaucasia (or South Caucasus) and separately countries of Turkey, Romania and Bulgaria, which support the regional and intergovernmental initiatives. Romania and Bulgaria geographically are Balkan countries. Under the socio-political, economic and ethnic characteristics they are close to Central Europe. In addition, Romania and Bulgaria's focus on Euro-Atlantic cooperation has led them to membership in the relevant structures, and so allowed the inclusion of these countries in Central Europe. Belarus is a country geographically in Eastern Europe. Belarus is difficult attributed to any of these subregions according to its politico-geographical, geopolitical parameters. But Belarus can be considered in the aspect of interstate relations.

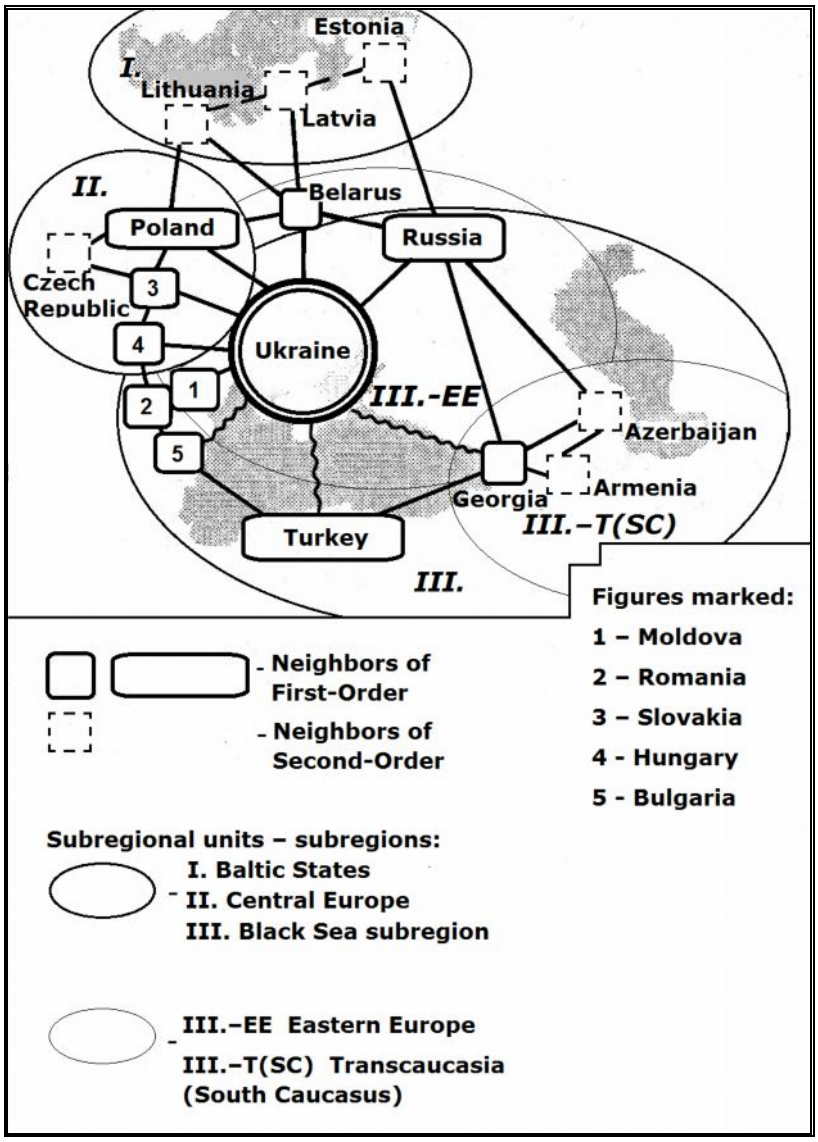

Figure 1 – The subregional units in the Baltic-Black Sea region

The study of socio-geographical ties and progress of politico-geographical processes within the geopolitical region, situated within clear-cut geographical space can be realized by way of characterizing *functional spaces of the field of the international interactions: geocivilizational, social-ethnic, informational-communicative, geoeconomic, geopolitic, security.* Superposition geostrategic interests of countries in the region form the axes of regional geostrategic interests which realized within the available functional spaces.

A unique socio-ethnic space within the regional Baltic-Black Sea space was formed under the influence of a number of politico-geographical conditions: historic coexistence within the common geographical space of ethnic groups, nations, peoples, and in result of interweaving their fates. The main obstacle to intensify socio-ethnical ties is civilizational clash and belonging (identity) issues of the individual to particular region that are more associated with historical memory, and less on the course of modern processes in the regional space. Nowadays we watch the process of changing identities in this area.

Modern realities determine the necessity to define new regional identity, which will be determined not only according to the ideas about cultural and linguistic people's affinity, but will be based more on economic and political expediency. *Interdependence, especially economical, leads to form a common identity*. The desire of countries, situated in Central and Eastern Europe, to achieve recognition of their European identity through membership in the EU shows their urgent need to a common economically secure identity.

Social-ethnic ties between subjects of the Baltic-Black Sea region were strengthened historically, and often were identified with economic projects. Kievan Rus traded with Northern Europe and The Byzantine Empire (or Byzantium) through the ancient trade routes connecting the Baltic and Black Seas even in time of Vikings from the 9th century. Today, the economic projects realized here could be important prerequisite for the political cohesion between already modern countries in the modern world as well as of the forming the Baltic-Black Sea region.

Geoeconomic space of the Baltic-Black Sea region is a powerful factor for economic development in both the region and Eurasian area. The basis of the geoeconomic space could become a powerful transit-transport system that links the Baltic and the Black Sea region. Essentially, it goes about a renovation in under the conditions of information-technology revolution of the systemic economic model "From the Varangians to the Greeks". All that has been accumulated in this field of investigation can be united into a single system of modules - a unified system of functional complexes in the form of complementary sets of elements, relations, effects, actions, properties that as a result will form a single unit: transport complex, international systems of oil-pipes, gas transport flows, ferry transportation and banking and financial complex. All this reveals the conceptual basis of a common market of the Baltic-Black Sea region countries in the energy and the transport-communication spheres. It is within the geoeconomic space that we can observe the most interaction of geostrategic interests of the region's countries and the interests of neighboring regions and geostrategic global actors. Thus it goes about their energetic and economic security.

Today, the part of continent from the Atlantic to the Bug has already merged into one space, not only geoeconomic and geopolitical, but also into *security space*, and the impact of EU and NATO - the main institutions operating in these spaces - reach to the Asian continent. And the Baltic-Black Sea region due to its geopolitical position is an important link in the process of political and economic security of the West. The degree of regional interaction support by the countries of the Baltic-Black Sea region depends on the stability of both the Euro-Atlantic and Eurasian system. Today region's countries really determine and will continue to shape the safety state and structure of Euro-Atlantic and Eurasian systems. In this regard, the interests of EU and U.S. as Russia and China in this area will be growing. The possible expansion of the security based on cooperation may be limited because of the lack of basic values and common geostrategic interests between countries. The problem of security is needed to be considered from the point of view of international perspectives in the world geopolitical structure. We can talk about the geopolitical and geostrategic aspects ensuring national security, linking them to the needs of

international security. Implementing the idea of forming a Baltic-Black Sea region a unique approach can be used for the development and implementation of modern theory of security based on cooperation.

Geographically and geopolitically, the Baltic-Black Sea region is in the center of intersection of axes world geostrategic interests. Its politico-geographical position certainly makes the region an integral part of the European and Eurasian region, and therefore it must define region in its proper place and role, given all the threats and challenges both internal and external. Eastern EU border that runs along geopolitical junction of the Baltic-Black Sea region have divided it into two separate fields of interactions ((1) Member States – Baltic States, Central Europe and the two Black Sea countries, (2) the applicant countries for accession). If further advance of the EU's eastern border stop and at the same time Russian impact and ambitions in Eastern Europe increase, these will intensify tension and create a new line dividing Europe into East and West, not only geographically, but also civilizationally. To prevent the development scenario of the "separation" of the region, countries must find ways to accelerate the internal transformation in the society and to speed-up economic and social development, creating a special field of regional interactions with all functional spaces that will allow defining Baltic-Black Sea space as the separate region with common policy of regional strategy.

The territory of Ukraine has always been and continues to be today a place of axes intersection in the Eurasian geopolitical system of coordinates: West - East (latitude) and North – South (meridian). These so-called Eurasian geopolitical axes crossed Ukraine at various time. Such crossings always confer special characteristics for politico-geographical position of any country.

Ukraine, which is the main link of communication along North – South geopolitical axis, naturally and logically should be the active coordinator of internal processes in the Baltic-Black Sea region, thus keeping in balance external influences of Euro-Atlantic and Eurasian systems. Their influences' trajectory motion corresponds to the direction of West-East geopolitical axis and collides in the Black Sea region, more accurately in Ukraine, arching North-South axis in one party or another.

The importance of realization Ukraine's national interests in regional Baltic-Black Sea space was confirmed yet by the modeling the geopolitical concept of Baltic-Black Sea orientation in the early 20th century in Ukrainian geopolitical thought. The development of the Baltic-Black Sea regional interaction system provides geoeconomical and geopolitical perspectives for Ukraine.

GEOPOLITICAL PROBLEMS IN NATURE MANAGEMENT: CASE STUDY FOR UKRAINIAN-POLISH BORDER REGION

Liubov Diachevska
Institute of Geography, National Academy of Science of Ukraine, Kyiv, Ukraine,
diachevska@ukr.net

Dr. Liubov Diachevska (Institute of Geography, National Academy of Science of Ukraine, Kyiv, Ukraine) **Geopolitical problems in nature management: case study for Ukrainian-Polish border region**

Abstract. *Imbalances in matter cycles and heat distribution, depletion of natural resources, environmental pollution, earth surface transformation – all those changes in nature, caused by human daily life activities, reflect more and more on quality of our life, economic development, natural and technogenic safety of humankind. Negative effects of natural resources and ecosystem abuse, when they spread across borders, become international issues and cause international conflicts. The main environmental risks that exist in Ukrainian-Polish border region and could become the causes of interstate ecological conflicts are examined in the paper. Directions of Ukrainian-Polish cooperation in nature management are determined.*

Дячевська Л.П. **Геополітичні проблеми природокористування: приклад дослідження українсько-польського прикордонного регіону**. *Дисбаланс у кругообігу речовини і розподілі тепла, виснаження природних ресурсів, забруднення навколишнього середовища, трансформація земної поверхні – всі ці зміни в природі, викликані людською повсякденною життєдіяльністю, все більше і більше впливають на якість нашого життя, економічний розвиток, природну і техногенну безпеку людства. Негативні наслідки нераціонального використання природних ресурсів та екосистем, коли вони поширюються через кордони, стали міжнародними проблемами і причиною міжнародних конфліктів. В статті розглядаються основні екологічні ризики, які існують в українсько-польському прикордонному регіоні і можуть стати причиною міждержавних екологічних конфліктів. Визначено напрями українсько-польського співробітництва в сфері управління природокористуванням.*

Imbalances in matter cycles and heat distribution, depletion of natural resources, environmental pollution, earth surface transformation – all those changes in nature, caused by human daily life activities, reflect more and more on quality of our life, economic development, natural and technogenic safety of humankind. Negative effects of natural resources and ecosystem abuse, when they spread across borders, become international issues and cause international conflicts.

Conflicts between countries nowadays are not only the result of global geopolitical strategies; they are also local territorial issues which arise along border river basins, lakes and seas. They might be caused by natural resources use in border areas and by spread of pollutants across the border. Excessive consumption of natural resources and decline in their quality lead to shortages become more acute.

Most world countries today find themselves dependent on countries-suppliers of raw material, fuel and food. In such conditions, it becomes tempting for some suppliers to use natural resources as an instrument of geopolitical influence and manipulation. This especially pertains to the neighboring countries, which are the first to feel negative consequences of the impact exerted on the nature across the border.

Sharing common borders makes Ukraine and Poland both interested in sensible use of border waters, saving biodiversity, preventing pollutants from crossing the border, and requires from each other to respect neighbor's sovereignty and territorial integrity.

Surface waters. The Ukrainian-Polish border crosses the Visla and Dnister river basins. About 1.9 cubic km of water per year flows to Poland from Ukrainian side; this determines the dependence in water supply [1]. Three regions of surface water interdependence could be seen in Ukrainian-Polish border region: two of them were formed based on joint use of the river Visla border tributaries: the Bug River and the San River, the third – the Dnister River tributary (Figure 1).

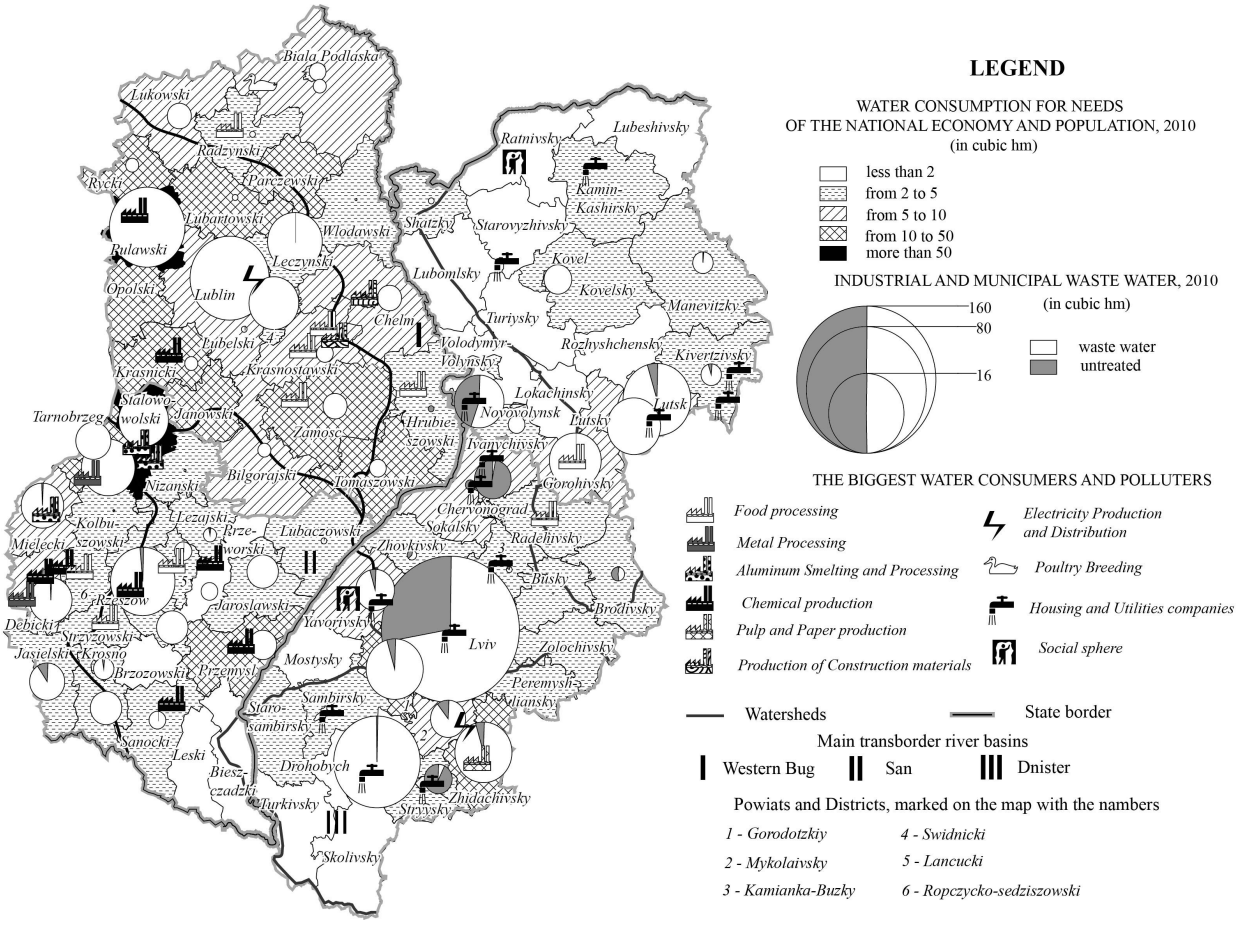

Figure 1 – Surface water Consumption and Pollution

Large part of the Bug's feeding area is within Ukrainian territory, therefore such Polish powiats as Hrubieszow, Chelm, Wlodawa, Biala Podlaska feel the impact of Ukrainian industrial, agricultural and municipal water-use. In the upper Bug River and its tributaries we can see significant water intake for drinking and

economic use accompanied by large quantities of sewage water disposal: both treated and untreated. Quality of water in the Bug and its tributaries does not always meet existing requirements. The highest deviation was registered in Lviv region. The main causes of today's water conditions differ from one district to other. In agricultural territories the main problems are called forth by ground pollution, landscape structure change, use of chemicals. In cities and industrial areas they are caused by technogenic overload, ineffectiveness of sewage and water treatment plants. Virtually all sewage and water treatment facilities were built prior 1990 using technologies, developed in 1960-70s of the last century and require reconstruction and, in some settlements – construction of the new ones. Absence of riparian areas and water protection zones also leads to negative consequences. The main polluters are housing and utilities companies. Particularly 'Lvivvodokanal' (Lviv city) is one among 100 biggest polluters in Ukraine. It contributed 66% of the sewage water and 78% of polluting substances disposed to the rivers of Lviv region in 2010. The biggest polluter of the Bug River basin within Volyn region is Novovolynskvodokanal company (11% of polluting substances in the region) [4].

As a general recent trend, we can see a reduction in polluted water discharge into the region's surface waters. Most facilities, discharging water to the rivers, run repair and reconstruction projects on the regular basis. However, today, it is not enough to ensure high quality of the surface waters.

San River and such its tributaries as Shklo, Wyshnia, Lubachivka have their sources in Ukraine. Therefore water supply in Jaroslaw, Przeworsk, Lezajsk, Nisko powiats could be influenced by activities taking place in Yavoriv and Mostyska districts. The main polluters in the San River basin on Ukrainian side are Novoyavorivskvodokanal and Yavorivsk housing management division.

In the Dnister River basin majority of pollutants are disposed into the surface waters within the territory of Ukraine, particularly as a result of the activities of water supply, sewage and utility companies and Zhydachiv paper mill. These pollutants don't get to the Polish part of the basin, so there are no essential cross-border risks caused by water-use here. Some transborder risks are connected with the Ustrzyki-Dolne oil-producing region (Poland) where the Dnister tributary of Stryvigor begins.

Transborder air pollution. Westerlies which are predominant in the Ukrainian-Polish border region lead to increase the impact from South-West to the North-East. Significant polluters on the Polish side are chemical and concrete plants, power stations. The main risks in Ukraine's territory are caused by thermal power production, natural gas transportation, mining of coal and peat, natural gas. Negative effect is also caused by agricultural and food industries (fig. 2). The overall level of pollution in border territories is within acceptable norms. It is a result of the lower than in other Ukraine's and Poland's regions level of industrialization and its recent cuts, installation of cleaning systems and development of national parks network.

Surface waters and air pollution problems are also a result of sulfur (Peredkarpattian and Tarnobzheg deposits), potassium (Stebnyk deposit) and coal (Lvivsko-Volyn and Lublin deposits) mining in the border regions. Open pit mining of sulfur on the territory of Ukraine led to landscape degradation and toxic waste

accumulation. It creates significant risks of pollution for rivers as well as risks of flooding for settlements. Restructuring and closures of some production sites where sulfur and potassium were mined and processed is already underway for almost ten years. Nevertheless, most of them still remain the sources of serious danger for the environment and population health; threat of technogenic ecological disasters and emergencies. Some facilities may be potentially dangerous for the neighboring countries and, thus, present transborder threat. Similar problems were resolved in Poland. Sulfur quarries near Tarnobzheg (Mahuv, Yeziorko) were filled with water and turned into artificial lakes for recreation. Such projects have now been realized in Ukraine, particularly with Yavoriv, Podorozhne, Rozdil sulfur quarries. Landscape degradation caused by coal mining is typical in Sokal district of Lviv region. Valuable natural ecosystems and agricultural farmlands have been lost, huge underground cavities, slagheaps have been created. Only 25–30 % of slag has burned up, the remains of coal ignite spontaneously and produce smoke, polluting the atmosphere. There are also risks of sinkhole collapse and flooding as well as risk of ground waters and atmosphere pollution.

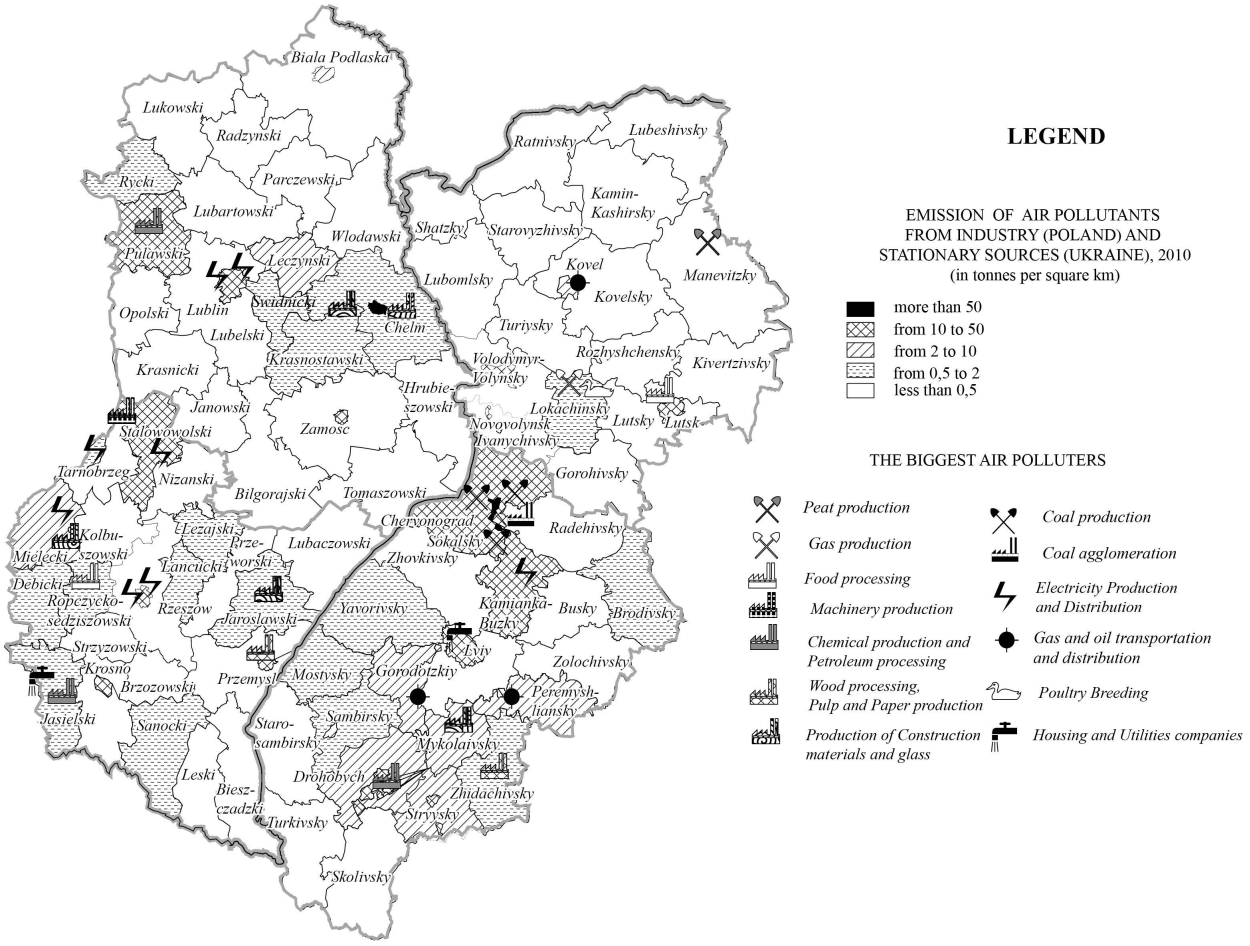

Figure 2 – Air pollution

The territorial integrity plays central role in any country's national interests. In the areas where natural processes are intensified by irrational human activities may lead to the borderlines change, and cause the international problems. Significant part of Ukraine-Poland border (220 km) runs along Bug river midstream. There is

intensive erosion process on its right (Ukrainian) bank. As a result, the borderline changes. Particularly, there were 22 sites, discovered within Volyn region where the river channel flow may possibly change. As a result, Ukraine's territory may reduce by 100 ha [5].

Ukrainian-Polish interdependence causes mutual interests in environmental and natural resources management issues. Overlapping interests contain a potential for discourse and conflicts, from the other side they also provide opportunities for cooperation and promotion of regional peace and security as well as economic growth. Realization of this potential focuses on tipping the balance from potential conflict to cooperation first of all through harmonization of legislation of our countries in ecological sphere and by mutual efforts to improve nature management in border regions.

At present Ukraine works to implement into national law such international agreements as Espoo Convention, Water Convention, Convention on Long-range Transboundary Air Pollution and others, as well as bilateral Ukrainian-Polish intergovernmental and ministerial agreements. Coordination for external aid programs and projects has intensified. However, such environmental policy tools as integrated management, environmental certification, ecosystem approach to the management of land and soil, forests, river basins are in the initial stage.

The main areas for cooperation and Ukrainian environmental policy in Ukrainian-Polish border region are: integration of environmental policy and improving the integrated ecomanagement; cooperation between sectors which make impact on environment – agriculture, industry, energy, water supply and sanitation; coordination between natural resources and sectoral policies. Main tasks of water policy are reconstruction and in some cases construction of new sewage and water treatment plants in Lviv, Sokal, Zolochiv, Busk, Novovolynsk, Yavoriv and Rudki; setting up into nature riparian areas and water protection zones, flood preventing. The main measures which should be done to prevent erosion and borderlines change are channel cleanup and riverbanks reinforcement. In Drohobych, Yavoriv, Zhydachiv, Mykolaiv, Sokal, Ivanychi and other mining districts landscape recultivation and toxic waste utilization are the most important directions of ecological policy. New effective air treatment facilities should be installed on Dobrotvirsk TPS, Lvivvugillia's and Soynetorf's mines, NPK-Galichina, Mykolayivcement etc. to reduce air pollution. Methane capture systems should be set on coal mines of Lvivvugillia for preventing of methane emissions increase.

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