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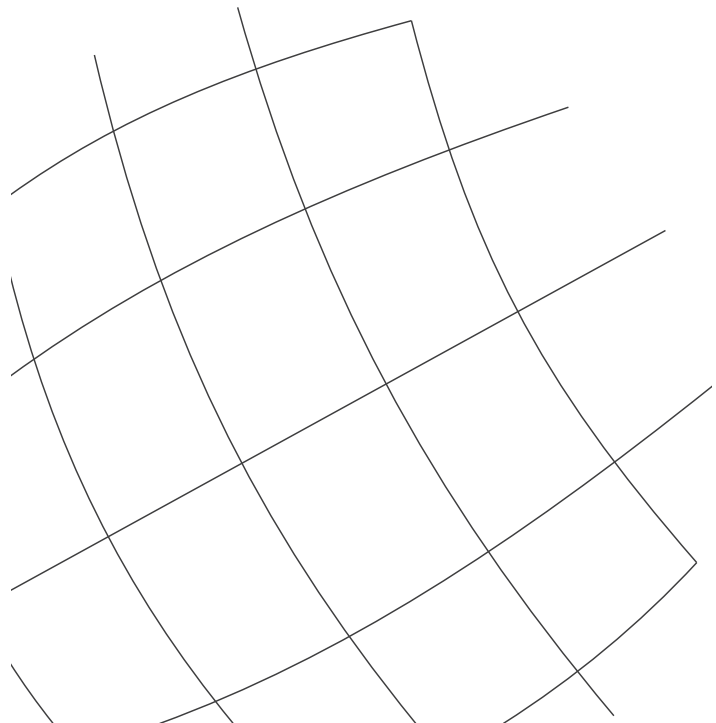

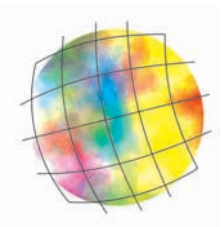

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LES TRANSFORMATIONS CONTEMPORAINES DES LITS DES RIVIÈRES CARPATIQUES SOUS LA PRESSION ANTHROPIQUE

CONTEMPORARY TRANSFORMATIONS OF THE CARPATHIAN RIVER BEDS UNDER THE ANTHROPIC IMPACT

Kazimierz KRZEMIEŃ[1] – Elżbieta GORCZYCA – Mateusz SOBUCKI

Abstract:
There were observed considerable changes in the structure of river bed systems in the Polish Carpathians, due to the anthropogenic impact. Erosion is a process that is playing an increasingly important role. It causes in particular the channeling of the river system. Large beds rivers, such as Dunajec, Wisłoka, Raba have been deepened from 2 to 4 meters during the last thirty or forty years as a result of regressive erosion. The deepening of river beds also occurs in the lateral valleys. Such a situation leads to negative changes in the natural Valleys, which is linked to the excessive drying up of many areas.

Key words:
Contemporary transformations of river beds, anthropogenic processes, Carpathians

INTRODUCTION

Dans les Carpates et dans leurs avant-pays on observe une importante transformation des lits de rivière et de torrent. Dans la zone des Carpates, dans les vallées 1-5, d'ordre d'après Strahler, l'évolution des lits de rivière, pendant une longue période, se déroulait essentiellement grâce au modelage érosif et sous forme de découpage par étapes. La complexité de ces systèmes de lits de rivière était souvent dûe aux différents degrés de résistance du sol rocheux. Dans les vallées d'ordres supérieurs, les lits de rivière étaient découpés dans des graviers et se caractérisaient parde larges et grandes surfaces de bancs et d'ilôts fluviales. Au tournant du XIX et XX siècles, dans les vallées des Carpates ont été entamés de vastes travaux d'ingénierie visant à réguler les lits de rivière. Ces travaux avaient pour objectif de réduire les risques de crues et d'inondations pour les villes et villages situés dans cette zone. D'autre part cependant, de tels travaux avaient aussi pour but la stabilisation des lits et l'immobilisation des éboulis fournis dans les lits depuis les berges endommagées et provenant aussi des versants en raison de l'érosion linéaire et des mouvements de masses. Les éboulis ne devaient pas parvenir jusqu'aux réservoirs de barrage. Grâce aux travaux réalisés on a régulé à l'échelle locale ou sur des sections importantes de nombreux systèmes de lits de rivière dans le bassin versant de la haute Vistule (Fig. 1). L'objectif de la présente étude consiste à déterminer l'axe des transformations des lits de rivière dans les Carpates au début du XXIe siècle. Il était

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donc important d'entreprendre des recherches uniformes relatives à l'ensemble des systèmes de lits de rivière afin de connaître leur situation actuelle et d'anticiper sur les tendances d'évolution. Dans les différentes zones des Carpates, de telles études sont d'ailleurs menées déjà depuis longtemps (Krzemień 2003, Gorczyca, Krzemień 2010).

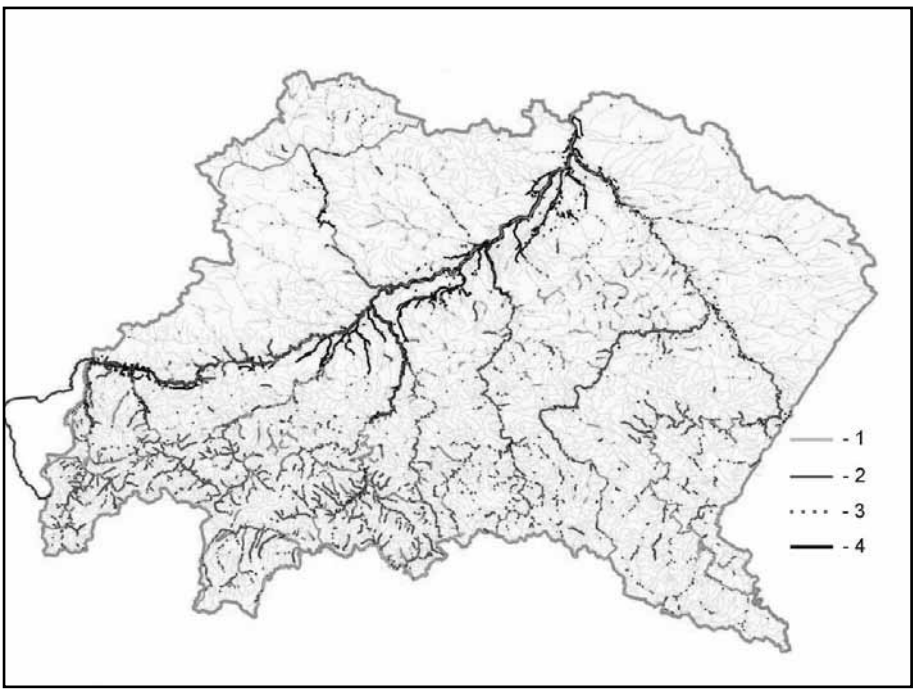

Fig. 1*. Localisation des lits de rivière régulés dans le bassin-versant de la haute Vistule (carte établie par RZGW). 1- rivières, 2- régulations en profile longitidinal, 3- régilations en profile transversale, 4- construction de digues contre les inondations.*

MÉTHODE DE RECHERCHES

Afin d'étudier la structure des lits de rivière on a utilisé un questionnaire spécial accompagné d'une instruction-mode d'emploi (Kamykowska et al., 1999, 2012). Cette méthode a été élaborée dans la Section de Géomorphologie à l'Institut de Géographie et d'Aménagement du Territoire de l'Université Jagellonne. L'instruction qui explique les modalités visant à établir les cartes, est destinée à présenter les multiples et diverses caractéristiques des systèmes des lits de rivière pendant les travaux de terrain. La caractéristique des lits de rivière permet de déterminer les régularités quant à la diversification spatiale de leur structure et aussi de déterminer leurs fonctions morphodynamiques. D'autre part, l'instruction permet de recueillir d'une manière uniforme un grand nombre de données quantitatives et qualitatives concernant le terrain étudié. Grâce à une liste de propositions de réponses portant sur les différents aspects, cette méthode de collecte des données est simple et rapide. Les études effectuées sur le terrain constituent la principale source d'information qui est ensuite complétée par l'analyse des cartes et photographies aériennes. Les principales

données sont recueillies en tenant compte des sections uniformes désignées sur les cartes et les photographies aériennes en fonction du tracé des lits sur le plan (Fig. 2).

Le formulaire (questionnaire) élaboré pour pouvoir établir les cartes des lits de rivières contient cinq catégories de données: 1) Informations préliminaires, 2) Caractéristique du lit de rivière (localisation, composition géologique, morphométrie, profil transversal, profil longitudinal, rives, formes du fond de rivière, sédiments, aménagement du lit de rivière, type de lit), 3) Caractéristique hydrodynamique du cours d'eau, 4) Caractéristique du bassin-versant, 5) Caractéristique morphologique du bassin-versant. A ce questionnaire est jointe une clé permettant de choisir l'information appropriée et de l'inscrire ensuite sous une forme abrégée et codée dans la rubrique adéquate du formulaire. Sur la base des caractéristiques recueilles du lit de rivière, en fonction du nombre et de la surface des formes, en fonction des traits caractéristiques des éboulis et de l'aménagement hydrotechnique, il est possible d'expliquer la structure et la dynamique du système fluvial étudié.

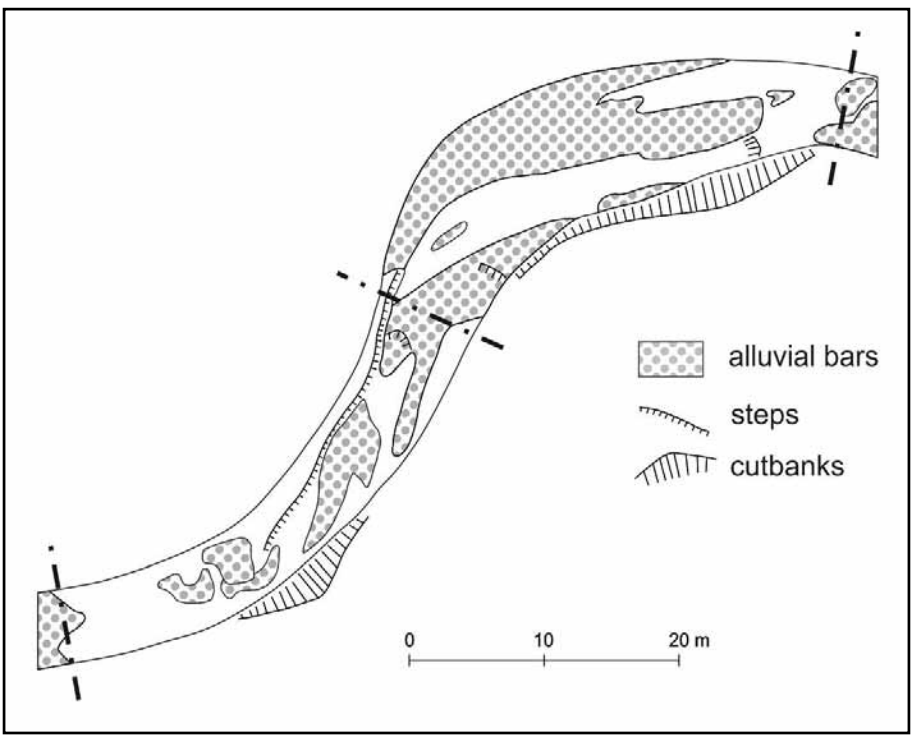

Fig. 2. *Exemples de sections morphodynamiques dans le lit de la rivière Potok Biały (d'après L. Kaszowski 1973 - modifié).*

Parallèlement aux études réalisées sur le terrain, on procède habituellement à l'analyse des documents cartographiques, des photographies aérienes et d'autres matériaux qui constituent une source de données relatives aux lits de rivières et aux bassins-versants. En fonction des besoins, le formulaire (questionnaire) peut être légèrement modifié. Cette méthode a été élaborée dans les Carpates polonaises et elle a été testée dans des zones choisies de Pologne, dans les Alpes, dans le Massif Central et en Ecosse (Krzemień 1981, 1999, 2004, Chełmicki, Krzemień 1999).

ZONE FAISANT L'OBJET DE L'ÉTUDE

La zone étudiée englobe les lits de rivière des Carpates situés essentiellement dans les Carpates extérieures composées de flysch plissé allant de la période jurassique supérieure jusqu'au début du miocène (Oszczypko 1995, Fig. 3). Les séries de sédiments plissés de flysch ont formé des entités tectoniques superposées les unes sur les autres et sur l'avant-terrain appelées nappes de plisman. Le relief des Carpates fait largement appel à la lithologe et à la tectonique des massifs rocheux (Klimaszewski, Starkel 1972). Le volume des précipitations atmosphériques dans les Carpates dépend de l'exposition des versants et de l'altitude par rapport au niveau de la mer. Les précipitations atmosphériques diminuent en direction de l'Est. Le volume annuel des précipitations est en moyenne de plus de 1400 mm dans le Beskid Śląski (Beskides silésiennes) jusqu'à 1000-1300 mm dans les Bieszczady (Niedźwiedź, Obrębka-Starklowa 1991). Dans les Carpates, on distingue deux macrorégions qui sont différentes du point de vue de l'ensemble des caractéristiques hydrologiques ; il s'agit des macrorégions occidentale et orientale (Dynowska 1995). Les crues se caractérisent par une forte diversification du degré d'augmentation du niveau du cours d'eau et n'englobent jamais tous les affluents carapatiques de la Vistule. Durant les trente cinq dernières années, dans les Caraptes polonaises, on observe une évolution très nette en ce qui concerne le mode d'exploitation. On a constaté une diminution de la surface des terres arables au profit des champs, des pâturages et des forêts (Pietrzak 2008).

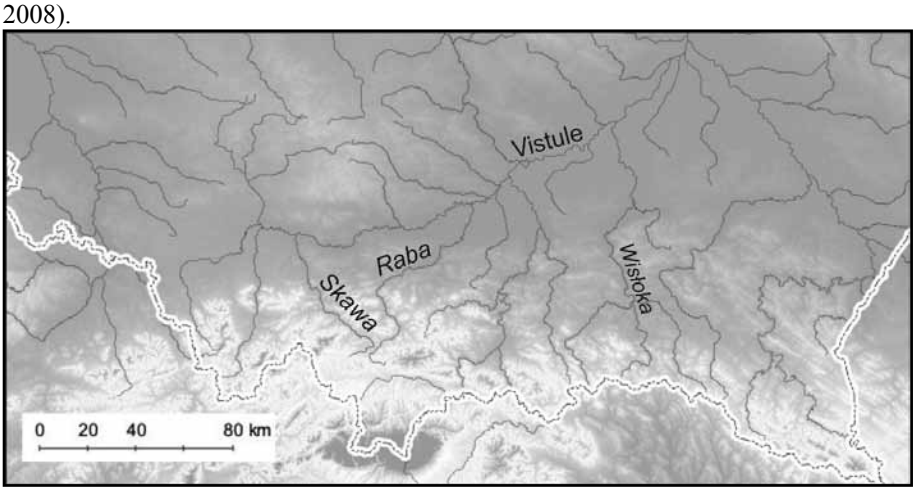

Fig. 3. *Localisation du terrain de l'étude.*

FORMATION ET FONCTIONNEMENT ACTUEL DES SYSTÈMES DE LITS DE RIVIÈRE DANS LES CARPATES POLONAISES

Grâce à l'établissement des cartes de terrain concernant les lits de rivière choisis des Carpates, il est possible de découvrir les régularités de formation de la structure des systèmes entiers de lits. Dans chaque bassin-versant on peut distinguer au moins deux systèmes principaux: le système des versants et le système fluvial (Fig.4). Chacun de ces systèmes se caractérise par une structure déterminée dont l'analyse permet de déterminer le degré de sa complexité et son état dynamique (Fig.4). Jusqu'à aujourd'hui, dans les Carpates polonaises on a étudié la structure de nombreux systèmes de lits de rivière (par exemple, Krzemień 2003, Izmaiłow et al., 2006, Gorczyca 2012, Korpak 2012). Cependant, l'état actuel des recherches n'est toujours pas satisfaisant. De même, à l'échelle internationale, malgré une abondante littérature fluviale, les régularités et les principes de formation et de modelage des systèmes fluviaux de montagne et de haute-montagne ne sont toujouyrs pas suffisamment bien connus.

Dans le profil longitudinal du lit de rivière, on peut distinguer les sections morphostatiques ou morphodynamiques (Fig. 2). Elles constituent la structure du système du lit de rivière (Fig. 4). L'existence de ces sections est le résultat de l'évolution du lit de rivière dans un laps de temps relativement long. Ces sections forment une structure déterminée du système de lits. Les modifications introduites dans l'une des sections peuvent entrainer d'autres changements qui sont parfois difficiles à prévoir. La complexité des systèmes de lits de rivière découle souvent de la diversification du taux de résistance du sol rocheux. Cependant, il existe aussi des terrains se caractérisant par une faible diversification de la composition géologique où la diversification des lits de rivière est pourtant considérable. Comme principale cause d'une telle diversification de la structure des lits, on doit considérer l'histoire de l'évolution de la zone donnée. Les rivières et les torrents contemporains adaptent les profils logitudinaux aux nouvelles conditions hydrodynamiques et morphologiques. A de tels systèmes appartiennent notamment les lits de rivières situés dans des zones de forte pression anthropique.

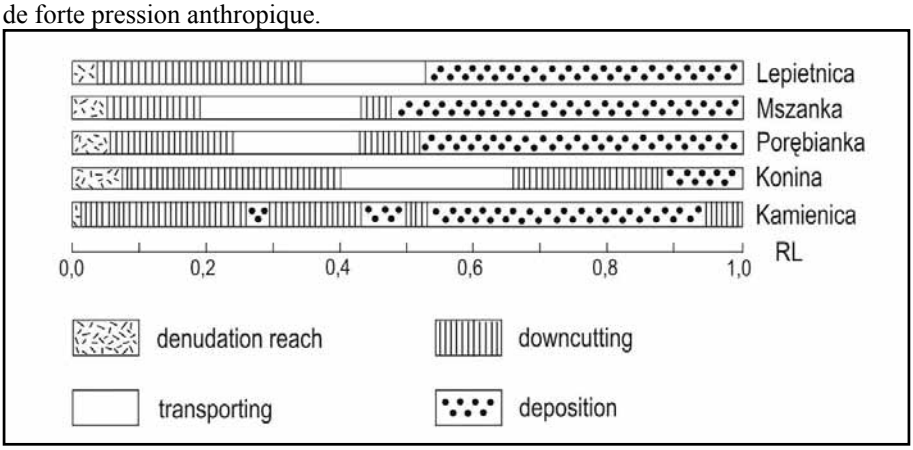

Fig. 4. *Structure des lits des torrents dans les montagnes Gorce (établi d'après l'étude effectuée par K. Krzemień, 1984).*

Les systèmes de lits de rivières subissent un modelage essentiellement lors des crues les plus intenses. Dans les zones qui se caractérisent par une forte pression anthropique on assiste à une adaptation rapide de la structure des systèmes de lits de rivière aux nouvelles conditions que l'on observe dans les vallées et sur les versants. Pendant les trente cinq dernières années, les plus importantes transformations de la structure des rivières de montagne sont intervenues grâce à la pression anthropique directement dans les lits des rivières.

L'IMPACT DE LA PRESSION ANTHROPIQUE SUR LES SYSTÈMES DE LITS DE RIVIÈRE DANS LES CARPATES

La diversification actuelle des lits de rivière dans les Carpates est le résulat d'un long processus. La structure naturelle des lits de rivière qui s'est créée grâce à la migration latérale du lit et à l'évacuation d'une faible quantité d'éboulis du lit de rivière, subissait des changements considérables en particulier à partir des années soixante-dix du XX siècle. Après 1989, on peut constater la superposition de l'érosion en profondeur qui intervient à la suite des transformations dans les lits eux-mêmes et de celles qui sont le résultat du changement du mode d'exploitation des terres. Pour cette raison, les rivières et les torrents adaptent les profils longitudinaux aux nouvelles conditions hydrodynamiques et morphologiques (Kaszowski et al., 1976, Kaszowski, Krzemień 1977, Froehlich et al., 1977). En raison de l'activité de l'homme susmentionnée, on observe des transformations plus lentes ou plus rapides des systèmes de lits de rivières. Les lits de rivière dans les Carpates deviennent ainsi plus profonds, plus droits et plus étroits.

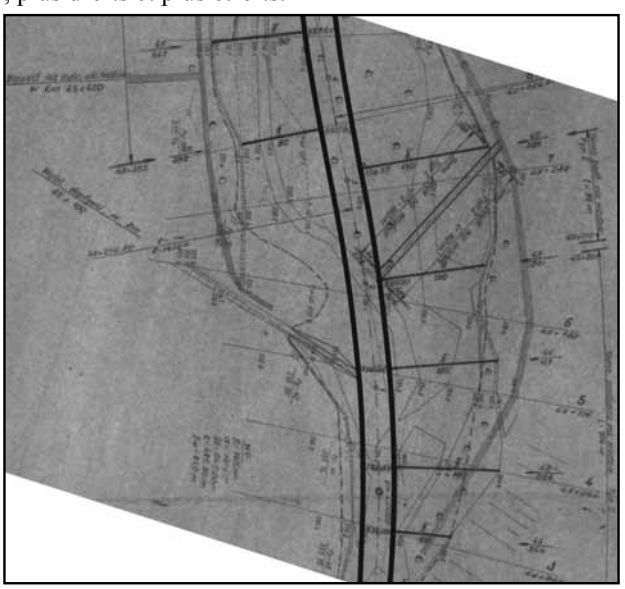

Fig. 5. *Tracé du lit régulé de la rivière Skawa par rapport au lit anastomosé.*

ENCAISSEMENT DES LITS DE RIVIÈRE

En raison des inondations qui touchaient de vastes terrains situés au fond des vallées dans le bassin-versant de la haute Vistule, depuis le XVIII siècle on a commencé à construire des digues de protection. On doit souligner que les crues, excessivement serrées entre les digues, provoquaient souvent l'apparition de fissures et ceci dans des endroits qu'il était impossible de prévoir (Trafas 1975). Comme l'indiquent les études effectuées par B. Strzelecka (1958) et L. Kaszowski et al., (1976) ainsi que par W. Froehlih et al., (1977), les lits dans les vallées des rivières dans les Carpates au XIX siècle, étaient très larges et avaient de nombreux lits anastomosés). De tels lits se caractérisaient par une forte érosion latérale. Cette situation a diamétralement changé à la fin des années quatre-vingt du XX siècle à la suite de l'accélération du rythme d'érosion en profondeur (Korpak et al. 2008).

RÉGULATION DES LITS DE RIVIÈRE

Au tournant des XIX et XXèmes siècles, dans les lits des rivières des Carpates on a entamé de vastes travaux d'ingénierie visant à les réguler. A l'origine de ces travaux on retrouve les risques d'inondation auxquels étaient exposés les villes et villages situés dans ces zones. De tels travaux avaient aussi pour but la stabilisation des lits et l'immobilisation des éboulis fournis dans les lits depuis les berges endommagées et provenant aussi des versants, en raison de l'érosion linéaire et des mouvements de masses. La régulation des lits des rivières se faisait par étapes, à partir des sections situées plus bas, jusque dans les sections supérieures du cours d'eau. (Zawiejska 2006, Starkel, Łajczak 2008). Les tracés de régulation passaient généralement au milieu du socle de graviers (Fig.5). Ces travaux ont eu pour résultat : la rectification du tracé des lits de rivières, leur rétrecissement et approfondissement ainsi que la modification de leur profil longitudinal. Toutes ces interventions ont engendré une très forte érosion en profondeur (Photo 1, Kościelniak 2004, Zawiejska 2006, Korpak et al., 2008).

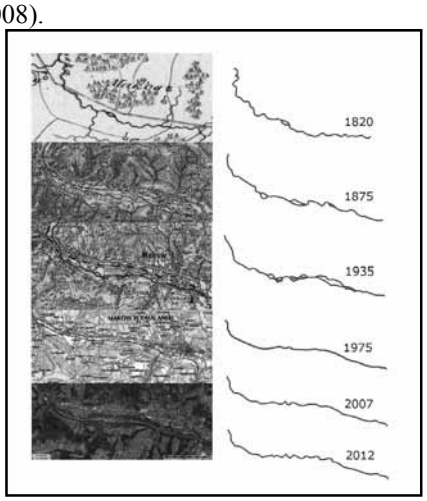

Fig.6. *Modification de la forme du lit de la rivière Skawa entre Maków Podhalański et Sucha dans les années 1820-2012 (d'après les cartes russes, autrichiennes et polonaises).*

La transformation d'un lit anastomosé typique pour les rivières des Carpates en un lit à un seul cours d'eau est la conséquence des travaux de régulation. Le trait le plus caractéristique en ce qui concerne la structure de nombreux lits de rivière dans leur cours de montagne est une importante uniformisation du lit et de ses fonctions morphodynamiques (Zawiejska, Krzemień 2004, Zawiejska 2006). Ceci est particulièrement bien perceptible si l'on prend l'exemple des lits des rivières telles que Dunajec, Mszanka, Porębianka (Zawiejska 2006, Kościelniak 2004). Dans ces lits, ajustés, raccourcis et amaincis, on a constaté l'augmentation de l'inclinaison de la pente, il y a eu l'accélération de l'évacuation des eaux et, par conséquent, une importante évacuation d'éboulis ainsi que l'abaissement du niveau de leur fond.

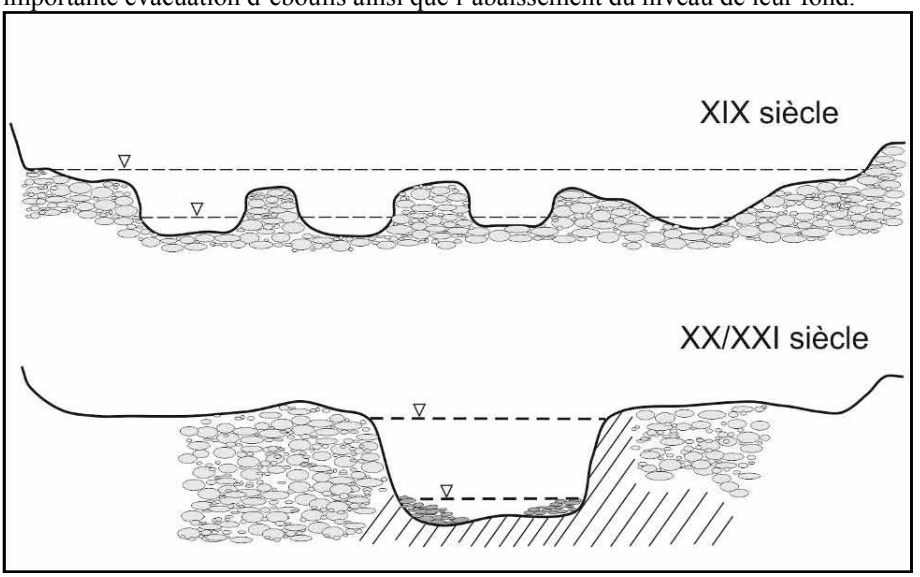

Fig. 7. *Tendence d'évolution des lits des rivières dans les Carpates.*

L'EXPLOITATION DES ÉBOULIS

Le processus d'approfondissement des lits s'est intensifié en particulier après la Deuxième Guerre Mondiale, ceci en raison de l'exploitation intensive des éboulis des rivières à des fins de construction. L'exploitation de ces matières s'effectuait à une échelle très importante (massive), avec utilisation d'excavateurs mais aussi sous forme de prélèvement de la fraction maximale (prélèvements individuels) pour la construction des maisons par les particuliers. (Photo 2). En raison de l'exploitation des éboulis, on observait l'élimination de la blindage du lit de rivière et son approfondissement dans le périmètre exploité. Ces modifications ont d'autre part influé sur les sections limitrophes grâce à l'érosion régressive. Une longue et massive exploitation d'éboulis a eu pour conséquence l'approfondissement rapide des lits, et, par la suite, le dégagement du socle rocheux. (Krzemień 2003, Kościelniak 2004, Zawiejska 2006). Ce procédé s'est manifesté de manière très visible dans les lits des rivières des Carpates notamment dans les années soixante-dix du siècle dernier (Klimek 1987, Wyżga 1991). A l'heure actuelle, une telle activité n'est plus autorisée

car elle est interdite par les dispositions légales en vigueur, mais malgré cela, ce procédé se poursuit toujours.

En raison de toutes ces différentes formes d'activité exercées par l'homme, on observe des transformations soit plus rapides soit plus lentes des systèmes de lits de rivière. Les lits de rivière dans les Carpates deviennent plus droits et plus étroits (Fig. 6,7). Les lits à plusieurs chenaux avec tendance à migration latérale ont été amincis et découpés jusqu'à même 4 mètres. Dans le cas de destruction des installations de régulations ou lorsqu'une très forte pression anthropique a été stoppée, on constate de nouveau une tendance à ce que le lit de rivière se forme librement. Toutefois, il n'est plus possibile de rétablir la situation d'avant la régulation, car ces lits sont profondément découpés (Fig. 7). Leur développement se déroule dans un périmètre beaucoup plus réduit.

CONCLUSIONS

En raison de l'impact anthropogénique, interviennent de considérables modifications dans la structure des systèmes de lits de rivière, ce qui entraîne l'accroissement du rôle joué par l'érosion. Ceci engendre essentiellement la chenalisation du système fluvial. Les lits de grandes rivières telles que Dunajec, Wisłoka, Raba ont été approfondis, tout au long des trente ou quarante dernières années, de 2 à 4 mètres. A la suite de l'érosion régressive, l'approfondissement des lits se manifeste aussi dans les vallées latérales. Une telle situation provoque des changements négatifs dans le milieu naturel au fond des vallées, ce qui est lié à l'assèchement excessif de nombreuses zones.

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INFLUENCE DE L'HÉRITAGE DE JEAN-PAUL II SURLE DÉVELOPPEMENT DU TOURISME RELIGIEUX DANSLES CARPATES POLONAISES

INFLUENCE OF THE HERITAGE OF JEAN-PAUL II ON THE DEVELOPMENT OF TOURISM RELIGIOUS IN THE POLISH CARPATHIANS

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Abstract: *The growing cult of John Paul II takes on a special dimension in Poland. There is probably no city without this great Pole preserved in its collective memory. Places especially loved by the Pope include Krakow, Wadowice – his home town – and Polish Carpathian Mountains. Therefore, they should play prominent role in the development of religious tourism. This article aims to show "the papal legacy" and related initiatives in the Carpathian area, resulting in tourist activation of this region. The most important among them are "papal trails" running mostly along the existing mountain trails, where the pope wandered at different stages of his life, mainly before being chosen for the papacy. Their symbolic opening took place in 2003. There are currently 13 papal trails in the Carpathian region in various mountain ranges. The legacy of John Paul II, however, is much richer and materially takes the form of a number of memorial rooms and new sanctuaries devoted to his person. There are also different kinds of religious or cultural events related to the pope. All this makes the legacy of John Paul II a significant potential enabling the activation of multiple forms of tourism in the region.*

Key words: *John Paul II., Heritage Tourism, Polish Carpathians*

1. INTRODUCTION

Jean-Paul II est un personnage connu dans le monde entier, une incontestable autorité religieuse et morale pour de nombreuses personnes. Grâce à ses voyages apostoliques et son large activité en faveur de la protection des droits de l'homme, il est devenu populaire aussi dans les milieux éloignés du catholicisme ou de la chrétenité. Nous pouvons citer ici les paroles d'une femme israélienne, prononcées pendant le séjour de Jean-Paul II en Israël. Cette femme a dit que, pour elle, c'était égal que Jean-Paul II est pape, plus important est le fait que c'est un homme de Dieu (Politi 2008). L'Eglise Catholique a confirmé cet état des choses par la béatification et la canonisation. Le culte de Jean-Paul II se développe constamment, particulièrement en Pologne. Pratiquement dans chaque ville on a commémoré de différente façon le personnage de Jean-Paul II. Il existent des monuments, fondations, rues, lieux de mémoire ou musées consacrés à ce Pape. Dans le paysage religieux nous pouvons

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voir déjà des églises et des sanctuaires de Jean-Paul II, beaucoup de lieux du culte aimeraient avoir des reliquaires de ce saint. La présence de Karol Wojtyła dans la vie politique et sociale en Pologne, son activité et sa contribution à la destruction du système communiste rendent son héritage très riche et diversifié. Grâce à cela nous pouvons le développer dans différents domaines mais il existe un risque de le traiter superficiellement sans tenir compte de son importance (trivialisation et dispersement du culte). C'est un grand défi pour les autorités ecclesiastiques et locales. Le personnage et l'oeuvre de Jean-Paul II doivent trouver une place particulière dans l'histoire de la Pologne. Pourtant il ne faut pas dépasser les limites afin de ne pas le banaliser et mener à saturation. Ceci concerne le tourisme religieux et, dans l'aspect plus large, le turisme culturel lié à ce Saint. Les endroits que le Pape aimait beaucoup, c'est avant tout Cracovie, sa ville natale Wadowice et la montagne: les Carpates polonaises. Ces dernières doivent jouer le rôle primordial dans le développement du tourisme religieux.

L'objet de cet article est la présentation de l'héritage du pape dans les Carpates polonaises (où est située aussi la ville de Wadowice) ainsi que de toutes les activitées touristiques de cette région.

Les plus importants sont les Chemins de Pape balisés le long des pistes déjà existantes que Jean-Paul II parcourait dans différentes étapes de sa vie , surtout avant d'être élu pape. L'inauguration, d'une manière symbolique, a eu lieu en 2003. A présent, dans la région des Carpates il y a 14 itinéraires de pape. A part de cela il ne faut pas oublier de nouveuax sanctuaires et lieux de mémoire. Il ne manque pas également des manifestations religieuses ou culturelles liées au Pape. Tout cela renforce le développement de différentes formes du tourisme dans la région ci-mentionné.

2. EXCURSIONS À LA MONTAGE DE KAROL WOJTYŁA

Les Chemins de Pape sont des itinéraires formés selon les critères des routes touristiqes alors destinés à un large public afin de pratiquer le tourisme de différentes façons. C'est le personnage de Karol Wojtyła qui les marque.

Wojtyła aimait bien aller à la montagne pour marcher à pied mais en hiver il faisait du ski. Beaucoup d' excursions ont été mentionnées dans le "Calendarium de Karol Wojtyła" élaboré par le prêtre Adam Boniecki juste après l'élection de Wojtyła au Vatican en 1978 (Boniecki 1983). C'est de cette source que nous profitons en parlant des séjours de Karol, jeune prêtre, à la montage. Le "Calendarium" ne mentionne aucune excursion de la période précédente, d'avant son ordination. D'autres sources parlent des pèlerinages de Karol accompagné de ses parents à Kalwaria Zebrzydowska. Il y venait aussi après la mort prématurée de sa mere (Jusiak 1997). Quant aux excursions à la montage, ce sont son père et son frère qui l'y emménaient. Le plus souvent c'était la montagne de Gorce, située tout près de Wadowice, donc nommée "la montagne domestique" du futur pape, surtout le sommet de Leskowiec. Revenant aux excursions touristiques, la première est mentionnée par le Calendarium celle avec les jeunes dans les Beskides en juin 1952. Le groupe s'est arrêtée à Kozy (région de Bielsko) dans la paroisse où a travaillé l'ami et le successeur de Karol Wojtyła sur le siège de l'évêque de Cracovie: Franciszek Macharski.

A cette époque-là Wojtyła était vicaire dans la paroisse de Saint-Florien de Cracovie. Les jeunes de cette paroisse l'accompagnaient dans les excursions à la montagne. L'assistance spirituelle auprès des étudiants de la paroisse St Florien est devenue noeud d'un groupe nommé "chorale" parce qu'il chantait les chants grégoriens à partir de 1950 (Boniecki 1983). Afin de garder les mesures de sécurité, car les années 50 c'était l'époque des persécutions staliniennes par rapport à l'Eglise, les jeunes nommait le prêtre Karol: "oncle". Ceci est devenu leur signe spécial, le "groupe de l'oncle". Pendant les excursions ils se reposaient mais aussi ils abordaient les sujets religieux et moraux dont les jeunes se préocupaient, il ne manquait pas d'éléments de la prière. C'était alors une sorte d'évangelisation et d'activité pastorale réalisée d'une manière non conventionnelle et pas fréquente qui plaisait beaucoup aux jeunes. En janvier 1953 les étudiants ont invité Karol Wojtyła dans la montagne de Gorce pour faire du ski mais ils ne connaissaient pas ses compétances dans ce domaine. Alors ils ont proposé un séjour de deux jours à Zakopane et Bukowina Tatrzańska pour s'y entraîner. "Au cours de l'excursion le prêtre Wojtyła s'est débrouillé parfaitement quoiqu'il s'ait passé de ski pendant des années. La dernière fois il a skié étant au collège. Il a passé brillamment son examen de ski et nous avons pu l'inviter sans problème dans la montagne de Gorce. C'était le début de nos escapades d'hiver…" (Prof. dr Jacek Hennel, prof. dr Andrzej Hrynkiewicz, dr Stanisław Szymczuk, d'après: Boniecki 1983: 120).

En 1953 Karol Wojtyła est parti sept fois avec les étudiants à la montage, en plus il terminait à cette époque-là son doctorat d'Etat. Il y avaient deux escapades de plusieurs jours: dans las Bieszczady (du 2 au 15 août) et dans les Gorce, y compris le fait de gagner le sommet de Babia Góra (du 15 au 25 septembre). Pendant l'excursion dans les Bieszczady, le 2 août il a dit la messe en plein-air pour la première fois. A partir de ce moment-là c'était un élément fixe de chaque excursion. Le sens de l'humour de Wojtyła comptait aussi. Le 14 août près du sommet de Magura il a dit une messe en chantant. Il a dit que le manque de chasuble imposait un office chantant. En 1954 Karol Wojtyła a obtenu une insigne de bronze du tourisme pédéstre.

Avant de devenir évêque auxiliaire de Cracovie, Wojtyła allait souvent à la montage, le plus fréquemment avec "sa famille" (les étudiants). Pourtant il y en avaient d'autres. Comme le dit Stefan Swieżawski: pendant une excursion entre les sommetes de Turbacz et Lubań, dans la montagne de Gorce, "nous avons parlé de nos recherché scientifiques et de la situation à Lublin. J'ai voulu persuader Karol Wojtyła de render service à notre Faculté qui était dans des conditions minables à cette époque-là. J'ai l'impression qu' à partir de ce moment-là a commence la collaboration de Karol Wojtyła avec l'Université Catolique de Lublin" (Boniecki 1983: 132). Comme évêque de Cracovie Wojtyła faisait du tourisme et du ski. La dernière fois avant de partir à Rome pour le conclave en 1978 il a été à la montage en septembre en traversant le chemin entre Skawica et le col de Krowiarki.

3. LES CHEMINS DE JEAN-PAUL II

Nous pouvons classer les Chemins de Jean-Paul II selon le mode de se deplacer: à pied, à vélo, à bord du cayak uo en train. Dans le groupe des itinéraires à parcourir à pied et à vélo appartiennent ceux qui sont balisés à la montagne et dans les villes. Les

itinérares de cayak ont été créés en s'appuyant sur ceux que Karol Wojtyła parcourait en été pendant les vacances dans la région des lacs. Un itinérare se trouve dans les Pieniny dans les gorges de Dunajec.

En Pologne les chemins de Jean-Paul II sont balisés dans les Sudety et dans les Carpates, excepté les Tatras à cause des pistes balisés sur le territoire du Parc National de Tatras (Własiuk 2010). Le Pape aimait bien les Carpates et c'est pour cela dans cette montagne le nombre de chemins lui consacrés est le plus grand.

L'idée de baliser les Chemins de Pape est venue spontannément, initiée par les collectivités locales et les touristes qui voulaient commémorer de cette manière-là le présence de Karol Wojtyła dans la montagne.En 1983 après le pèlerinage de Jean-Paul II en Pologne et son séjour dans les Tatras, les touristes ont marqué l'intinéraire de la promenade du pape avec les pins de sapin et les branches mises en croix. "Le Saint Père (...) est sorti par l'escalier du refuge et, prenant une route populaire, en pente raide, s'est dirigé vers un petit sentier menant à la Vallée Jarząbcza – a dit le cardinal Nagy. Je peux passer par là – a continé le pape en souriant – prenant un vrai chemin de montagne avec des pierres. A Castel Gandolfo il y en a aussi mais ils sont tous très lisses" (Własiuk 2010: 110).

Avant la fondation officielle du Comité non-public d'Organisation des Chemins de Pape (2002) transformé en 2003 en Fondation Chemins de Pape on a balisé les intiéraires suivants (http://www.szlakipapieskie.pl/, 15.09.2014):

- "Sursum Corda" de Ludźmierz à Zakopane, commémorant le pèlerinage de Jean-Paul II en 1997 et la visite du Pape dans ces localités;
- "Révision de géographie" en 1999, comme réponse à l'appel de Jean-Paul II prononcé à Stary Sącz (discours sur les marches à la montagne);
- "La dernière excursion" Skawice-Krowiarki, endroit de la dernière excursion de Karol Wojtyła avant de son départ à Rome (1978).
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A partir de 2002 la Fondation mentionnée ci-dessus (avant c'était le Comité) s'occupe de la délimitation et du balisage des Chemins de Pape. Selon Urszula Własiuk, créatrice et présidente de la Fondation c'étaient les paroles du pape qui inspiraient toutes ces activités: "Gardez-moi bien ces chemins..." (Nowy Targ 1979) ou bien: "(...) Ce serait bien de mettre dans ma biographie tous les chemins que j'ai fréquentés, afin que je sois enraciné dans la terre polonaise" (Vatican 1979), (Własiuk 2010). Tout le temps cette initiative est réalisée par des collectivités locales en coopération avec des paroisses et les autorités locales sans être imposée par le pouvoir central. Selon l'ordre chronologique le premier itinéraire officiel a été balisé dans le Beskid Wyspowy et Gorce.

L'inauguration solennelle des Chemins de Pape a eu lieu à Rabka le 26 mai 2003. C'était le don pour l'anniversaire du pontificat du Saint Père (25 ans) et de son excursion avec les étudiants à Rabka (50 ans). En même temps on a fêté le 50ème anniversaire de la fondation de la ville de Rabka. La même année dans l'alpage de Turbacz, sur l'emplacement où Karol Wojtyła avait dit la messe en 1953, on a monté un autel spécial nommé Szałasowy Ołtarz (Matuszczyk 2003). Le troisième dimanche de septembre on célèbre la messe comme clôture de la saison touristique à la montagne et y participent quelques centaines de personnes. A partir de ce moment-là le reseau des

itinéraires reste en croissance. Actuellemnt dans les Carpates polonaises fonctionnent 14 chemins (Tab. 1), du Podhale jusqu'à Bieszczady. A part de Turbacz, le centre lié au personnage de Jean-Paul II, il y a Leskowiec ainsi que le sommet de Jaworzyna dans le Beskid Mały qui a changé de nom en 1981 et il s'appelle Groń Jana Pawła II. Sur tous les chemins il y a des plaques avec l'emblème de la fondation, sur les croisement se trouvent des croix symboliques. D'autres éléments qui soulignent le caractère des Chemins sont les endroits du culte: les chapelles grandes et petites, les rochers commémoratifs et les monuments.

L'initiative de créer les Chemins de Pape est destinée à un large groupe des touristes, spécialement à ceux qui recherchent des valeurs religieuses ou spirituelles, ou bien sont inspirés par le personnage de Karol Wojtyła. Ceci est leur trait caractéristique qui les distingue des autres itinéraires purement touristiques. Les Chemins de Pape doivent non seulement servir à l'exploit sportif mais avant tout aider à contempler la nature comme oeuvre du Créateur et à inspirer à la prière. De cette manière nous pouvons considérer les Chemins comme la nouvelle forme du tourisme religieux et une nouvelle proposition de développer l'activité pastorale touristique. Les Chemis sont ouverts à tous. Aux personnes qui ne s'intéressent pas à la religion, ils leur proposent les valeurs éducatives et cognitives. Pourtant il ne manque pas d'opinions que les pistes à la montagne doivent remplir le rôle touristique où on apprécie davantage la nature et les paysages sans ajouter d'autres informations et contenus. C'est pourqoi il est important d'installer les plaques ou les lieux du culte de façon discrète et bien correspondant à l'entourage. Il serait convenable de garder la mesure pour garder le propre caractère des pistes de montagne.

Une chose particulière est l'itinéraire ferrovial "Chemin de Jean-Paul II", ouvert le 31 mai 2006. Le trajet Kraków-Kalwaria Zebrzydowska-Wadowice se fait en train spécial, équipé en tableaux avec les informations sur le pape, destinées aux touristes. Dans le futur on planifie de rejouter les photos des pèlerinages de Jean-Paul II et de présenter les films consacrés au pape. Pendant un voyage le train peut emmener 200 personnes.

Ce train est un remerciement pour le pontificat de Jean-Paul II, inspiré par Ryszard Marciniak, prêtre et aumônier des cheminots. L'idée est née le 3 septembre 2005 pendant le pèlerinage des cheminots au Sanctuaire de la Misericorde Divine de Kraków-Łagiewniki (www.wste.pl/baza-obiektow/78,pociag-papieski.html, 12.09.2014)

4. LES SANCTUAIRES ET D'AUTRES LIEUX DU CULTE LIÉS À JEAN-PAUL II DANS LES CARPATES POLONAISES

Les sanctuaires dans les Carpates liés à Jean-Paul II se divisent en trois groupes. Le premier contient ceux qu'il aimait bien et qui évoquaient chez lui de vives émotions à l'époque où il n'était pas encore pape. Le plus important parmi eux est le Sanctuaire de la Passion et du Culte de la Vierge de Kalwaria Zebrzydowska et la basilique de la Présentation de Marie de Wadowice, où le Pape a été baptisé, où il a fait sa première Communion et la Confirmation. A Kalwaria Zebrzydowska, il y faisait de nombreux pèlerinages au cours de sa vie. Il soulignait souvent ses liens avec cet endroit, par exemple pendant son pèlerinage en 1979: " (....) Vous le savez

bien, je suis un homme de montagne et je connais différents sommets mais celui dans les Beskides polonaises est le plus saint, il conduit à la Montagne de Crucification du Christ" (Szydełko 1995 :17). En 1991 en s'arrêtant à Kalwaria Zebrzydowska il a constaté: "(...) mon coeur y est resté pour toujours" (Szydełko 1995 :17). En 1987 à Cracovie pendant la messe de Błonia, il a offert une rose d'or, symbole de sa vénération et respect. Un moment inoubliable a eu lieu pendant le dernier pèlerinage de Jean-Paul II à Kalwaria Zebrzydowska en 2002. Le Pape, très malade à l'époque, a exprimé son voeux, très personnel: "(...) Quand je suis venu dans ce Sanctuaire en 1979 je vous demandait de prier pour moi, de mon vivant et après ma mort. En ce moment je vous en remercie, et je remercie aussi tous les pèlerins de Kalwaria pour vos prières et le support spirituel (...) Et je renouvelle ma demande: ne cessez pas de prier, je répète encore une fois, de mon vivant et après ma mort" (Nie ustawajcie w tej modlitwie...2002 :129).

A Wadowice, ville natale de Jean-Paul II il y a deux sanctuaires: la basilique mentionnée ci-dessus et l'église de Saint-Pierre. Le lien de Jean-Paul II avec sa paroisse natale a causé la transformation de cette église en sanctuaire. Au début le culte s'est développé autour de l'icône miraculeuse de la Vierge de Secours Perpetuel, image vénérée par le futur pape quand il était jeune. Le Pape est venu trois fois dans "sa paroisse": en 1979, 1991 et 1999. En 1992 l'église est devenue basilique mineure. Après la mort de Jean-Paul II cette basilique est l'un des endroits les plus importants de son culte. Dans la Chapelle de Pape créée en 2006on a déposé les reliques du saint pape. L'église de Saint Pierre a été fondée comme un ex-voto pour l'éléction papale de Karol Wojtyła et la protection de sa vie pendant l'attentat en 1981. Le pape est venu pour consacrer cette église en 1991 et il a couronné la statue de la Vierge de Fatima, don de l'évêque de Fatima à l'occasion du dixième anniversaire de l'attentat (Sołjan 2002).

Le groupe suivant du culte de Jean-Paul II forment les paroisses et sanctuaires visités par Karol Wojtyła durant ses excursions, quand il était évêque de Cracovie et pendant ses pèlerinages autant que pape. Ces endroits sont très nombreux et la plupart a un caractère local. Dans le développement du culte on souligne les relations directes de Karol Wojtyła avec un lieu donné: sa présence pendant les jubilés ou le couronnement de l'image vénérée dans une église. Une exception dans ce groupe constitue le sanctuaire de Notre-Dame de Krzeptówki à Zakopane, l'un des centres du culte de la Vierge de Fatima en Pologne. Son développement a grandi juste après l'éléction de Wojtyła à Rome, encore plus après l'attentat en 1981où la Vierge a sauvé la vie du Pape. On a interprété ce fait comme une protection spéciale de la Vierge Marie de Fatima. A partir de ce moment-là un lien inséparable s'est établi entre le pape et le sanctuaire. A travers différentes formes de prière dans ce sanctuaire on renforçait sa mission autant que pape. La nouvelle église, consacrée par Jean-Paul II en 1997 a constitué un ex-voto pour sa vie sauvé e en 1981 (Sołjan 2002). Ces deux cultes qui se dévellopement parallèlement: celui de la Notre-Dame de Fatima et l'autre de Jean-Paul II, sont à l'origine d'un grand intérêt des pèlerins venus non seulement de la Pologne mais aussi de l'étranger et de la popularité du sanctuaire de Krzeptówki.

Le troisième groupe de centre du culte de Jean-Paul II font les endroits qui grâce à Karol Wojtyła ont pris le caractère sacral. Ce sont les sanctuaires fondés pour commémorer ses excursions montagnardes et ses pèlerinages. Nous traitons du Sanctuaire de Groń de Jean-Paul II dans le Beskid Mały et du centre du culte de Turbacz dans les Gorce. Les deux sont situés dans "la montagne domestique" et ont commencé à se développer déjà au début du pontificat de Jean-Paul II. Ce sont deux points très importants sur les Chemins de Pape. Ils ont été créés spontannément de l'initiative des personnes particulières comme les habitants et les touristes. Différentes constructions ont été réalisées afin de commémorer les anniversaires suivants et les évenements de la vie de Karol Wojtyła. La sacralisation de l'espace a été liée à la personne du pape quoique sa béatification ait eu lieu seulement en 2005. L'Eglise par l'acte de béatification a accepté son culte officiel. Par exemple en 1991, pour commémorer le dixième anniversaire de l'attentat au pape, on a installé à Groń la croix consacrée aux Gens de la Montagne. En 1995pour le 75ème anniversaire de Wojtyła on a construit la chapelle dédiée à la Notre-Dame Reine de Gens de la Montagne. Même ses dimensions sont symboliques: 13m sur 5m. Elles se réfèrent à la date de l'attentat : le 13 mai (www.gron.diecezja.bielsko.pl/, 22.09.2014). De même on a installé avant le premier pèlerinage de Jean-Paul II en Pologne la chapelle dédiée à la Notre-Dame Reine de Gorce, nommée dès le début la chapelle de pape. Les clés symboliques de cette chapelle, on les a offertes à Jean-Paul II à Nowy Targ le 8 juin 1979. Un autel spécial de 2003, nommé Szałasowy Ołtarz situé tout près de la chapelle commémore la messe dite par Wojtyła il y a 50 ans (www.gorczanskipark.pl., 22.09.2014) L'approbation de la santété de Karol Wojtyła a influencé l'intensification de son culte qui s'exprime par le développement du mouvement des pèlerins et des touristes ainsi que par l'élargissement de la zone sacrale grâce à la construction de nouvelles installations.

5. LES MUSÉES ET LES ENDROITS DE MÉMOIRE

Pour des touristes et pèlerins qui aimeraient prendre connaissance de l'héritage de Jean-Paul II on propose de visiter les musées et les endroits de mémoire. Dans les Carpates il y a quelques installations de ce type quoique le nombre d'objets exposés soit fortement diversifié. Le plus important et le plus attirant est certainement le musée: Maison Natale de Jean-Paul II de Wadowice. Une grande valeur est son emplacement dans l'immeuble habité autrefois par la Karol Wojtyła. La disposition des pièces est restée la même, y compris dans l'appartement de la famille Wojtyła à l'étage. Le musée a été ouvert en 1984 mais l'exposition était assez modeste par rapport à présent. En 2006 la Fondation de Ryszard Krauze a acheté tout l'immeuble de l'héritier du proprietaire et l'a offert à l'Archidiocèse de Cracovie. Actuellement c'est un musée très moderne, multimédia qui présente de nombreux thèmes consacrés à Jean-Paul II. Il ne manque non plus des références à l'histoire de Wadowice et ses habitants, y compris la communauté juive. Le musée est parfaitement préparé à l'accueil des touristes, et il est possible de le visiter en plusiers langues (www.domjp2.pl, 2.09.2014).

Les expositions permanentes consacrées à Jean-Paul II se trouvent aussi dans le Musée de l'Archidiocèse de Przemyśl et dans le Centre Diocesial de Pèlerinages de Jean-Paul II de Stary Sącz. Le même caractère ont aussi les expositions plus petites, dans le sanctuaire de Kalwaria Zebrzydowska, Dukla et Niegowić, la première paroisse d'un jeune prêtre Wojtyła.

6. CONCLUSION

Dans l'arcticle ci-dessus nous avons voulu démontrer le potenciel conditionnant le développement du tourisme religieux et culturel dans les Carpates polonaises. Premièremment il faut souligner que les Chemins de Pape devraient jouer le rôle primordial car ils se réfèrent à un sujet précis et en même temps ce sont les chemins de grande randonné. Le fait d 'y rajouterles éléments religieux et ceux, liés à Karol Wojtyła est un facteur supplémentaire enrichissant le séjour d'un touriste à la montagne. Pour les pèlerins cela peut être la cause principale d'entreprendre la randonnée. Pourtant dans toutes les activités il est nécessaire de garder la mésure et l'harmonie afin de ne pas nuire à la beauté du paysage et de la nature, et de ne pas mener à la manifestation excessive du culte. Alors pour ne pas perdre ce potenciel il faudrait :

a. Établir la stratégie du développement du tourisme religieux en Małopolska.
b. Créer une seule plataforme d'information regroupant toutes les initiatives qui portent sur les pèlerinages et le tourisme religieux.
c. Faire de la promotion efficace de différents modes (pages Web, dépliants).
d. Entreprendre la collaboration de différents centres religieux (sanctuaires) et unites locales sans entrer en concurrence.
e. Maintenir de grands centres de pèlerinages lies au culte de Jean-Paul II (danger de « banaliser» le culte)
f. Enrichir l'activité pastorale destinée aux pèlerins individuels, surout venus de l'étranger.

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Tableau 1. *Les Chemins de Pape en Pologne (montagne et collines)*

Nom du chemin	Date de l'ouverture	Responsable du balisage
Szlaki Papieskie w Tatrach i na Podtatrzu	1983, 1997	Collectivité locale (montagnards)
Szlaki Papieskie w Gorcach	2003, 2007	Comité non-public d'Organisation des Chemins de Pape (actuellement Fondation Chemins de Pape) en collaboration avec les communes suivantes: Rabka Zdrój, Limanowa, Mszana Dolna, Nowy Targ, Krościenko n. Dunajcem, Słopnice, Raba Wyżna, Lubień, Ochotnica Dolna, Dobra, Łukowica, Tymbark, Kamienica, et avec les curés dans les paroisses locales.
Szlaki Papieskie w Beskidzie Wyspowym	2003, 2007	Collectivité locale
Szlaki Papieskie w Beskidzie Żywieckim (y compris Worek Raczański)	2006, 2007	Collectivité locale

Szlaki Papieskie w Beskidzie Niskim	2006	Organisation Locale de Tourisme de Jasło et Fondation Chemins de Pape, en collaboration avec les paroisses
Szlaki Papieskie na Podhalu	2002, 2004	Collectivité de Raba Wyżna; paroisse et municipalité de Jordanów, et Fondation Chemins de Pape
Szlaki Papieskie na Orawie	2003	Collectivité locale
Szlaki Papieskie w Bieszczadach	2007	La mairie et commune, Association des Amis de la Ville et Commune de Zagórz, ainsi que paroisses, en collaboration avec la Fondation Chemins de Pape
Szlaki Papieskie w Pieninach	2008	Stefan Majerczak de l'Action Catholique de l'Archidiocèse de Cracovie; balisage, cartes et obélisques grâce aux activités de la mairie et commune de Szczawnica Zdrój et de la paroisse de Notre-Dame de la Grâce de Szlachtowa et des fondateurs privés, , en collaboration avec la Fondation Chemins de Pape
Szlaki Papieskie w Beskidzie Sądeckim	1999	Animateurs de tourisme de Nowy Sącz
Szlaki Papieskie w Beskidzie Małym	2007	Marek Sporysz et Fondation Chemins de Pape, en collaboration avec la commune de Kozy
Szlaki Papieskie w Beskidzie Makowskim	2003	Fondation Chemins de Pape
Szlaki Papieskie w Beskidzie Śląskim	2003	En train d'être balisé, initiative de la collectivité locale
Szlaki Papieskie w Pasmie Draboża (chaîne de Draboże)	2010	Fondation Chemins de Pape, en collaboration avec la commune de Brzeźnica
Szlaki Papieskie w Sudetach	2005, 2007, 2008	Fondation Chemins de Pape selon les informations de la part de Jan Babecki
Szlak Papieski w Jurze Krakowsko-Częstochowskiej (Szlak podkrakowski)	2004	Collectivité locale

Source: *étude personnelle selon les données de la Fondation Chemins de Pape.*

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DEVELOPMENT OF REGIONAL DISPARITIES IN THE PREŠOV SELF-GOVERNING REGION AT THE BEGINNING OF 21st CENTURY

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Abstract:
The presented paper evaluates the issue of regional disparities and their development in 13 districts of the Prešov self-governing region in the years 2003 - 2012. For the purpose of comparison was chosen the set of 11 socio-economic indicators (gross birth-rate, the average monthly wage, employment rate, unemployment rate, completed dwellings per 1000 inhabitants, economic aggregate, foreign direct investment (FDI) per capita, share of districts in FDI of the self-governing region, enterprises with 250 or more employees per 1000 inhabitants, the number of organizations focused on generating profits per 1000 inhabitants, and the number of freelancers per 1000 inhabitants), which were subsequently statistically converted by the Gini coefficient and the coefficient of variation, to quantify increase respectively decrease in the level of regional disparities. Comparison of these two coefficients will ensure objectivity and accuracy of the measurement and evaluation.

Key words:
regional development, regional disparities, regional policy, socio-economic indicators, the Gini coefficient, the coefficient of variation

INTRODUCTION

The term regional disparity respectively inequality is often encountered in the scholarly literature, as well as in the social practice. There are many factors affecting the needs of their study, but the main cause is the deepening in the context of the transformation process from a centrally controlled economy to a market economy and a strong differentiation of economic performance and condition of individual regions. The transformation process expressed in all spheres of society has resulted in an initial increase in inequalities between regions, moreover, their levelling mostly occurs after a certain period depending on the degree of economic development

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and the effectiveness of the proposed measures of regional policy, whose primary objective is to correct differentiated development of regions and ensure a balanced and harmonious development. An incoming market economy, privatization, globalization and democratization of the society have showed real position and level of development of individual regions of Slovakia. The economy revealed their real competitiveness based on natural, economic, social, cultural and other preconditions.

According to Ivanička (2014), social development is significantly determined by the quality and the level of imbalance of social systems, especially their subsystems, elements, nodes and networks, by their imbalance of energy, inputs, outputs, etc. Social development is possible mainly due to the existence of nonlinearities, asymmetries, inconsistencies, contradictions and imbalances. On the one hand, we are trying to get social system to external and internal balance, but on the other hand, thanks to the laws of thermodynamics we realize that imbalance, unbalanced state of the system are inevitable phenomena that are essential for a new movement, a new arrangement, self-assembles, and for the further development of the system.

However, the existence of inequalities is desirable and necessary, too marked inequalities, whether between individuals or regions, cease to operate positively and they have serious social and political consequences and therefore are generally regarded as a negative phenomenon (Hampl, 1998).

Within the part of our assessment of regional disparities, in this context, the focus was directed at internal differentiation and differences between regions (districts) of the Prešov self-governing region as a region of Slovakia, which has long been underdeveloped and economically the weakest regional structure of Slovakia.

THEORETICAL AND METHODOLOGICAL BASE OF THE EXAMINATION OF REGIONAL DISPARITIES

The term disparity respectively inequality is not clearly defined. Michálek (2012) states that the term disparity comes from the Latin word disparita(us), which can be expressed as an inequality or differentiation. In the English language, it has several synonyms: unlikeness (dissimilarity, difference), incongruity (inequality, inconsistency), inequality (inequality, irregularity, difference, diversity, disparity), difference (diversity, differentiation) or dissimilarity (diversity, difference). If disparity is equal to inequality (standard deviations), then the regional disparity affects inequality between territories, regions, settlements, etc., thus differentially defined spatial units.

In the broadest sense, disparities are understood as differences respectively inequalities of characters, events or processes which identification and comparison has any rational sense (cognitive, psychological, social, economic, political) (Kutscherauer 2008). They are the product of the operation of several factors, base on the quality and development of instantaneous availabilities of not only potentials, but also different positions, from which individual regions entered into the transformation process (Gajdoš 2001).

In the presented paper, in accordance with Matlovič, Matlovičová (2011), we will consider regional disparities as differences on the stage of the socio-economic development of the regions.

In assessing regional disparities, it is necessary to solve several methodological problems. It is necessary to define the observational level of the evaluation territorial units, determine the choice of adequate indicators for assessment of regional disparities as well as to select the appropriate statistical tools to measure (Matlovič, Matlovičová 2005, Matlovič, Klamár, Matlovičová, 2008 Matlovič, Matlovičová 2011, Klamár 2008, Klamár, 2011 Angelovič, Benč, 2014).

The first methodological problem is the selection and the use of appropriate territorial division of observational units. As Buček, Rehák, Tvrdoň (2010), Sloboda (2006) note, inappropriate observational units as well as indicators can lead to distortions - e.g. for regional disparities are considered urban-rural disparities, intra-regional disparities, social disparities etc. Inappropriate regional division and indicators can also lead to an overestimation of the level of regional disparities.

When selecting appropriate hierarchical level of compared territorial units, the lower level of the observational unit, the more growing problem of the availability and relevance of observed data and time series. On the other hand, the evaluation and comparison of territorial units at the level of LAU I (districts), offers the possibility of more detailed analysis of internal differentiation of spatially extensive and hierarchically higher regions at the level of NUTS III (self-governing regions). In view of the objective of the study were compared and selected 13 districts of the Prešov self-governing region: the districts of Bardejov, Humenné, Kežmarok, Levoča, Medzilaborce, Poprad, Prešov, Sabinov, Snina, Stropkov, Svidník, Stará Ľubovňa, and Vranov nad Topľou.

Another important step is the selection of appropriate indicators. In selecting appropriate indicators, a limiting factor seems to be the limited availability of appropriate data. Many data are not systematically monitored respectively are not available at lower territorial units. Another problem is changing methodology of the construction of some indicators, what reduces the applicability in the time comparative analysis. Into the assessment of regional disparities enter many indicators, which are very different from each other by their nature and weight.

For the purpose of assessment of regional disparities in the Prešov self-governing region was chosen the set of 11 assessment indicators, the choice of which is related to the degree of their information value as well as the possibility of obtaining the necessary background information in an adequate chronological time series from 2003 to 2012. The file of evaluation indicators was comprised of the following indicators to which the equal weight was imputed: gross birth-rate, the average monthly wage, employment rate, unemployment rate, completed dwellings per 1000 inhabitants, economic aggregate, foreign direct investment (FDI) per capita, share of districts in FDI of the self-governing region, enterprises with 250 or more employees per 1000 inhabitants, the number of organizations focused on generating profits per 1000 inhabitants, and the number of freelancers per 1000 inhabitants.

After the determination of the observational units and the choice of evaluation indicators followed the selection of statistical tools for the measurement of disparities. For the purposes of our research were used two statistical rates: the coefficient of variation and the Gini coefficient.

The coefficient of variation (CV) is a tool for comparative analyses and it is a relative measure of dispersion derived from the standard deviation σ (the ratio of the standard deviation and the mean)

$$CV = \frac{\sigma}{\bar{x}} = \frac{\sqrt{\frac{\sum_{i=1}^{n}\left(x_i - \bar{x}\right)^2}{n}}}{\bar{x}}$$

The coefficient of variation allows correlating the variability of variables with different values (clean the standard deviation by the height of the mean).

The second statistical measure was the GINI index, coefficient of concentration (IG), which originated as a tool to measure pension inequality. It ranges between 0 (absolute equality) to 1 (absolute inequality).

$$IG = \frac{1}{2n^2\bar{x}} \sum_{i=1}^{n} \sum_{j=1}^{n} (x_i - x_j) ,$$

where n is the total number of observational (territorial) units, xi is the value of the indicator in the i-territorial unit, xj is the value of the indicator in the j-territorial unit and is the arithmetic mean of the indicator x.

The choice of two statistical measures to measure regional disparities and the comparison of their results guarantee that analyzed trend of regional disparities is real and corresponds to the state of their development in Slovakia.

DEVELOPMENT OF REGIONAL DISPARITIES IN THE PREŠOV SELF-GOVERNING REGION IN THE YEARS 2003-2012

Evaluation of the development of regional disparities in the Prešov self-governing region in the period 2003-2012, was supported by a set of 11 selected indicators (gross birth-rate, the average monthly wage, employment rate, unemployment rate, completed dwellings per 1000 inhabitants, economic aggregate, foreign direct investment (FDI) per capita, share of districts in FDI of the self-governing region, enterprises with 250 or more employees per 1000 inhabitants, the number of organizations focused on generating profits per 1000 inhabitants, and the number of freelancers per 1000 inhabitants). The selection of indicators was determined by the requirement of their availability in the examined period as well as the need to reflect changes in the stage of the socio-economic development of regions.

For better clarity and simplification in the text below were used abbreviated forms of the following districts of the Prešov self-governing region: Bardejov (BJ), Humenné (HE), Kežmarok (KK), Levoča (LE), Medzilaborce (ML), Poprad (PP), Prešov (PO), Sabinov (SB), Snina (SV), Stropkov (SP), Svidník (SK), Stará Ľubovňa (SL), Vranov nad Topľou (VT). In the case of the Gini coefficient, it was shortened in the form of GINI and in the coefficient of variation it was CV.

GROSS BIRTH-RATE

Natural movement of population represented by a gross birth-rate is a fundamental demographic indicator in the evaluation of regional disparities. The birth rate has a decisive role in the reproductive process. It is an indicator of reproductive vitality and perspective of the regions.

Table 1: *Development of the gross birth-rate (‰) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	11,57	11,72	12,03	11,95	11,47	12,45	12,19	12,31	11,53	10,47
HE	9,53	9,16	9,31	9,52	10,38	9,13	10,07	9,65	9,65	8,11
KK	15,84	16,64	16,43	16,36	16,03	17,88	19,16	18,39	18,29	15,89
LE	12,42	12,99	12,32	11,85	11,44	14,17	12,06	14,60	12,66	12,43
ML	9,21	10,49	9,66	9,44	8,22	9,50	9,67	10,78	8,30	8,11
PP	10,16	11,41	11,39	11,33	10,99	11,22	12,53	11,87	11,97	10,68
PO	11,05	11,69	11,72	11,49	11,35	12,18	13,33	12,65	10,84	11,43
SB	14,77	14,54	15,52	14,91	14,75	15,16	17,23	15,84	15,75	15,29
SV	9,68	9,11	9,29	8,45	9,13	9,52	10,22	8,21	9,95	8,41
SL	13,85	13,82	13,35	13,43	13,05	13,69	15,76	15,09	14,34	13,62
SP	10,94	9,66	10,31	9,35	8,65	9,74	11,49	11,67	10,47	8,83
SK	10,02	9,52	10,36	10,37	9,42	10,29	10,99	10,19	10,27	10,31
VT	13,64	14,01	13,60	12,51	12,91	13,01	13,89	14,11	12,93	12,35
REGION	11,85	12,18	12,23	11,96	11,83	12,47	13,45	13,05	12,71	11,62
GINI	0,0994	0,1072	0,1024	0,1059	0,1105	0,1149	0,1166	0,1198	0,1191	0,1257
CV	0,1849	0,1985	0,1911	0,1982	0,2057	0,2156	0,2224	0,2211	0,2277	0,2322

Source: www.statistics.sk, own calculation

The gross birth-rate developed differentially in the districts of the Prešov self-governing region. The highest birth-rate during the period 2003-2012 was recorded in the districts of the western part of the Prešov self-governing region, where in Kežmarok the value was at the level of 134 - 144% of the average of the self-governing region, Sabinov 121 - 132% and Stará Ľubovňa 109 - 117%. The opposite were the eastern districts of the self-governing region: Snina (63 - 82%), Medzilaborce (72 - 83%) and Humenné (73 - 80%). Such strong duality in the birth rate in the western districts was significantly associated with the structure of the population with a higher proportion of the Roma ethnic group in the western part. This is clearly reflected in the deepening of disparities in the birth-rate within the self-governing region, as is indicated by an increase of both CV from 0.1849 (2003) to 0.2322 (2012) and GINI from 0.0994 to 0.1257.

AVERAGE MONTHLY WAGE

The second used indicator was the average monthly wage. It is one of the basic socio-economic indicators, by which differentiated development of the regions can be evaluated. It is the average gross nominal monthly wage in enterprises with 20 or more employees.

Table 2: *Development of the average monthly wage (€) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	345	391	398	451	482	502	466	492	580	604
HE	436	474	502	530	583	625	612	361	672	700
KK	391	444	469	512	569	603	583	611	620	635
LE	377	406	444	480	533	593	606	672	740	735
ML	371	397	422	446	464	527	516	572	639	659
PP	473	535	559	592	639	710	703	738	755	790
PO	447	491	531	576	641	704	697	732	767	774
SB	375	413	469	491	530	539	591	620	669	678
SV	352	389	407	436	466	519	553	541	598	626
SL	393	426	454	491	548	591	628	621	651	670
SP	339	389	419	456	487	512	569	561	630	645
SK	383	403	429	473	514	552	604	603	637	682
VT	375	400	448	482	513	571	583	576	638	649
REGION	416	460	490	530	579	632	636	659	697	715
GINI	0,0518	0,0531	0,0556	0,0509	0,0588	0,0613	0,0564	0,0609	0,0464	0,0436
CV	0,1007	0,1072	0,1053	0,0978	0,1096	0,1166	0,1082	0,1147	0,0888	0,0825

Source: www.statistics.sk, own calculation

The highest average wage was recorded in the districts of Poprad (110 - 115% of the average of the self-governing region) and Prešov (106 - 111%). Other districts represented significantly lower values, while the last place alternated the districts of Snina (80 - 85% of the average of the self-governing region) and Bardejov (75 - 85%). From the aspect of the development of the average monthly wage is visible trend of increase. The highest increase was recorded in the district of Levoča (in 2012, it was 195% of the level from 2003), Stropkov (190%) and Sabinov (181%). By contrast, the lowest was in the districts of Humenné (160%), Kežmarok (162%) and Poprad (167%). Wages in individual districts grew at an uneven pace what resulted in volatility of the values of Gini and CV. However, the highest disparities within this indicator were recorded in 2008 (CV - 0.1166 and GINI - 0.0613), totally it directed to levelling, which was confirmed by the decline in both CV (from 0.1007 to 0.0825) and GINI (from 0.0518 to 0.0436).

EMPLOYMENT RATE

Employment rate is an important economic indicator of the performance of the regional economy. It is calculated based on the proportion of employed persons aged 15 - 64 years to the total number of persons aged 15 - 64 years. Persons on maternity leave and parental leave and persons working on the performance contract performed outside employment are excluded (Štatistická ročenka (Statistical Yearbook), 2012).

Table 3: *Development of the employment rate (%) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	53,49	54,71	53,01	51,80	52,49	55,78	54,47	54,22	53,68	53,18
HE	63,02	59,18	60,49	60,91	61,30	63,89	64,34	64,41	63,75	63,70
KK	36,32	38,35	39,06	40,88	43,82	41,43	42,78	41,63	40,53	39,90
LE	40,54	37,42	38,99	40,86	42,95	40,85	40,54	40,34	39,97	39,52
ML	44,65	38,99	38,80	40,42	43,83	38,39	37,55	37,52	36,24	36,46
PP	67,68	66,11	65,68	68,43	69,69	70,83	72,49	72,51	73,37	73,18
PO	52,30	54,40	53,13	57,91	57,62	59,81	56,72	56,53	55,67	55,40
SB	41,78	41,99	43,85	45,24	45,96	47,72	41,20	40,65	40,47	39,93
SV	57,62	57,58	59,08	58,57	58,46	56,50	53,25	53,38	53,80	53,52
SL	55,81	55,65	55,21	54,29	56,45	57,64	56,27	55,77	55,14	54,31
SP	49,36	46,57	48,50	47,04	47,40	49,56	46,89	46,71	46,33	46,06
SK	57,01	53,97	52,42	54,41	52,11	55,77	52,93	52,97	52,56	51,88
VT	41,75	44,29	43,45	45,46	43,62	44,17	40,95	40,86	40,71	40,48
REGION	52,88	52,49	52,29	54,04	54,51	55,63	53,99	53,73	53,29	52,90
GINI	0,1015	0,0996	0,0961	0,0929	0,0853	0,1009	0,1087	0,1101	0,1132	0,1139
CV	0,1858	0,1841	0,1765	0,1714	0,1606	0,1858	0,2043	0,2078	0,2151	0,2169

Source: www.statistics.sk, own calculation

The highest employment rate throughout the reporting period was recorded in the district of Poprad (126 - 138% of the average of the self-governing region, the average of employment is 70%) followed by the districts of Humenné (113 - 120% of the average of the self-governing region, the average of employment is 62.5%) and Snina (99 - 113% of the average of the self-governing region, the average of employment is 56.2%). The lowest employment rate was recorded in the districts of Medzilaborce (69 - 80% of the average of the self-governing region, the average of employment is 40%), Levoča (71 - 79% of the average of the self-governing region, the average of employment is 40.2%) and Kežmarok (73 - 80% of the average of the self-governing region, the average of employment is 40.5%). From the aspect of the development of the employment rate, we can observe a trend of an increase in all districts with the culmination in 2007, respectively 2008. It is the year 2007 when inter-district disparities were slightly levelling, as it is shown by decrease of CV (from the value of 0.1858 to 0.1606) and GINI (from 0.1015 to 0.853). This is a result of the significant increase in the employment rate in districts with the values significantly below the average in relation to the self-governing region (e.g. Kažmarok - increase compared to the year 2003 by 21%, Sabinov by 10%) and a slight increase

in employment in the district with the highest values (Poprad by 3%). The year 2007, respectively 2008 was a turning point in all 13 districts of the Prešov self-governing region excluding the district of Poprad. This uneven development became the basis of slight deepening of disparities in the years 2008-2012, which is confirmed by CV values from 0.1858 in the year 2008 to 0.2169 in the year 2012 and GINI (from 0.1009 to 0.1139). In the last observed year, both coefficients exceeded their level; therefore, at this complex comparison we can state sight, but still deepening inter-district disparities.

UNEMPLOYMENT RATE

By the character, unemployment rate is at the intersection of economic and social indicators. It is measured as a share of disposable number of registered unemployed to the number of economically active inhabitants.

Table 4: *Development of the unemployment rate (%) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	19,98	17,38	15,96	14,05	14,01	15,75	22,00	19,43	19,89	22,35
HE	18,67	14,84	11,99	10,01	9,49	10,76	16,12	15,66	16,64	18,51
KK	25,45	25,87	24,38	22,22	19,38	19,75	25,68	26,18	28,66	30,06
LE	19,49	17,12	17,06	15,76	13,48	12,84	16,91	18,41	18,48	21,65
ML	21,96	20,59	17,10	14,44	15,36	16,71	21,76	19,40	19,84	22,31
PP	15,83	13,39	11,88	8,55	6,86	7,33	10,84	10,65	12,33	12,62
PO	19,45	16,73	15,00	12,93	11,22	10,52	16,26	16,60	17,16	18,75
SB	24,84	22,33	21,11	19,25	17,55	18,07	25,40	25,71	26,75	28,44
SV	18,54	18,39	14,98	13,58	11,50	14,87	22,31	19,38	19,31	21,10
SL	13,60	12,25	10,83	9,30	7,92	8,73	12,92	13,63	14,56	16,73
SP	15,22	19,90	14,00	13,39	12,59	12,82	17,93	17,14	18,11	21,38
SK	16,25	17,38	16,13	14,48	12,93	15,36	21,75	18,80	20,03	23,33
VT	22,63	18,69	18,34	16,49	14,51	16,12	20,14	19,68	22,89	24,02
REGION	19,57	17,50	15,77	13,68	12,05	12,86	18,29	17,75	18,95	20,66
GINI	0,1021	0,1068	0,1234	0,1411	0,1494	0,1459	0,1890	0,1174	0,1107	0,1193
CV	0,1876	0,2015	0,2343	0,2682	0,2773	0,2678	0,3662	0,2379	0,2287	0,2112

Source: www.statistics.sk, own calculation

The highest values of the unemployment rate throughout the reporting period were recorded in the districts of Kežmarok (130 - 161% of the average of the self-governing region, the average of unemployment is 24.8%), Sabinov (127 - 146% of the average of the self-governing region, the average of unemployment is 23%) and Vranov nad Topľou (106 - 125% of the average of the self-governing region, the average of unemployment is 19.4%). The lowest values were achieved by two districts, by 2005, it was the district of Stará Ľubovňa at the level of 12%, followed by district of Poprad (9.9%). Unemployment rate below average in relation to the self-governing region was recorded in the districts of Humenné, Prešov and Stropkov. Disparities between districts of the Prešov self-governing region in unemployment rate

are obvious and highlighted in the comparison of the district of Poprad and Kežmarok (up to 232 - 282% of unemployment rate of the district of Poprad), which largely determines the existence of inter-district disparities in terms of this indicator. From the analysis of the unemployment rate, it is clear that by 2007, the unemployment rate had gradual downward trend. This positive direction, however, was clearly influenced by the global economic crisis, which conditioned its rapid increasing particularly in 2009. In this year, the unemployment rate ranged in individual districts within 194% (Snina) to 126% (Levoča) of the values of this indicator from 2007. The trend of increase in the unemployment rate continued in the following years. At the beginning of the reporting period, unemployment rate did not fall by steady pace within observed territorial units, what resulted in an increase of inter-district disparities by 2009 (the year of the most prominent regional disparities at all), when not only CV (value from 0.1876 to 0.3662) but also GINI increased (value from 0.1021 to 0.1890). This is a result of significantly divergent development of unemployment rate which fell in seven districts - Poprad (fall by 32%), Prešov (16%), Humenné (14%), Levoča, Vranov nad Topľou, Stará Ľubovňa, Medzilaborce and vice versa in the remaining districts significantly increased - the district of Svidník (an increase by 34%), Snina (20%), Stropkov (18%) etc. Since 2009, a slight levelling of disparities has occurred in terms of this indicator, as is shown by decrease of CV to 0.2112 (year 2012) and of GINI to 0.1193. Neither of these values, in the last observed year, reached the initial level and thus in a comprehensive assessment of inter-district disparities, we still observe their deepening. The main cause is decrease in the unemployment rate in the districts with a relatively low values - Poprad (80% of the value from 2003), Prešov (96%) and Humenné (99%) - and on the other hand increase in all the other districts reaching above-average values - particular district of Svidník (144%), Stropkov (141%) and Kežmarok (118%).

COMPLETED DWELLINGS

Quality and affordable housing is an important determinant affecting the quality of life as well as the factors influencing labour mobility, which is a serious problem of the Slovak economy.

Table 5: *Development of the number of completed dwellings per 1000 inhabitants in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	2,14	1,84	1,88	2,02	1,42	1,73	2,26	1,57	1,73	1,00
HE	3,01	1,07	2,15	1,06	1,59	0,62	1,19	1,03	0,76	0,73
KK	1,98	2,52	2,19	3,33	2,81	2,24	2,61	2,42	1,69	2,26
LE	3,17	1,36	1,82	1,75	3,19	1,98	2,25	1,72	2,16	1,59
ML	1,84	0,40	0,49	0,16	0,41	0,08	0,08	0,00	0,24	0,24
PP	2,83	2,11	3,19	2,25	2,30	4,44	3,45	2,48	3,05	2,79
PO	2,64	2,01	2,42	1,82	2,94	1,47	1,73	2,46	2,74	2,25
SB	1,90	1,30	3,23	2,84	1,70	1,66	2,60	1,70	2,12	2,55
SV	0,64	0,74	1,07	0,77	0,72	0,78	0,60	1,30	0,68	0,53
SL	1,87	1,32	1,65	1,41	2,40	2,66	2,22	2,58	2,45	1,88
SP	1,00	1,29	1,68	2,83	0,65	0,58	1,40	0,34	0,38	0,58
SK	2,72	1,95	1,26	0,42	1,84	1,41	1,08	1,57	1,57	2,56
VT	1,48	1,22	1,95	1,06	0,78	1,98	0,77	2,13	0,70	0,72
REGION	2,24	1,69	2,20	1,69	2,13	1,96	1,94	1,97	1,91	1,76
GINI	0,1983	0,2140	0,2119	0,3286	0,2932	0,3415	0,3047	0,2639	0,3259	0,3273
CV	0,3673	0,3994	0,3993	0,6055	0,5343	0,6692	0,5599	0,4983	0,5966	0,6029

Source: www.statistics.sk, own calculation

Throughout the reporting period, the best position in terms of the number of completed dwellings was recorded in economically developed districts. The highest values were reached in the district of Poprad (133 - 178% of the average of the self-governing region, the average number of completed dwellings in the district for ten years was 2.9). To a large extent, it is thank to year 2008, when the most dwellings per 1 000 inhabitants were completed in all districts and during all observation years (4.4 flat). Dwelling construction above average was marked in the districts of Kežmarok (88 - 149% of the average of the self-governing region, the average number of completed dwellings was 2.4), Prešov (75 to 144% of the average of the self-governing, the average number of completed dwellings was 2.3), Levoča, Sabinov and Stará Ľubovňa. At the opposite pole of dwelling construction are economically weaker districts, particularly the district of Medzilaborce (0 - 82% of the average of the self-governing region) followed by the district of Snina (30 - 66% of the average of the self-governing region). Such a low intensity of dwelling construction in individual years is also reflected in the average value for the whole ten years, which is in both districts below 1 completed dwelling per 1 000 inhabitants (0.4 respectively 0.8 flat). The number of completed dwellings in individual districts did not develop constantly. Initially, in most of them grew, but after reaching its maximum level (especially between 2007-2009) it began to gradually decline below starting year with the exception of three districts - Sabinov (in year 2012, 134% of the value from the year 2003), Kežmarok (114%) and Stará Ľubovňa (101%). The most evident decline was recorded in the district of Medzilaborce (in year 2012 only 13% of the value from the year 2003) and the district of Humenné (24%). The number of completed dwellings per 1 000 inhabitants slightly declined in two most developed districts of the

self-governing region: Prešov and Poprad (85% and 99% of the value from the year 2003), what can be considered as a transition state in contrast to the above districts on the basis of development in previous years. Differentiated rate of increase or decrease of this indicator in individual districts and studied years resulted in volatility of the values of CV and GINI, what can be interpreted as alternating phases of deepening of inter-district disparities (years 2003-2006; year 2008; years 2011-2012) and their levelling. Overall, we observe growing disparities between districts, what was recorded by growth of CV values from 0.3673 to 0.6029 and the GINI values from 0.1983 to 0.3273. Increase of disparities reflects the ratio of housing construction in the western and eastern districts of the self-governing region. While in 2003, in the districts of Poprad, Kežmarok, Stará Ľubovňa, Levoča, Sabinov, Prešov and Bardejov was completed 61% of all completed dwellings of the Prešov self-governing region, in the districts of Svidník, Stropkov, Humenné, Vranov nad Topľou, Medzilaborce and Snina it was only 39%. In 2012, the difference between these two groups of districts was even more deepened in the rate of 73% and 27%.

ECONOMIC AGGREGATE

According to Hampl (2005), economic aggregate (EA) represents a suitable replacement for classic,al macroeconomic indicator of GDP, which measures the economic performance. Similarly, it also determines the economic size of the area; therefore, at the district level it can be seen as the most representative indicator of the performance of the local economy. For the purpose of comparison, we use the calculation of per capita.

Table 6: *Development of the economic aggregate per capita (in €) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	135,5	147,3	149,7	172,0	191,0	196,5	165,5	186,7	221,9	222,4
HE	172,5	192,9	204,9	216,5	246,3	265,6	241,1	261,8	277,5	283,2
KK	147,2	154,1	160,3	171,6	198,0	207,2	175,7	186,9	184,2	186,0
LE	140,7	144,4	154,5	169,3	209,5	222,0	211,7	233,6	263,0	253,0
ML	136,2	142,6	156,9	166,1	193,5	193,5	182,1	216,7	239,0	238,4
PP	191,3	222,0	236,9	262,1	293,8	330,0	304,1	325,2	333,6	346,3
PO	168,1	187,4	205,3	224,2	261,7	293,3	261,7	281,0	289,6	287,5
SB	131,8	137,8	152,7	157,5	175,0	177,9	171,8	186,3	199,0	197,4
SV	134,3	141,4	153,7	168,2	187,3	203,8	193,8	215,4	240,8	244,4
SL	142,7	150,2	162,0	179,9	212,0	229,3	230,1	233,2	242,6	244,3
SP	133,0	130,4	150,5	165,9	184,1	193,1	204,6	214,5	245,8	240,8
SK	139,6	153,7	163,6	184,2	209,2	219,9	220,7	243,3	253,9	262,6
VT	137,2	146,7	154,0	167,6	186,6	204,7	186,9	200,3	215,8	215,5
REGION	157,8	172,1	183,9	201,2	229,1	250,1	229,6	248,3	260,1	261,4
GINI	0,0598	0,0799	0,0738	0,0765	0,0821	0,0970	0,0941	0,0922	0,0842	0,0877
CV	0,1259	0,1675	0,1629	0,1649	0,1567	0,1963	0,1891	0,1779	0,1593	0,1687

Source: www.statistics.sk, own calculation

The highest values of economic aggregate per capita, throughout the reporting period were recorded in the districts of Poprad (121 - 132% of the average of the self-governing region, the average EA per capita for ten years is 285 €) and Prešov (107 to 117% of the average of the self-governing region; average 246 €). In addition to these districts, above-average values were recorded only in the district of Humenné (105 - 112% of the average of the self-governing region; average 236 €). In all other districts were recorded significantly lower than average values, while the worst position had the districts of Sabinov (71 - 84% of the average of the self-governing region; average 168 €), Kežmarok (71% - 93% of the average of the self-governing region; average 177 €) and Bardejov (72% - 86% of the average of the self-governing region; average 179 €). The existence of regional disparities was confirmed but based on the average values of both coefficients it can be regarded as minimal (CV - 0.1678 and GINI - 0.0827).

From the analysis of the development of EA is clearly visible trend of its increase excluding only the year 2009, when it declined in all districts. This can be seen as a direct consequence of the economic crisis, which caused a decrease of the number of job opportunities and the average monthly wage (base structure of the indicator). After six years of deepening of disparities (year 2001: CV - 0.1259 and GINI - 0.0598; year 2008: CV - 0.1963 and GINI - 0.0970 - the highest rate of overall disparities) in 2009 started the phase of their levelling lasting until 2011 (CV - 0.1593 and GINI - 0.0842). It seems to be that essential for success is gradual approaching of almost all districts (except of Kežmarok, Prešov and Snina) to EA per capita of the district of Poprad (year 2008: EA per capita of the districts of the self-governing region was at the level of 54 - 81% of the value of the district of Poprad, but in year 2011, it was at 60 - 83%, for example the district of Stropkov - year 2008: only 59% of EA per capita of the value of the district of Poprad, but in year 2011 already 74%). This favourable situation of the development of disparities changed in the negative sense in the last reporting year, which pointed to their resurgence. Deepening of regional disparities can be also observed in comprehensive evaluation of inter-district disparities in comparison between years 2003 and 2012 (CV rose from the value of 0.1259 to 0.1687 and GINI from 0.0598 to 0.0877). Economic aggregate grew in the district of Poprad faster than in the other districts (181% of year 2003), while it was slightly outpaced only by two of districts - Svidník (188% of the year 2003) and Snina (182%). Conversely, the smallest increase is observed in the districts of Kežmarok (126%) and Sabinov (150%). The slower growth rate of this indicator in these and other long-term undersized districts compared to district of Poprad conditioned the above-mentioned growth of disparities.

STATE OF FOREIGN DIRECT INVESTMENT (FDI) PER CAPITA

Foreign direct investment (FDI) represents substantial development incentive for underpowered regions of Slovakia and for the insufficient level of domestic capital. For target regions, it represents an important factor for economic growth as well as employment growth.

Table 7: *The state of foreign direct investment (FDI) per capita (in thousand €) in the districts of the Prešov self-governing region in the years 2003-2011*

	2003	2004	2005	2006	2007	2008	2009	2010	2011
BJ	-3,8	-14,0	-13,4	95,7	68,8	100,7	91,5	93,4	94,6
HE	1337,7	1473,3	1281,7	954,4	560,6	1555,7	1073,9	728,4	602,6
KK	63,0	141,1	76,5	193,5	127,4	265,5	296,0	279,3	276,3
LE	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
ML	6,3	13,3	24,7	0,0	0,0	0,0	0,0	0,0	0,0
PP	656,4	830,5	881,4	780,7	805,9	922,0	972,1	985,2	989,9
PO	462,9	545,1	557,7	375,0	414,2	693,6	1179,1	1210,0	970,6
SB	80,7	72,8	150,6	119,8	112,8	268,7	228,7	235,9	243,4
SV	75,6	42,2	146,4	66,8	78,1	22,8	26,7	84,4	107,5
SL	60,9	67,1	69,5	69,9	80,8	90,8	92,6	68,9	48,8
SP	20,6	26,2	26,8	21,6	20,0	18,4	21,7	25,0	22,3
SK	60,1	70,8	111,4	63,6	32,0	48,8	10,4	57,7	46,9
VT	75,4	66,4	75,8	71,6	71,7	50,2	121,1	172,9	168,8
REGION	318,9	372,6	374,3	307,7	278,5	452,6	526,7	513,8	581,4
GINI	0,7109	0,7203	0,6750	0,6326	0,6225	0,6808	0,6843	0,6279	0,6144
CV	1,7479	1,7228	1,5349	1,4199	1,3748	1,5173	1,3861	1,3326	1,2839

Source: www.nbs.sk, own calculation

Investment attractiveness of individual districts of the Prešov self-governing region was significantly differentiated. The highest values of FDI per capita were recorded to year 2008 in the district of Humenné (310 - 420% of the average of the self-governing region, the average of FDI per capita for six years was 1,194 € and for the entire period 1,063 €) and since 2009 in the district of Prešov (167 - 236% of the average of the self-governing region, the average for these three years was 1,120 € and for the entire period 712 €). Above average values were only marked in the district of Poprad (192 - 289% of the average of the self-governing region; average 869 €), all other districts were significantly underpowered. The worst position had the district of Levoča (zero investment), little "favourable" situation was in the districts of Medzilaborce (0 - 7% of the average of the self-governing region, average 15 €) and Stropkov (4 - 7% of the average of the self-governing region; average 23 €). Disparities between districts of the Prešov self-governing region in FDI per capita existed and still exist (average value of CV for nine years is 1.4802 and for GINI is 0.6592). From the analysis of the development of the state of FDI per capita during the entire period is evident the growth in most districts (Bardejov - by 2 500% of the level from 2003, but this was largely influenced by outflows in the initial year; Kežmarok - by 439% and Sabinov - by 302 %). Conversely, the most significant decrease comparing initial and final year was recorded in the district of Humenné (in year 2011 it was only 45% of the value from year 2003), followed by the districts of Svidník (78% of the value from year 2003) and Stará Ľubovňa (80%). The relatively modest increase in two most developed districts of the self-governing region (Prešov - 210% of the value from year 2003; Poprad - 150% of the value from year 2003) and a sharp increase in the districts reporting below-average values of FDI per capita throughout the period (Bardejov,

Kežmarok, Sabinov and Vranov nad Topľou) become the basis for levelling of inter-district disparities in terms of this indicator. This finding is supported by decrease of CV (from the value of 1.7479 in the year 2003 to 1.2839 in the year 2011) and GINI (from 0.7109 to 0.6144). Based on such a long-term development is realistic to expect a further levelling of disparities.

SHARE OF DISTRICTS OF THE SELF-GOVERNING REGION IN FOREIGN DIRECT INVESTMENT

The amount of foreign direct investment (FDI) and its inflow was reflected in the share of individual districts of the Prešov self-governing region. Three economically strongest districts were also the districts with the highest proportion of FDI in the self-governing region.

Table 8: *Proportion of districts (in %) of FDI of the Prešov self-governing region in the years 2003-2011*

	2003	2004	2005	2006	2007	2008	2009	2010	2011
BJ	0,11	0,36	0,34	2,98	2,36	2,13	1,66	1,73	1,57
HE	34,17	32,07	27,66	24,97	16,15	27,44	16,18	11,18	11,78
KK	1,60	3,10	1,68	5,22	3,81	4,92	4,75	4,63	5,56
LE	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
ML	0,08	0,14	0,27	0,00	0,00	0,00	0,00	0,00	0,00
PP	27,04	29,19	30,76	33,10	37,70	26,48	23,97	24,88	25,05
PO	29,79	30,07	30,66	25,15	30,71	31,68	46,30	48,77	44,99
SB	1,75	1,36	3,14	2,73	2,85	4,18	3,09	3,28	2,99
SV	1,17	0,56	1,91	1,06	1,36	0,24	0,24	0,78	1,02
SL	1,23	1,16	0,86	1,47	1,87	1,29	1,14	0,87	0,50
SP	0,17	0,18	0,19	0,18	0,19	0,10	0,11	0,12	0,01
SK	0,84	0,80	1,24	0,86	0,48	0,45	0,31	0,46	0,33
VT	2,27	1,73	1,97	2,28	2,52	1,09	2,25	3,30	6,20
REGION	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
GINI	0,7246	0,7274	0,7097	0,6795	0,7034	0,7005	0,7407	0,7403	0,7261
CV	1,6914	1,6918	1,6378	1,5176	1,6341	1,5644	1,7809	1,8388	1,7211

Source: www.nbs.sk, own calculation

In the overall assessment of selected indicator, the best position obtained the districts of Prešov (average share in FDI of the self-governing region - 35%), Poprad (29%) and Humenné (22%). Conversely, the lowest rate was recorded in the districts of Levoča (0% over the entire period), Medzilaborce (0 - 0.3%) and Stropkov (0.1 - 0.2%). The minimum share in FDI of the self-governing region (below 4%) obtained all other districts. Therefore, share of the districts in FDI of the Prešov self-governing region is considerably differentiated, resulting in the existence of significant inter-district disparities, the most significant among all evaluated indicators (average value of CV - 1.6753 and GINI - 0.7169). Development of this indicator in individual districts was very uneven; therefore, we cannot speak of continuous growth or decline. However, certain trends are visible. They are reflected in particular breaking

year for which we consider the year of the maximum value of the share in FDI of the self-governing region within a specific district. It was particularly the year 2007, when the values culminated in five districts - Bardejov, Poprad, Snina, Stará Ľubovňa and Stropkov. We indicate this year as breaking because it separates the stage of increase in values of this indicator from the stage of decline, for example the district of Stropkov (year 2007 - 112% of the value from the year 2003; year 2011 - 5% of the value from the year 2007). The only district where we observe steadily growing share in FDI of the self-governing region throughout the entire period was the district of Prešov. Therefore, we can claim that the share of FDI in the self-governing region is growing at the expense of decrease in the share of other districts, which naturally prevents levelling of disparities. Disparities are quite significant, what is confirmed by GINI excess the level 0.6700 over the entire period. Disparities between districts were not constant. Very slowly, disparities levelled in 2006 (the lowest level of disparities), what is evident by decrease in CV (from the value of 1.6914 in the year 2003 to 0.5176 in the year 2006) and GINI (from 0.7246 to 0.6795). Periodically changing periods of rise and fall followed, disparities reached the maximum level throughout the reporting period in the year 2010 (CV - 1.8388; GINI - 0.7403). The principal cause of deepening of disparities in the interval of years 2006 to 2010 became a huge increase of the share in FDI of the district of Prešov in the self-governing region (in 2006 - 25% share, in 2010 - 49% share). With a decline of the share of the district of Prešov in the following year, analogically a decrease in the values of the two coefficients followed. However, they did not reach their initial level from the year 2003. Based on this fact, we can conclude deepening of inter-district disparities; however, they were minimal (year 2003: CV - 1.6914, GINI - 0.7246; year 2011: CV - 1.7211, GINI - 0.7261). The reason for this situation was increase in the values of the clearly strongest district in terms of this indicator (Prešov - 151% of the value of the year 2003), and a decline in significantly undersized districts - e.g. Stropkov (6% of the value of the year 2003), Bardejov (14%), Svidník (39%). Increase in the share in some less underdeveloped districts did not help to level disparities - Kežmarok (348% of the value of the year 2003), Vranov nad Topľou (273%) and Sabinov (170%).

ENTERPRISES WITH 250 OR MORE EMPLOYEES

According to the law no. 231/1999 on state aid, enterprises with 250 or more employees are classified as large enterprises. For the main contribution of large enterprises in terms of development can be seen as increasing of employment not only in these enterprises but also in the network of small and medium-sized enterprises through linked subcontracting.

Table 9: *Development of the number of enterprises with 250 or more employees in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	0,12	0,08	0,09	0,09	0,14	0,13	0,12	0,05	0,06	0,05
HE	0,09	0,11	0,12	0,14	0,16	0,17	0,12	0,11	0,09	0,11
KK	0,00	0,03	0,02	0,03	0,03	0,04	0,06	0,07	0,06	0,07
LE	0,00	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03
ML	0,08	0,08	0,08	0,08	0,08	0,00	0,00	0,00	0,00	0,00
PP	0,11	0,16	0,13	0,14	0,13	0,12	0,12	0,13	0,12	0,13
PO	0,09	0,10	0,10	0,10	0,10	0,11	0,11	0,09	0,09	0,08
SB	0,07	0,07	0,04	0,04	0,04	0,05	0,05	0,03	0,05	0,03
SV	0,18	0,18	0,13	0,10	0,10	0,13	0,08	0,03	0,03	0,03
SL	0,00	0,02	0,02	0,00	0,00	0,00	0,02	0,02	0,02	0,02
SP	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05
SK	0,03	0,06	0,06	0,06	0,03	0,03	0,03	0,03	0,03	0,06
VT	0,06	0,09	0,10	0,06	0,08	0,08	0,09	0,08	0,05	0,05
REGION	0,08	0,08	0,09	0,08	0,09	0,09	0,09	0,07	0,07	0,07
GINI	0,4160	0,3126	0,3106	0,3322	0,3648	0,4455	0,3428	0,3723	0,3194	0,3265
CV	0,7751	0,5906	0,5653	0,6097	0,6716	0,8763	0,6249	0,6962	0,5952	0,6746

Source: www.statistics.sk, own calculation

The highest number of large enterprises throughout the reporting period was recorded alternately in two districts - Bardejov (145 to 154% of the average of the self-governing region, the average number of large enterprises per 1000 inhabitants of the district was 0.09) and in other years in the district of Poprad (145 - 196% of the average of the self-governing region; the average for the entire period was 0.13). Very good position in relation to the self-governing region was permanently maintained in the districts of Humenné (118 - 191% of the average of the self-governing region, the average number of large enterprises for ten years was 0.12), Prešov and Snina. The smallest number of enterprises with 250 or more employees was recorded in the districts of Stará Ľubovňa (0 - 21% of the average of the self-governing region, the average number of large enterprises was 0.01), Levoča (0 - 34% the average of the self-governing region; average 0.03) and Medzilaborce (0 - 95% of the average of the self-governing region; average 0.04). Disparities between districts of the Prešov self-governing region exist at the level of 0.6679 (average value of CV for ten years) and GINI - 0.3573.

From the point of development of this indicator is not visible clear trend. The growth of large enterprises was reported in seven districts, among which the district of Svidník stands out (in 2012 it was 202% of the value of the year 2003), Humenné (118%) and Poprad (117%). Not so intensive growth is observed in the districts of Kežmarok, Levoča and Stará Ľubovňa. The most noticeable decrease in the number of large enterprises was in the districts of Medzilaborce (0% of the value of the year 2003, what was the result of cancellation of a single large enterprise), Snina (15%)

and Bardejov (44%). In spite of the vastly different pace of growth of this indicator in individual districts, disparities between them did not grow, on the contrary they slightly levelled, what is evident by a decrease of CV (from the value of 0.7751 in the year 2003 to 0.6746 in the year 2012) and GINI (from value of 0.416 to 0.3265). The main reason for this trend can be seen in the growing number of large enterprises in districts with their complete absence in the year 2003 (Kežmarok, Levoča and Stará Ľubovňa) and on the other hand, a fall in the number of districts with above average long-term values (Bardejov, Prešov and Snina). It is necessary to stress that disparities did not levelled throughout the whole reporting period, we also noted the periods of their deepening, in the years 2006-2008 as well as in the last reporting year 2012. Disparities reached the highest level in the year 2008 (CV - 0.8763 and GINI - 0.4455) and the lowest level in the year 2005 (CV - 0.5653 and GINI - 0.3106).

ORGANIZATIONS FOCUSED ON GENERATING PROFIT

According to the methodology of the Statistical Office of the Slovak Republic, such organizations are indicated as those, whose priority is aimed at making profit and also subsidized organizations, whose income is exceed by more than 50% of the costs.

Table 10: *Development of the number of organizations focused on generating profit per 1000 inhabitants in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	0,12	0,08	0,09	0,09	0,14	0,13	0,12	0,05	0,06	0,05
HE	0,09	0,11	0,12	0,14	0,16	0,17	0,12	0,11	0,09	0,11
KK	0,00	0,03	0,02	0,03	0,03	0,04	0,06	0,07	0,06	0,07
LE	0,00	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03
ML	0,08	0,08	0,08	0,08	0,08	0,00	0,00	0,00	0,00	0,00
PP	0,11	0,16	0,13	0,14	0,13	0,12	0,12	0,13	0,12	0,13
PO	0,09	0,10	0,10	0,10	0,10	0,11	0,11	0,09	0,09	0,08
SB	0,07	0,07	0,04	0,04	0,04	0,05	0,05	0,03	0,05	0,03
SV	0,18	0,18	0,13	0,10	0,10	0,13	0,08	0,03	0,03	0,03
SL	0,00	0,02	0,02	0,00	0,00	0,00	0,02	0,02	0,02	0,02
SP	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05
SK	0,03	0,06	0,06	0,06	0,03	0,03	0,03	0,03	0,03	0,06
VT	0,06	0,09	0,10	0,06	0,08	0,08	0,09	0,08	0,05	0,05
REGION	0,08	0,08	0,09	0,08	0,09	0,09	0,09	0,07	0,07	0,07
GINI	0,1848	0,1915	0,1993	0,2080	0,2059	0,2176	0,2149	0,2157	0,2139	0,2127
CV	0,3471	0,3633	0,3743	0,3876	0,3837	0,4030	0,3981	0,4006	0,4007	0,3978

Source: www.statistics.sk, own calculation

Most organizations focused on generating profits during the period existed in the district of Prešov (146 - 150% of the average of the self-governing region, the average for the whole period 19.7), except for the starting and ending year, when dominated the district of Poprad (145 - 147% the average of the self-governing region; average 19.2). In addition to these districts, only two other achieve above-

average values in relation to the self-governing region, the districts of Bardejov (105 - 117% of the average of the self-governing region, average 150) and Svidník. The lowest number of profitable organizations was recorded in the districts of Sabinov (42 - 46% of the average of the self-governing region; average 5.9), Levoča (20 - 65% of the average of the self-governing region; average 7.3) and Kežmarok (54 - 60% of the average of the self-governing region; average 7.4). Therefore, disparities between districts of the Prešov self-governing region exist and they are much more highlighted in the statistical comparison of districts from opposite poles of their values - the district of Prešov and the district of Sabinov (29 - 32% of the value of mentioned district) - which largely determines the existence of inter-district disparities in terms of this indicator (average value of CV for ten years - 0.3856 and GINI - 0.2064). From the analysis of the number of organizations focused on generating profit per 1 000 inhabitants during the entire period in all districts is clear their growth, but not uniform. The most significant increase was in the districts of Bardejov (258% of the value of the year 2003), Sabinov (257%) and Stropkov (244%). The most developed districts (Prešov and Poprad) achieved only average growth essentially at regional level (236%, respectively 234%). The slowest pace of growth is observed in the districts of Medzilaborce (155% of value of the year 2003), Levoča (192%) and Vranov nad Topľou (208%). This relatively low rate of growth in the long term lagging districts appears to be a major obstacle of levelling of inter-district disparities, which cannot be balanced even by significant convergence of the district of Sabinov (as most backward territorial unit in terms of this indicator) to the district of Prešov, which is located at the opposite pole. Therefore, deepening of regional disparities when comparing the years 2003 and 2012 is confirmed by increase of CV (from the value of 0.3471 to 0.3978) as well as GINI (from the value of 0.1848 to 0.2127). Since growth is minimal, deepening of disparities in terms of this indicator cannot be considered a significant problem. In addition, a moderate levelling in the last two years is positive (CV - from the value of 0.4007 to 0.3978; GINI - from 0.2157 to 0.2127), which perhaps suggests long-term trend.

NUMBER OF FREELANCERS

Freelancers are persons conducting business under the Trade Act. Only economically active freelancers are taking into account. Their contribution to the economic and social sphere lies in the ability of their own risk and their own ability to create added value beneficial for society as a whole.

Table 11: *Development of the number of freelancers per 1000 inhabitants in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	49,6	56,1	58,5	61,1	66,5	73,1	73,1	72,5	70,5	66,8
HE	51,6	56,5	55,9	57,7	61,3	65,7	63,5	63,3	60,8	57,6
KK	42,1	47,6	51,9	58,7	66,7	76,9	70,9	65,2	60,9	58,1
LE	40,6	45,6	48,6	52,3	54,2	57,9	58,2	58,2	57,1	54,6
ML	36,5	41,0	43,1	45,5	46,3	52,5	50,0	51,6	49,6	49,1
PP	58,1	63,7	64,0	67,4	70,1	75,3	72,0	71,7	69,1	65,3
PO	51,0	56,9	57,0	59,5	62,2	66,8	66,5	66,2	63,6	61,6
SB	44,0	49,2	51,3	57,0	64,3	73,4	72,1	70,6	70,0	67,3
SV	47,8	50,3	48,8	51,6	55,8	64,4	62,5	64,1	64,3	61,0
SL	73,0	85,3	87,7	93,3	101,9	113,9	111,3	110,0	106,4	101,5
SP	49,7	53,9	53,9	56,0	58,3	65,5	66,7	65,7	65,1	61,6
SK	49,9	58,5	60,9	65,5	70,5	77,3	78,1	79,8	77,0	70,8
VT	41,4	46,9	50,4	54,2	58,0	63,5	60,0	60,8	60,4	59,1
REGION	50,4	56,2	57,6	61,2	65,6	72,1	70,3	69,7	67,6	64,6
GINI	0,0939	0,0975	0,0910	0,0884	0,0952	0,0953	0,0972	0,0931	0,0926	0,0872
CV	0,1897	0,2025	0,1952	0,1927	0,2048	0,2076	0,2097	0,2042	0,2022	0,1862

Source: www.statistics.sk, own calculation

The number of freelancers calculated per 1 000 inhabitants is quite differentiated between individual districts. The maximum values throughout the reporting period were recorded in the district of Stará Ľubovňa (145 - 158% of the average of the self-governing region, the average number of freelancers per 1 000 inhabitants of the district for ten years - 98.4), followed by the districts of Svidník (104 - 115% of the average of the self-governing region, average 68.9) and Poprad (101 - 115% of the average of the self-governing region; average 67.7). Above-average values were also noticeable in the district of Bardejov. By contrast, the lowest numbers were recorded in the districts of Medzilaborce (71 - 75% of the average of the self-governing region, the average number of freelancers for ten years - 46.5), Levoča (74 - 85% of the average of the self-governing region; average 52.7) and Vranov nad Topľou (82 - 92% of the average of the self-governing region; average 55.5). It is clear that disparities between districts in terms of this indicator are presented, but they are minimal based on the low values of CV and GINI (average value of CV for ten years - 0.1995 and GINI - 0.0931).

The number of freelancers grew in all districts with the culmination of values in the year 2008 respectively 2009. From that moment until the year 2012 constantly gradually decreased, what can to some extent be due to the economic crisis, new measures relating to the application of trade license etc.. In 2012, the number of freelancers did not decrease in any district below the level from the year 2003. The smallest increase in comparison of these two years was recorded in the districts of Humenné (111% of the value from the year 2003), Poprad (112%) and Prešov (120%).

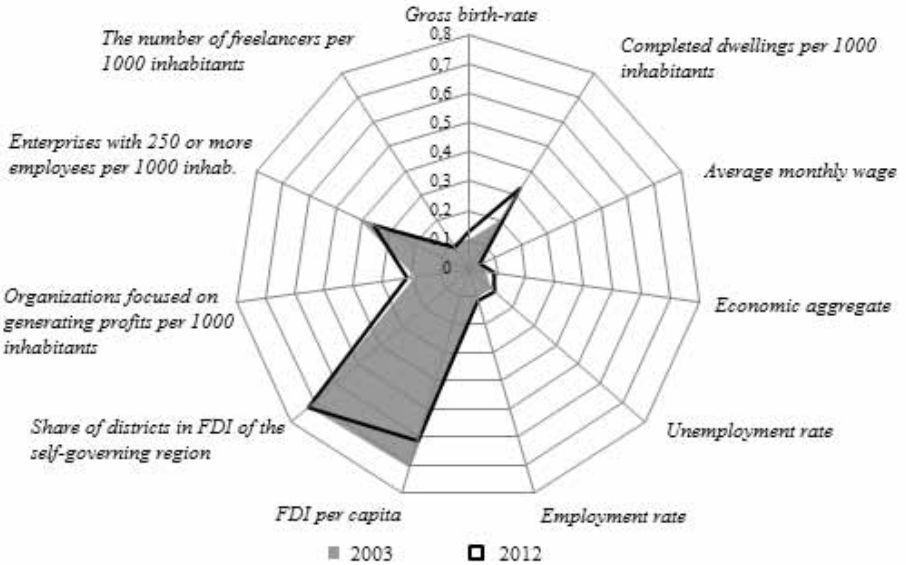
Conversely, the most significant increase in the number of freelancers was recorded in the districts of Sabinov (153%), Vranov nad Topľou and Svidník (both with 142%). In particular, the significant increase in the number of freelancers in the district of Sabinov (in the year 2003 below average value in relation to the self-governing region - 87%, in relation to the district of Stará Ľubovňa - 60%; year 2012 - 94% of the value of the self-governing region, 66% of the value of the district of Stará Ľubovňa) as well as decrease in the district of Poprad (year 2003 - 115% of the value of the self-governing region, 80% of the value of the district of Stará Ľubovňa; year 2012 - 101% of the value of the self-governing region, 64% of the value of the district of Stará Ľubovňa) became the basis of a very mild levelling of inter-district disparities, what is evident from decrease of CV (from the value of 0.1897 in the year 2003 to 0.1862 in the year 2012) and GINI (from 0.0939 to 0.0872). In the overall assessment of disparities by comparing the initial and final year, we can observe their levelling, but at a deeper insight into their development of individual years, there are also the periods of their deepening and in 2003-2004 and 2007-2009.

OVERALL ASSESSMENT OF REGIONAL DISPARITIES IN THE DISTRICTS OF THE PREŠOV SELF-GOVERNING REGION

Overall assessment of regional disparities at selected observational units was supported by comparison of the values of the two statistical rates (the Gini coefficient and the coefficient of variation) particularly in the initial (2003) and the final year (2012, respectively 2011), what allowed to identify the indicators with the largest or smallest rate of disparities and also the ratio of indicators with levelling respectively deepening of disparities.

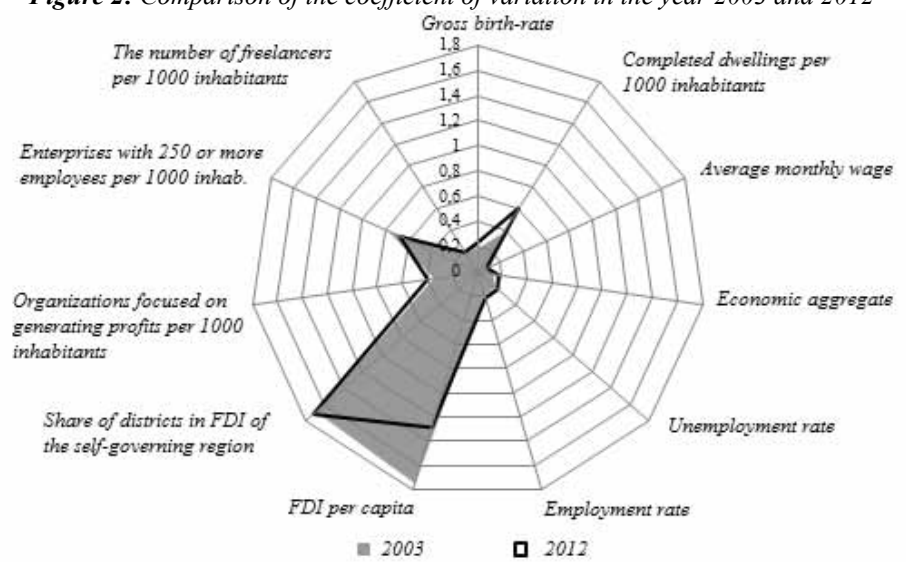
The largest increase in regional disparities based on the values of the two coefficients in the initial and final year (Figures 1, 2) is evident increase in completed dwellings per 1000 inhabitants (CV by 64% and Gini by 65%), in the economic aggregate per capita (by 34%, resp. by 47%) and in the gross birth rate (both increase by 26%). On the positive side is levelling of disparities in the other four indicators namely in FDI per capita (decrease of CV by 27%, and Gini by 14%), average monthly wage (18% resp. 16%), organizations with 250 or more employees per 1 000 inhabitants (both 13%) and freelancers per 1000 inhabitants (by 2%, resp. 7%). Based on the rate of regional disparities in the various indicators at the district level of the Prešov self-governing region to their development trends, we come to the following conclusions. While in two of three indicators with the highest level of disparities during the whole reporting period (state of FDI per capita, the number of organizations with 250 or more employees per 1 000 inhabitants), we can observe mitigation of inter-district disparities, in the share of districts in FDI in the self-governing region (indicator with the absolutely most significant rate of disparities), we can observe deepening of disparities. We can also observe divergent development of regional disparities in the economic aggregate per capita (as one of the three indicators with the lowest rate of disparities during the entire reporting period), while in the remaining two - the average monthly wage and the number of freelancers per 1 000 inhabitants - we observe mitigation of disparities.

Figure 1: *Comparison of the Gini coefficient in the year 2003 and 2012*



Source: www.statistics.sk, www.nbs.sk, own calculation

Figure 2: *Comparison of the coefficient of variation in the year 2003 and 2012*



Source: www.statistics.sk, www.nbs.sk, own calculation

The rate of regional disparities was differentiated not only in the indicators but also within individual years. The lowest rate can be identified in almost all indicators in 2003, while on the contrary the highest in 2008 (Figure 3, 4). Since this year, we

can observe noticeable mild stage of levelling of the regional disparities, but in most indicators in the last reporting year, the rate of regional disparities did not reached the level from the initial reporting year; therefore, we see divergent trends of inter-district disparities. We can observe deepening of disparities in comparison of the initial and final year in 7 of 11 indicators (63.6%). This proportion is due to increase of disparities in the period 2003 - 2010 (excluding the year 2005 and 2009) in more than half of the indicators (in the year 2004 and 2008 more than 2/3 of indicators). In 2011, it seemed that disparities started to mitigate (increase of disparities only in 3 of 11 indicators - 27.3%), but the very next year, there was again their deepening (increase of disparities in 5 of 11 indicators - 54.5%).

***Figure 3**: Development of values of the Gini coefficient in the years 2003, 2008, 2012*

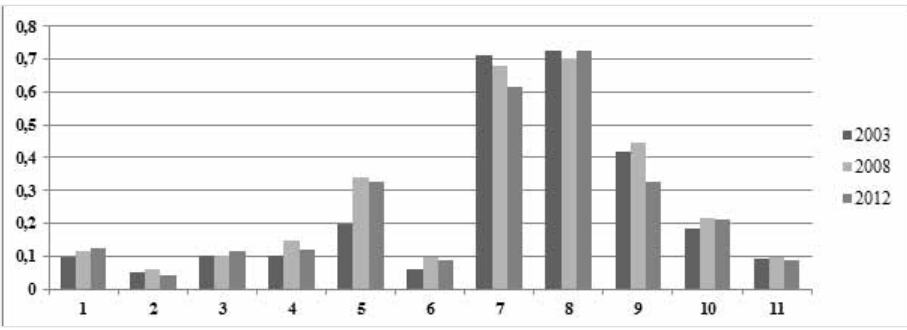
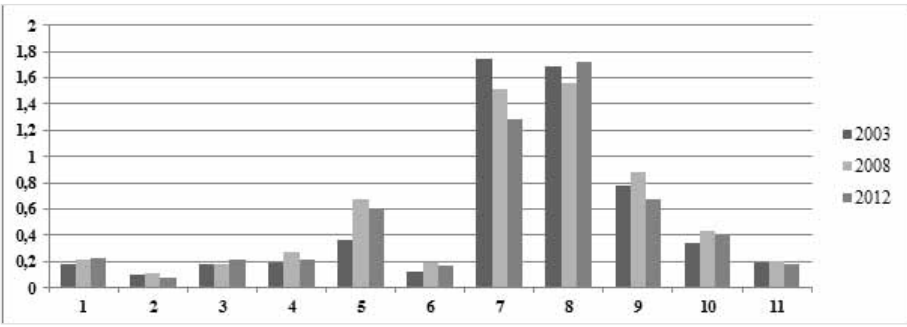


***Figure 4:** Development of values of the coefficient of variation in the years 2003, 2008, 2012*



Explanation: 1- gross birth-rate, 2 - average monthly wage, 3 - employment rate, 4 - unemployment rate, 5 - completed dwellings per 1000 inhabitants, 6 - economic aggregate, 7 - FDI per capita, 8 - share of districts in FDI of the self-governing region, 9 - enterprises with 250 or more employees per 1000 inhabitants, 10 -organizations focused on generating profits per 1000 inhabitants, 11 - the number of freelancers per 1000 inhabitants.

Source: www.statistics.sk, www.ueos.sk/mvrr.sk/isvov/, own calculation

From the above mentioned findings, it is clear that between the districts of the Prešov self-governing region there are more or less significant socioeconomic disparities which are at the same time subjected to changes. From the aspect of the time development of the inter-district disparities, after a certain generalization we can group evaluated indicators into five categories:

1. The overall increase in disparities registered throughout the entire reporting period (gross birth-rate)
2. The overall increase in disparities with a tendency to decline in the first half (employment rate), respectively in the second half of the reporting period (unemployment rate)
3. The overall increase in disparities with irregular time distribution of growth and fall periods (completed dwellings per 1 000 inhabitants, economic aggregate per capita, share of districts in FDI of the self-governing region, organizations focused on generating profits per 1000 inhabitants)
4. The overall decrease in disparities with irregular time distribution of growth and fall periods (average monthly wage, enterprises with 250 or more employees per 1 000 inhabitants, the number of freelancers per 1000 inhabitants)
5. The overall decrease in disparities registered during the entire reporting period (FDI per capita)

CONCLUSION

Between the districts of the Prešov self-governing region existed and still exist quite significant disparities which changed within the individual indicators and years. Based on the comparison of the set of selected socio-economic indicators, the most important position within the Prešov self-governing region had three districts: the district of Poprad, Prešov and Humenné (however, its position weakened).

The above mentioned considerations are largely confirmed by the value of the index of regional business environment, which reflects the overall quality of business conditions at the district level. According to the values that within the districts of Slovakia ranged from 2.61 (the lowest - the district of Gelnica) to 4.48 (the highest - the district of Bratislava II), most of the districts of the Prešov self-governing region ranked among average to below average. The strongest position had the district of Poprad (index - 3.67; 17th place within the districts of Slovakia), the only district of the Prešov self-governing region which reached higher value of the index of regional business environment than the national average (3.43). The district of Poprad was followed by the district of Prešov (index - 3.39; 36th place within the districts of Slovakia). A little worse position was recorded in the district of Humenné (3.18; 50th place within the districts of Slovakia). Other districts of the Prešov self-governing region significantly lagged, as is confirmed by their overall ranking within the index of regional business environment (from 56th to 74th place). Worse situation was only in the districts of southern part of Slovakia (processed by Hajko, Klátik, Tunega, 2010).

It may be said that the western part (from the district of Prešov towards the district of Poprad) gains the importance. In particular, the towns of Prešov and Poprad are the most important economic leaders of the region, which bind investments

and provide jobs. Moreover, the motorway from the west is being completing and connecting these towns to a functioning economic system of Slovakia. If we add to this the more dominant position of the district of Poprad in tourism, it is evident that the greatest development prospects will be in the west part of Prešov self-governing region. Conversely, it is possible to predict a decrease in significance of the district of Humenné and other districts in the eastern part of Prešov self-governing region. The next development will have been confirmed by the next few years, when it will be possible to say that the economic recovery in 2012 had a continuing character or this 'start' development will be only temporary.

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DEVELOPMENT OF GLASSMAKING AND CHANGES IN ITS DISTRIBUTION IN SLOVAKIA

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Abstract:
Slovakia is country rich in traditions of glass production. In the past, glassmaking was the typical Slovak craft bounded to special setting in mountain forest area with the sufficiency of wood and water – the most essential location factors of glassmaking in our conditions. In regard to this fact, glassmaking was relatively equally distributed in different regions of Slovakia. The aim of the presented paper is to analyse development of glassmaking and changes in the location of Slovak glass-works and glass industry, to prepare the model of its regionalization based on historical and current distribution of this production and taking into account links with traditional (historical) regions.

Key words:
Glassmaking, glass industry, development of glass production, mountain regions, glasswork regions in Slovakia

INTRODUCTION

Glassmaking is an old traditional craft well-known since the middle ages. There are still debates about its origin: some sources provide the information that pioneers of glassmaking are Chinese, others mention Egyptians and Phoenicians but also Indians and Jews. The most probable claiming is that glass was invented at the same time in different places of the world.

Glass industry is a brunch of industry focused on production of glass and glass products. According to the current classification (NACE[5]), glassmaking fall under the *Manufacture of other non-metallic mineral products* with the following sub-branches: Manufacture of glass and glass products, Manufacture of flat glass, Shaping and processing of flat glass, Manufacture of hollow glass, Manufacture of glass fibres, Manufacture and processing of other glass, including technical glassware.

Slovakia is country rich in traditions of glass production. In the past, glassmaking was the typical Slovak craft bounded to special setting in mountain forest area with the sufficiency of wood and water – the most essential location factors

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[5] *NACE = Nomenclature statistique des activités économiques dans la Communauté européenne*

of glassmaking in our conditions. In regard to this fact, glassmaking was relatively equally deployed in different regions of Slovakia. Its character, spatial arrangement and origin have been markedly transformed since the era of industrialization (from about 1950s), and this was the sign of the qualitatively new phase of the glassmaking development in Slovakia.

The topic of glass industry was not underestimated in Slovak literature. So far, we can find monographs and articles in journals written mainly by historians – historiographers (Hetteš 1958a, b, Krnáč 1963**,** Frický 1964, 1966, 1970, Gasper 1969, Žilák 2002, 2011, Žilák, Hlodák 2012, Zrebený 1981a,b), ethnographers (Pišútová 1968, Bakošová, Pišútová 1979), archaeologists (Staššíková-Štukovská 2001 and others) and local experts (Černý 1967, Číž 1970) who were concerned with the history of glass, its local and regional importance and documentation of its development. Until now, the most complex and highest-quality work about glassmaking is monograph of Vondruška (2002)[6].

The objects of historical and historiographical works (Bárta 1935, 1955, Borsos 1963, Beňo a kol. 2002, Pišútová, Kišac 1993, Tkáč 1964) were mainly glassmaking localities (Gápel, Huta, Látky, Nemecká Huta, Utekáč, Poltár, Zlatníky, surrounding of Bardejov, Kružlovská Huta, Lednické Rovne, Muránska Huta, central Pohronie and others) respectively towns and also micro-regions or historical counties (Lednické Rovne, Nemšová, Poltár, Uhrovec, Horné Srnie, Teplička nad Váhom, Malužiná**,** Sihla, Dominion of Muráň, Zvolen district, Horehronie, Nová Baňa and surrounding, Bratislava, Nitra and Trenčín county and others). So far "only" a comprehensive atlas works of the Czechoslovak and purely Slovak proveniences (Atlas československých dějin by Purš et al. 1965, Atlas SSR 1980 by Spišiak, Atlas krajiny Slovenska, 2002 by Mládek, Mišík) have provided historical and current spatial distribution of glassmaking using the cartographic outputs. The issue of glassmaking and glass industry was mentioned only marginally in the geographic sources. Within the study of industrial production in Slovakia, Hromádka (1943) mentions glassmaking and defines 2 areas of its concentration – central Považie and Veporské rudohorie[7]. Slovak industry, its spatial localization, classification and regional standardization were the subject of study of well-known Slovak geographer Mládek (1990) in the 1970s -1980s. As we can read in the Popjaková (2001), the glassmaking as an important part of classification by branch was in the former times in the Šariš region at the mezzo-regional level. The development of glass industry from 1989 to the present, as well as its production focus and spatial distribution have been described by Dubcová et al.

[6] *Unfortunately this work does not include Slovak context and (carto)graphic representation within the elaborated phase of Czechoslovak glassmaking. Czech practice, tradition and concrete experts, who were sent out to Slovakia, had an important place in Slovak glassmaking, and Slovak enterprises were subjects to Czech management in a certain time. Also glass raw materials and customer-supplier relationships (including import - export) between the Czechia and Slovakia played a significant role (even today).*

[7] *J. Hromádka pointed out that in Middle Ages the glassmaking was connected to mining. After the creation of Czechoslovak republic in 1918, many Slovak firms ceased to exist in consequence of Czech competition. He considered glassmaking to be problematic due to the lack of quality glass raw materials and fuels.*

(2008). At least in the last two decades, the glassmaking issue has been discussed at geography departments in the form of bachelor (Baroniková 2012) and diploma theses (Šomšák 1995, Baroniková 2014). They gathered significant database of glassmaking, which was instrumental while writing the presented article.

Our article has an ambition to fulfil the gap in the (historical) geographical research of the one of the traditional branches in industry, which has had features of industry with its own characteristic development. The development was moving from the phase dependent on natural resources and human potential of the mountain area to the phase of concentrated form based partially on tradition and taking into account current trends in the concentration of production and the globalization tendencies. The purpose of the presented paper is to analyse development and changes in the location of Slovak glass industry, to prepare the model of its regionalization based on historical and current location of this production and taking into account links with traditional (historical) regions.

1 THE PRODUCTION OF GLASS AND ITS REQUIREMENTS

The glass is the oldest synthetic material in the human history. As such, it does not exist in the natural conditions. Its production is dated to the ancient times (Bronze Age – 3000 BC). The beads found in Egypt are the oldest glassware that has been ever found in a global context. The glass came into the existence probably accidentally while metallurgy and metallurgical process of the production and processing of metals, respectively as a by-product of ceramic production (Vondruška 2002). There are several theories about the geographical origin of glassmaking (Mesopotamia, Egypt, India, Phoenicia – spreading to Europe – as well as to middle Europe and thus to Slovakia. The local Celtic population had already known the glass production).

For its development and competitiveness, glassmaking – like other branches of industry – needs certain complex of conditions and requirements for production. They include in particular: 1. *Capital* (domestic, foreign), 2. *Raw materials, semiproducts* (glass send[8], water, soda, potash, limestone – dolomite, feldspar, red lead, hypoboric acid and zinc white, glass cullet) and *energy* (wood, coal, gas, electricity), 3. *Workforce* (appropriate gender, age and education - qualification), 4. *Basic means and technology* (land, buildings and structures, machinery, instruments and equipment, transport equipment, technologic processes etc.), 5. Innovation (education, science, research and development), 6. Tradition – genius loci (experience and skills, social status, ethno-cultural aspects), 7. *Management and Marketing* (advantageous production and distribution relationships, social tactics). Within the production and distribution relationships, there are important *input* (from the forest management, relevant

[8] *Glass sand, as an important raw material for glass industry in Slovakia, has occurred locally, while their stocks have become almost depleted. Nowadays, Slovak glassmaking depends on imported glass sand from Czech Republic. In Slovakia, there were not favourable conditions for creation the higher quality glass sands. The most important are flying sands on Zahorie Lowland (Šajdíkove Humence, Malacky, Plavecký Mikuláš, Pernek, Lozorno), originated in the oldest Quaternary in the area about 600 km^2. These glass sands have a higher content of ferrum, therefore they are suitable only for melting of the green and brown hollow glassware and for the production of vacuum bottles (Kovaničová, Čechovská 2005).*

branches of industry – mining, engineering, chemical et al.) and *output* (manufacture of transport equipment, chemical industry, pharmaceutical and cosmetic industry, food processing industry, building, cellulose and paper industry or trade). A continuity of network industries and technical (environmental) infrastructure is needed.

Glass production on its own includes *production of flat glass, hollow glass, and glass fibres, technical and other glass.* Nevertheless, all groups and modes of production have a significant impact on the environment. The environmental impact of glassmaking affects not only air (glass ash, fly ash from smelters) and waters (sewerage water from technologic processes) but also soil through the solid waste and waste dumps (cullet with lead addition, slag from furnace lining, waste from the demolition of furnace, etc.). Environmental positive impact of glassmaking is utilization of glass cullet within the collection of secondary raw materials. Their addition to the base accelerates melting, saves energy and primary raw materials, thus creates a huge ecological potential.

The basic simplexes of glassmaking are individual glass factories that generally consist of production shops with melting furnaces and annealing ovens, glass cutting shop and glass refinery, auxiliary workshops, raw material storages, stores of material and forms, warehouses and glass packhouses and office blocks.

From a global perspective, it is important to note that the nature of glassmaking production has not changed significantly over the last centuries; however it have been always a secret in its details and specifics that every master have had to strictly keep hidden. Glass mastery was inherited and it was the largest generation heritage (Vondruška 2002).

Glass factories gave impetus to the localization of the related economic activities and thus diversify employment in the regions. Such activities and income opportunities were coal trade – charcoal burning, glaziery, "sklinkárstvo" – a doorstep selling, a carrier's trade or a variety of other activities to art, respectively naive painting on glass.

Today's glass factories (and not just in Slovakia) differ in line of production (handmade, machine, combined) and in product types (hollow glass decorated differently, specialization in hollow glassware, illuminating glassware, etc.).

Dwellings of glassworkers were in the past situated near the glass-works. Glass production and own localization of glass factories, they were the pioneer activities of colonization (settlements, villages) in several locations in mountainous areas of Slovakia, e.g. Doľany – Sklená Huta alias Glashutten, Horné Sŕnie - Svätá Sidónia, Valaská Belá – Gápel, Malé Borové (homestead called hŕby - piles), Detvianska Huta, Sklené (the oldest example from Slovakia), Lesnícka glass-work (Huta) founded by Hussites, Livovská Huta, etc.

The tradition of glassmaking has left its sign not only in geographical naming (names of places - Sklené Teplice, Sklené, Vígľašská Huta, Stebnická Huta, Šiba, land area naming Hutisko, Peciská, Uhlisko), but also in surnames of inhabitants – Sklenár, Sklenárik, which represented also the ethnic origin of the person (Czech of German surnames) – Glaser, Gasper, Brno, Deutschmann.

2 DISTRIBUTION OF GLASSMAKING FROM ITS FOUNDING TILL THE 1950s

Slovakia belongs to countries with a greatly developed glassmaking tradition, especially in the past. Its development and deployment can be determined by number of periods, which are characterized by topography (mineral and natural resources), availability of work force, market possibilities and the level of technology. Those characteristics determined the character and the composition of manufacture, the everyday and long term life of inhabitants and the environmental impact on the land. These periods highly correspond with the development of Czech and even European glassmaking:

– beginning of glassmaking period
– Middle Ages and modern period
– Industrial revolution and capitalism period (17th century – 1946-1948)
– industrial period (1950s – 1970)
– return of market mechanism period (after 1989)

BEGINNING OF GLASS-MAKING PERIOD

Like most of European countries, Slovakia gains its knowledge about glass-making from Mediterranean (mostly thanks to Roman Empire) and also thanks to Celtics. In Slovakia, there were found many archaeological artefacts related to glass-making. They serve as a proof of importing glass from abroad and also show us the first attempts of our own glassmaking. Our archaeological community is doing historical glassmaking research very intensively and archaeologist like I. Turnovec, P. Jelínek, T. Štefaničová, M. Čurný, D. Staššíková-Štukovská share their discoveries during the special international conferences.

The oldest artefacts are from 8th - 6th century BC from Smolenice, the youngest are from the beginning of 20th century from already extinct glass-work in Rudno nad Hronom. In present day, the research is focused on forfeit glass furnace in Plavecký Mikuláš (P. Wittgrúber- L. Hrehorová).

From Slavic era, there were found homemade glass beads and necklaces. The major glassmaking proof is glass furnace found in Nitra (remains of cupola glass furnaces with pieces of raw glass) and Devínska Kobyla (Bratislava).

Mentioned assortment was made during the Moravia Magna era (8th - 11th century). The hollow glass was found in findings from 14th century. More remains were found from the 15-17th century. We can mention bottles with the twisted bottle neck – kurtlofts, goblets, glasses with sticks, medical glass, etc.

Archaeological researches related to history era bring knowledge about recent glassmaking that is not mentioned in written scriptum.

MIDDLE AGES AND MODERN PERIOD

During Middle Ages glass-works were founded outside of towns, mainly in woods or at the edge of them. Factors that affected location were mainly a great deal of wood used during the production of potash, which was used to warming the furnace (from 1000 kg of wood was produced 1kg of potash). Wood was also used on making form and tools; availably of water source was also important (for silica grinding and

danger of fire). Development of glassmaking was determined not only by natural resources but also by increasing demand from aristocracy, townsmen and also village people.

Glass-works were often "strolling companies" not only in Slovakia, but almost in the whole Middle Europe. They were founded on the land belonging to aristocracy or church, which were limited by the amount of woods in their vicinity, so they were mostly only short-termed.

Slovak ancestors were mostly from Czech, Bavarian part of Šumava or Silesia. Glass and its production were spread through the country in 14th century thanks to reign of Anjou. They invited glassmakers from Italy – Naples and also imported many glass products from Venice (Krnáč 1963, Žilák 2012).

Creation of first glass-works in Slovakia is related to German immigration, internal colonization of country and expansion of mining industry. Archive and iconographic materials are proofs that Slovak glass-works produced painted church windows in 14th and 15th century. They were producing also hollow glass, mainly crossbills and flasks for mining practice and alchemists. Among the others, they made glass jars mainly cylindrical and conic goblets, confirming the German influence on glassmaking.

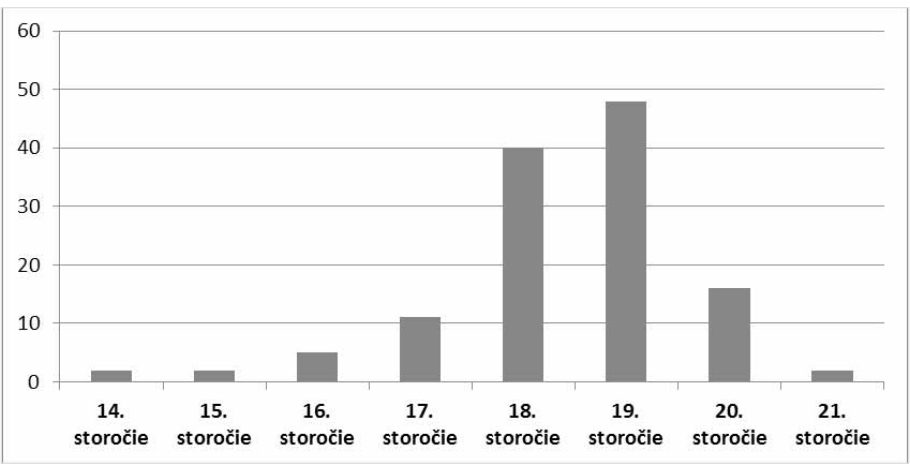
The oldest written reference to the Slovak glass-work was found in written text in Sklené Teplice (around 1350); the second one was founded in Sklenô (1360) – today Sklené pri Handlovej – Biely potok. Those two and later founded Middle Age glass-works in Lesnica (Huta), which was founded by Hussites in 1431-1433 and was successor of glass work belonging to the monks from Červený Kláštor, and also glass-works in Bardejovská Nová Ves from 1463, were related to mining industry, in which the glass was used for testing, but also as everyday tool for rich families. Glassmakers from Italy were invited also by Matej Korvín. In this era, many aristocrats, church and rich people started to found their own factories thanks to sufficiency of woods in Slovakia (Vondruška 2002).

In the latest era (after 1500, Renaissance era), in connection to an overgrowth of small-scale production (in Europe at all) to typical manufactory, the glassmaking was developing and innovating (larger furnaces in glass-works) and thus glass-works were able to remain longer at one place. The contribution of glassmaking was also a development of transport, which could employ additional labour power. Workers in glass-works and other auxiliary employees had built their houses around glass-works. New settlements were built, their population grew and required the adequate facilities (roads, services) or agricultural background as an additional livelihood for family. The isolation of glass-works has grown into lively economic units – municipalities. During the 16th century, it was observed the formation of two glass-works – in Lučatín (1564) in Zvolen seat and Medzev (1595) in Abov seat. In the 16th and 17th century, glass production was expanding in Slovakia; maps of glassmaking shows 15 glass-works.

When comparing with the Western Europe, manufactory phase in the development of glass industry in Slovakia was applied later. In the 17th century, especially starting after the second third, 6 glass-works was established in different parts of Slovakia (*Nová Baňa – Stará Huta and Obyce - 1630, Stebnícka Huta –*

1641, Muránska Huta - 1663, Doľany – 1670, Vígľaš – 1688). There are records that glass factory in Stará Huta produced high-class glass. The most of glass products (laboratory and flat – window glass) took Štiavnica pantry and they were exported to neighbouring countries. By reason of the irresolvable problems (mainly the lack of quality wood) it was moved to Sihla in Brezno forests. After more than 130 years it ceased to exist in the 1762. The remains of original glass house are still remaining the glassmaking of this area – picture. The oldest known hollow glass product dating back to 1636 – well-preserved goblet of thin milk glass with an email painting, mentioned above was produced in the glass-work in Stebnická Huta. At the present time, the goblet with other exhibits (vases, candlestick, and also glass of various times) is located on deposit of the Šariš Museum in Bardejov.

Graph 1: *Establishment of glass-works in Slovakia (14th – 21th century)*



The greatest development and increase of glass-works was recorded in the 17th – 18th centuries (see graph 1). This was due to the sufficiency of capital, demand for glass products, improving production technology and accumulated experience of generations. In the first half of the 17th century, 7 glass-works were founded (*Stupava and Kurima – 1707, Zvolenská Slatina, Huty, Utekáč, Zliechov – Gápel, Šarbov*), 20 of them were founded in the second half of the 17th century (*Detva, Sihla, Tekovské Nemce, Divín, Adamovce, Bašovce, Beňadiková, Bešeňová, Drahovce, Dubové, Fačkov, Zvolen, Gaboltov, Bardejov, Horné Strháre, Vyšná Boca, Kokava nad Rimavicou, Horné Srnie – Sidonka, Livovská Huta and Kľak*) – see map 1. The well-known "Lexicon" of Korabinsky recorded 21 glass-works in Slovakia in 1786. Unexpectedly, most of them were located in the Liptov Region (Beňadiková, Bešenová, Malužiná and Vyšná Boca).

In the 18th century, another 12 glass-works were established, but their exact period of activity is not known. They were located in *Vígľašská Huta – Kalinka, Baldovce, Budiš, Bystrá, Dobroč, Dubová, Dudince, Kociha, Kremnica, Richvald, Rimavské Brezovo and Slatina nad Bebravou.*

In the second half on 18th century, the production of flat glass stimulated the development of glaziery – doorstep selling[9] and crafts, even the development of images painted on glass, which is used by lower-quality sheet glass (19th century).

Old tradition of glassmaking was carried on with the glaziery. Firstly, it was an additional job for men in the villages, later it became a full time job of inhabitants from *Muránska Huta, Huty, Kamienka, Litmanová, Veľké and Malé Borové, Zuberec, Habovka, Chlebnice*, etc. Typical glazing villages have been in a surrounding of a glass-works in Gápel *(Valaská Belá* - until the end of capitalism, *Zliechov, Čičmany, Čavoj, Temeš, Mojtín*). Peddlers with glass and glazing windows (oknári) travelled throughout the Kingdom of Hungary, but also the Austrian part of the monarchy, Poland, Russia and the Balkan countries. In 1922, more than 400 people were working as glaziers (besides the peddlers). After the liberation, building companies and national companies took over the function of glaziers.

At this time, glassmakers were *a unique community of people* connected by work processes and standards that were specific for this job. Job performances, as well as rest days have been linked to many specific customs manifestations. The specific characteristics of glassmakers life have been reflected in apparel, housing, social life and philosophy of life (Pišútová 1968).

The development of glassmaking continued in the first half of 19th century, when 22 glass-works were established (*Hriňová, Čaradice, Jedľové Kostoľany, Podkriváň – Dolná and Horná Bzová, Zlatníky – Stará Huta, Čabradský Vrbovok, Látky, Malý Lipník, Slánska Huta, Skýcov, Sabinov, Šibská Huta, Veľké Uherce, Zlatno, Žitná – Radiša, Drženice, Katarínska Huta, Chocholná – Velčice, Malužiná, Zlatníky – Kulháň, Nová Lehota*) and proceeded in the second half of 19th cent. by foundation of next 15 glass factories (*Horný Tisovník – Balážove, Sliač, Mníšek nad Popradom, Vlkovo, Rudno nad Hronom, Horný Tisovník – Blískavica, Kremlište, Lednické Rovne, Málinec – Hámor I., Hervartov* and others).

Industrial revolution and capitalist entrepreneurship

[9] **Glaziery**, *connected to distribution and installing imported glass into the window and furniture, was formed as a craft in the medieval towns in the 15th -16th centuries (related to the beginnings of glassmaking in our country). Until then, in the architecture of the higher social classes, windows were glazed by small glass disks (called bow window) connected together into a lead frame. Glaziers put the glass into cabinets or even they produced mirrors. The oldest known glazing trade is from Kremnica (1579), well known glazing trades of the 17th century are from Banská Štiavnica (the oldest status from 1622), Bratislava, Modra, Gelnica and Košice. In early 19th century, glaziers worked in all towns and townlets in Slovakia. The patron of glaziers was St. Serapion. Peddlers with glass - oknár, provided glazing windows in the villages.*

Peddling a small hollow glass *(sklenkárstvo) was popular in and around glass-works in central and eastern Slovakia. Glaziers distributed goods to surrounding villages and towns - smaller species of drinking glass wrapped in a straw, in backpack on their back, or in baskets on the head. This method of trading was as popular as glaziery and peddling a flat glass. Peddling a small hollow glass ceased to exist in the second half of 19th century by the gradual liquidation of small glass-works and a new way of transport by wagons and a large rail.*

This period (the second half of the 19th century till 1945) is already the beginning of capitalist relations of production, which was progressively replaced by feudal relations. This period ends after the World War II. It is characterised by social, economic and technological changes that led to eliminating the number of glass factories in the area. While in the first half of the 19th century more than 30 glass factories were in service, at the end of the focused period only 5, respectively 6 were still working (Encyclopaedia of Slovakia 1980).

Wide social usage of glass in the 18th and 19th century stimulated demand of simple and functional glass products. In the line with flat glass and more complex decorated hollow glass, also blown hollow glass was produced – carafes, bottles, "muchár" - glass jar to catch the flies, eggs, glass paperweight or decorated rustic figurines. Some kinds of glass products kept the morphology of products made from blown glass in the late middle ages. The glassmaking became very close to folk fine arts with glass paintings for instance (from 19th century).

Traditional production technology was typical for many Slovak glass factories even at the beginning of the 20th century. Low technical and technological level of production was limited due to several factors that blocked its development, but mainly for competitiveness towards the highly developed glassmaking in Czech Republic.

After the World War I, the glassmaking in Slovakia found itself in a big crisis. As a result of low competitiveness, Slovak glass-works had then started to be closed one after another. The consequences of world economic crisis emerged and after the formation of the first Czechoslovak Republic (1918) even the competitiveness of Czech glass-works grew up – while comparing Slovak and Czech glass-works, Slovak found themselves at a disadvantage – for example big distance not only between Slovak glass-works and the sources of raw material that was imported from Germany or from the north of Czech Republic, but also from sale markets, which had disproportionately increased the transport costs (Slovak glass-works urged for the costs reduction) and it was subsequently reflected in the price of Slovak glass. The glass production of Czechoslovakia dropped deeply down during the post-war situation – to 48,6 %, the unemployment rate had been raising rapidly from 1930, and it had reached its peak in 1933 with 33 664 unemployed workers. In 1937 the situation in glassmaking got slightly better – foreign and even national sale had grown (Krnáč 1963).

In 1930, there were 11 glass factories in Slovakia; however till the 1940s only 6 of them survived, namely glass factories in *Katarínska Huta, Zlatno, Utekáč, Málinec, Nemšová and Lednické Rovne*. After Slovak nationalization during 1946-1948, these factories became the basis for enterprises. They are characterized in the following chapter (except Trnava, where the enterprise was created a bit later).

After 1930 the glass factories in Hronské Rudno, Gápel, Teplička nad Váhom, Kokava nad Rimavicou were closed. Only the factories in Katarínska Huta, Zlatno, Utekáč, Málinec, Nemšova, Lednické Rovne and Kružlovská Huta (closed in 1950) were able to survive till the 1940s. On their basis were established companies in the 1950s: Slovenské závody technického skla – Bratislava, Spojené sklárne Lednické Rovné, Stredoslovenské sklárne in Poltár.

Data of the existence of glass factories are unfortunately completely unknown. We can often deduce them from the written archival sources; although the date of

origin so does the end of their activity is not known respectively it is not exact. From the previously published data follow that the longest time (concerning the time of opening and closing the glass-work) of running of glass-work was in Lesnica – Huta in Zamagurie, in Bardejov - Bardejovská Nová Ves, Nová Baňa or in Obyce, Utekáč and Stebnícká Huta (over 200 years). For over 100 years, according to the mentioned data, glass-work was the livelihood for the population in 11 villages – localities (Zliechov – Gápel, Katarínska Huta, Zlatno, Sihla, Málinec, Horné Srnie, Divín, Kokava nad Rimavicou, Stará Huta, Hriňová and Čaradice).

After the World War II, we can find only torso from the Slovak glass factories.

The oldest, respectively longest running glass-work in Slovakia was in *Zlatno* (Poltár district) until recently (r. 2003), which was established in 1836. In this former local part of the Gemer, in Český Brezov, a glass-work was built in 1836 on the initiative of Juraj Zahn. It was specialized on stemware. Remarkable results reached chemist and glass inventor Dr. Lev Pantoček (irised and opalized glass, glass medals) by managing of J.Zahn. At the end of the 19th century, the factory had 3 melting furnaces; in 1891 employed 257 workers (including 28 women and 52 children) in 1911 had 350 employees (60 women). The glass factory building from 1863 is well-preserved up to this day.

Deeply rooted glass tradition is also reflected in the daily life of the rural population and in folklore. Job performances, as well as rest days have been linked to many specific customs manifestations until recently. Glassmaking thus left the major ethnographic features in the regions.

Glass-works have in each of the mentioned locations its history or presence. During the time, they had different line ranges and different levels of products, various regional relations and different impacts on the surrounding landscape; either typical mountain landscape in the past, or urban in the present situation. They also left their individual genius loci and its persistence beyond the horizon of its own existence. Due to the limited range of our paper, we are planning to pay attention to this issue in the future.

GLASS-WORKS IN HORNÝ ŠARIŠ REGION AS AN EXAMPLE OF THE HISTORICAL LOCATION OF GLASSMAKING IN MOUNTAIN REGIONS OF SLOVAKIA

The glassmaking had a great importance (nationwide according to the current districts) among the all historical regions of glass production in Slovakia (map). However, the greatest importance had *Upper Šariš glass region*, including mountain area of Čergov, Busov, Ondavská vrchovina geomorphological units and trenched upon Spišsko-šarišské medzihorie.

Several factors influenced development of glass industry in this mountain region; namely geographic location and character of the natural environment, ownership and socio-economic prerequisites (cheap labour and limited employment opportunities in peripheral regions). From the all of the glassmaking regions in Slovakia, the Upper Šariš glass region and Middle Slovakia glass region of mining towns were ones of the most important until the 18th century. It is shown by the fact that in these regions was the highest number of glass-works,

volume of production was high and they were producing high-quality products. (Gasper 1969).

Bardejov, an important trade and craft centre of Upper Šariš with a strategic location on the trade route leading along river Topľa valley situated at the junction of Balkan-Baltic corridor, had an important role in the formation of glass-works. During the period of its greatest development (in the 15th century), modern techniques in the craft spread from there and thanks to privileges of a free royal city, the intensive trade movement was focused in Bardejov. In addition to the most widespread production of linen and cloth in the 15th century, glass-work is also mentioned due to its production of luxury glass and according to Gasper (1969) the glass-work existed in the period 1473-1873. Although glassmaking had not reached such importance as other types of crafts, establishing a glass-works was moved to the wider hinterland town. Bardejov was the major consumers of produced glass from the nearby glass-works.

In the 17th century, the main feudal owners: Forgach (Hertník Estate) and Rákóczi (Makovica Estate) had a significant role in the development of mountainous areas of the Upper Šariš. They established sawmills, paper-mills and other small manufactures (shingle production, burning coal, etc.) based on the use of rich wood resources. Mentioned owners of estates and their successors founded, respectively rented a piece of land in order to build glass-works – e.g. on the Makovica Estate were established glass-works in Bardejovská Nová Ves (1618), Stebnícka Huta (1641), and there are rumours that both glass-works were related by pulling down wood after the complete-tree utilization of local supplies (Frický 1966); at Hertník Estate in Livov and Livovská Huta, where also pulled down wood and in the middle of 19th century it was one of the largest area in the Upper Šariš region.

With the expansion of consumption of glass in the lower middle class of population in the 17th century also glass production had increased, especially in areas with plenty of wood. Extensive beech and maple vegetation provided wood that was used particularly for heating the furnace in the glass-works and the acquisition of potash. The sand was mined from rivers, but also cobblestones containing quartz grains were often collected. After then, they were crushed and purified. Moreover, other natural resources were important; the upper parts of watercourses provided not only supply water but also mechanical energy to running the crazing-mill while crushing silica materials. Available resources of limestone and dolomites, necessary in the production process of glass were used. Other raw materials and additives (including high-class glass sands) were imported from more distant regions of Slovakia or from abroad. Glass-works significantly exceeded the production of other products based on the wood. Relatively high demand contributed to keep production in small mountain glass- works.

The oldest glass-work with the longest running period was in *Stebnícka Huta*. Its origins date to the 17th century although the exact year of the establishment nor its founder is not known. According to some historians (Frický 1966), glass-work had been running here since 1618, later (in 1641) had been restored and it is likely that it disappeared in the early 1850s. From the Stebnícka Huta glass-work, built on the Makovica Estate have been preserved the most products in the sacred objects – Frický (1966) states four-legged candle chandelier from the church in Nižný Svidník, for instance.

The others glass-works were located in the administrative area of today's villages Kurima, Gaboltov, Bardejovská Nová Ves, Dubová.

Glass-works in Upper Šariš region were intensively built respectively renovated especially in the 18th and 19th centuries. The era of their existence still had been conditioned by the sufficiency of wood – after the wood run out, glass-work moved elsewhere.

The first mention about glass factory in *Livovská Huta* dates back to 1970. The founder and landlord was Forgach family. Its origin is probably related to the existence of a glass factory in the administrative area of Livov (1683), where the wood was pulled down along the Topľa valley to Livovská Huta in the several stages. Fricky (1996) points out the glass -factories were the most important in the region because of their equipment (including glass-cutting shop, which had only 3 Slovak glass factories in the middle 19th century), glass mastery of workers coming from Czech, German and Silesian glass-works, which was reflected in the quality and diversity of products (flat glass and hollow glass, cut glass for urban customers, bottles for filling of mineral water from springs in Bardejov Spa, Cigeľka and Lipovce) and management of its landlords (e.g. development of glass factory in 1875-1895 during the lease of Gejza Kuchynka, whose family systematically run a business in glassmaking and was tied up with other glassmaking sites in Slovakia).Raw materials of the highest quality glass were imported to glass factories from Spiš, Silesia and Galicia. Besides the increasing competition of glass factories with modern equipment, at the turn of the 19th and 20th centuries, the unfavourable transport position away from the railway lines (until 1893, the nearest railway station had been in Prešov, after then the route between Prešov and Bardejov was put into operation) was one of the main factor that caused the extinction of glass factory (1903 or 1906). It significantly increased transport costs of raw materials and export of finished products. After the closing of the glass factory, the part of workers and masters was transferred to a glass factory in Kružlovská Huta.

According to Fricky (1964), the middle of the 19th century, when glass factories in Stebnická Huta, Livovská Huta, Šibská Huta and Bardejov were running, is the period of the greatest expansion of glass production in the Upper Šariš region. In the 19th century, above the village Kríže, in the cadastral of Šiba and Hervartov was known existence of glass factories. The first mention about the glass-work in *Šibská Huta* in the cadastral territory of Šiba neighbouring with the cadastral territory of Kríže, dates back to 1823. At the beginning of the 1870s glass factory in *Hervartovská Huta* (about 2.5 km from the village Kríže) was established. The exact year of establishment is not known, but it is dated to 1870-1873. Glass factory thus migrated in the valley of river Slatvinec and could be the follower (successor) of Šibská Huta glass-work. From 1895 until its closing in 1912, it was tenanted by Hervartov Glass Company. This glass-work confirms the fact that not only the glass factory itself was moving, but also the workers – glassmakers from the Spiš and Šibská Huta came to Hervartovská Huta. After the closing of glass factory, they moved southward to the youngest glass factory in Upper Šariš region, to Kružlovská Huta. Despite the relatively well-equipped glass factory (including glass-cutting), access to transport nodes and routes was a serious problem of glass-factory – therefore the raw materials and finished products rode

in carriage; the raw materials were imported from the Czech Republic and Poland and the finished product were exported to Uzhgorod, Mukachevo, also to Poland and nearby cities Prešov, Košice – and it negatively affected the overall profits from production.

In the early 20th century (1903), the last glass factory in Upper Šariš region in *Kružlovská Huta* named as Marienthál or Máriadolina was established. It differs from the previous sites with its location – it was not located in the mountains, but on the alluvial plain at the mouth of river Slatvinec flowing into Topľa, near the road linking Bardejov and Poprad, about 12 km from Bardejov (railway station). It was located in a fabric of former ironwork, which have been renovated and extended, until its disestablishment in 1950. Moving the glass factory was no longer necessary, since the gas was used as a fuel. In the years 1920-1923, the production was stopped due to decline in purchasing power, lack of raw material, difficulties in transporting of raw materials and finished products, as well as expensive maintenance of glass factories. Since 1924, glass production was restored, whereby the highest growth was recorded in the 1930s, when it employed up to 130 workers. After another period of discontinuation in the 1933-1936, it was established the producing and marketing cooperative, the Máriadolina, which had produced glass during the World War II. Its main production program was centred on the outputs of hollow glass. Glass factory supplied the entire eastern Slovakia even after the end of war. After nationalization, it was joined to Lednické Rovne, but the emigration of skilled glassworkers, low profitability and competition of other Slovak and Czech glass factories caused stoppage of production in 1950 and equipment was moved to Lednické Rovne.

3 DEVELOPMENT OF GLASS INDUSTRY IN SLOVAKIA SINCE THE 1950s

The World War II has significantly influenced development of glass industry in Slovakia. After the war, we can find only torso from the Slovak glass factories in Utekáč, Lednické Rovne, Nemšová, Katarínska Huta, Málinec, Zlatno, Nová Baňa, Kružlovská Huta. The total number of employees in glass industry was circa 2000, moreover the equipment of the glass factories was highly destroyed, and it was characterized by low technical performance, production and economic effectiveness.

During the 1946-1948, there was nationalization in glassmaking. Nationalization brought new progressive phase of glass production. From the 1948 until the middle of the 1980s, the value of its production increased more than 40 times and it was a branch of industry with an increasing rate of production within the industry as a whole (from 0,6% to 0,8%). At the end of the mentioned period, the production had reached almost 1,8 milliard CSK.

The cardinal renovation and development of glass industry in Slovakia became reality in the 1960s while the socialistic industrialization of Slovakia program. At this time, the new glass factories were built up, namely technical glass Bratislava – Dúbravka, glass fibres Trnava, domestic glass Poltár, and others glass factories were modernized and reconstructed, namely hollow glassware in Nemšová, domestic glass in Lednické Rovne, the change of production programme from domestic glass to basalt in Nová Baňa and thermal glass factory in Utekáč.

During the year 1975, Slovakia produced 16548 tons of fibre glass and spun glass, 113 millions of beverage glass and 119 million of conservative hollow glass (Vladár,ed. 1981). At the end of the 1970s, the Slovak glass industry shared for over 13% of national (Czechoslovak Socialist Republic) glass production. About 1/3 of Slovak production was exported (of which approximately ¼ was exported to the then capitalist states). Specific indicators for individual companies are presented in tables 1 and 2:

Table 1: *The number of glass industry employees in Slovakia in the 1960s and 1970s*

	Year						
Company	**1960**	**1965**	**1967**	**1970**	**1975**	**1978**	**1979**
Spojené sklárne Lednické Rovne	**.**	**1170**	**.**	**1442**	**1552**	**1689**	**.**
Stredoslovenské sklárne Poltár	**.**	**.**	**.**	**.**	**.**	**.**	**1840**
Slovenské závody technického skla Bratislava*	**.**	**1717**	**.**	**2782**	**3241**	**3299**	**.**
Skloplast Trnava	**.**	**.**	**327**	**.**	**1744**	**.**	**1924**
Skloobal Nemšová	**293**	**598**	**.**	**923**	**1080**	**1124**	**.**

Source: Vladár, J. ed.. (1981): Encyklopédia Slovenska V. , 790 s.

Table 2: *Trend in production value of glass industry in Slovakia in the 1960s and 1970s (million CSK)*

	Year						
Company	**1960**	**1965**	**1967**	**1970**	**1975**	**1978**	**1979**
Spojené sklárne Lednické Rovne	**.**	**40**	**.**	**69**	**86**	**103**	**.**
Stredoslovenské sklárne Poltár	**.**	**.**	**.**	**.**	**.**	**.**	**134**
Slovenské závody technického skla Bratislava*	**.**	**65**	**.**	**187**	**373**	**454**	**.**
Skloplast Trnava	**.**	**.**	**5**	**.**	**272**	**.**	**337**
Skloobal Nemšová	**17**	**29**	**.**	**110**	**192**	**215**	**.**

Source: Vladár, J. ed.. (1981): Encyklopédia Slovenska V. , 790 s.

In the 1980s, as a latest time of centrally controlled economy, Slovak glass industry was managed by the Ministry of Industry of the Slovak Republic in Bratislava as a Directorate-General trust of glass company *Tatrasklo* with residency in Trnava. Tatrasklo merged *5 national companies* (in brackets are factories that were part of national companies): *Spojené sklárne Lednické Rovne* (without divisions), *Stredoslovenské sklárne Poltár* (Poltár, Zlatno, Katarínska Huta, Málinec), *Slovenské závody technického skla Bratislava* (Kokava nad Rimavicou, Utekáč, Nová Baňa, Stará Voda – okres Cheb), *Skloplast Trnava* (without divisions) and *Skloobal Nemšová* (without divisions); with The Glass Research and Development Institute in Trenčín. Overall, in these companies and factories worked around 10000 workers and this number had increased circa two times since 1965. Before the privatization, the biggest glass factories were in Bratislava (up to 3500 employees, nearly 500 million CSK gross production), Trnava (up to 1900 employees, over 300

million), Poltár (up to 1900 employees, more than 134 million), Lednické Rovne (up to 1700, over 100 mil.) and Nemsova – up to 1200 employees, more than 200 million. (Vladár, ed. 1981).

At the end of the 1980s, another modernization and development of glass industry began. At this time, glass factories in Trnava, Nemšová, Nová Baňa, Lednické Rovne, Katarínska Huta and Málinec were reconstructed and modernized. Modernization took place also in Bratislava – Dúbravka, Utekáč and Zlatno.

THE DEVELOPMENT OF GLASS INDUSTRY IN SLOVAKIA FROM 1989 TO THE PRESENT

In the glass industry, as well as in other industries in Slovakia, have occurred significant changes after 1989. The change in ownership structure was one of the most significant changes. State enterprises have undergone a *process of privatization*. In some cases, the process was successful (the foreign investors in many cases helped them), on the contrary in other cases it caused liquidation, respectively end of the business (eg. in Utekáč, Katarínska Huta, Zlatno, etc.). It affected mostly a domestic glass production.

During the transformation period, the *process of restructuring* of production was significant. While in the previous time, the glass (thanks to its excellent attributes) was used mainly for the production of domestic glass and decorative objects, nowadays it is used in building, chemical industry, electrical engineering, textile and other industries. Thanks to the discovery of the unknown attributes of glass and its combination with other materials, new innovation leads to the production of specialized products based on glass (safety glass, insulating materials, complex equipment as part of the technological equipment, etc.).

The change of location factors of glass industry was also related to the above mentioned changes. The new main factors are *consumption* (proximity to customers from the automotive industry, building, etc.) and *concentration* connected to agglomeration effects.

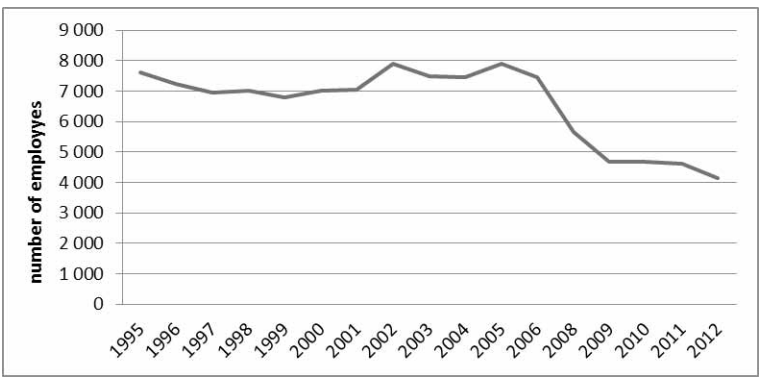
After the year 2000, two major branches have been dominating in the glass industry: *manufacture of technical glass and manufacture of domestic glass*. The two largest companies of technical glass: Skloplast (nowadays Johns Manville) and Vetropack Nemšová benefited from the global plans of foreign investors but the other two leaders of domestic glass Rona Lednické Rovne and Slovglass Poltár were national and they increasingly felt the position of foreign dealers. Unfortunately glass factory in Poltár could not take these problems in one´s stride and declare bankrupt.

Unfortunately, glass industry is declining in the long term (graphs 2-4). The crisis was rather a means than a reason to uncover the problems. It is reflected not only in the case of Slovglass Poltár, but also the biggest glass factory in Czech Republic - Bohemia Crystalex Trading met the same fate. Both companies suffered mainly because of the small product and regional focus. The other reason is increased competition from cheap Chinese devices. During the crisis, the market in Slovakia has repurified and nowadays, there are four major glass companies.

The number of employees in glass industry in Slovakia was more or less stable at that time. From 1995 to 2006, we have recorded only minor fluctuations.

The year 2008 and economic crisis year 2009 were characterized by job-cut in the glass industry. The number of employees drops to 4500 and in the 2012 only 4000 workers were employed in glass industry. This index also proves the evidence that this industry belongs to small branches of industry. It employs only 1,22% of the number of employed workers in industry.

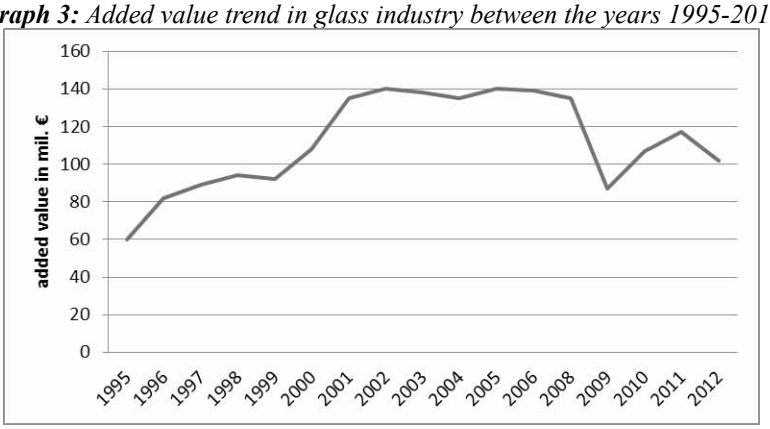
Graph 2: *The number of glass industry employees in 1995-2012*



Source: Industry yearbooks 1996-2013, ŠÚ SR

Looking at the economic indicators presented below, we can state that despite the drop in the number of employees until the outbreak of the crisis, the monitored indicators had grown, what can be evaluated positively in terms of increasing labour productivity.

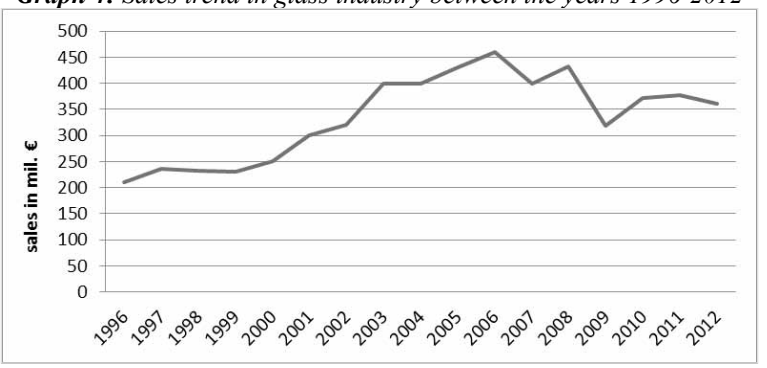
Graph 3: *Added value trend in glass industry between the years 1995-2012*



Source: Industry yearbooks 1996-2013, ŠÚ SR

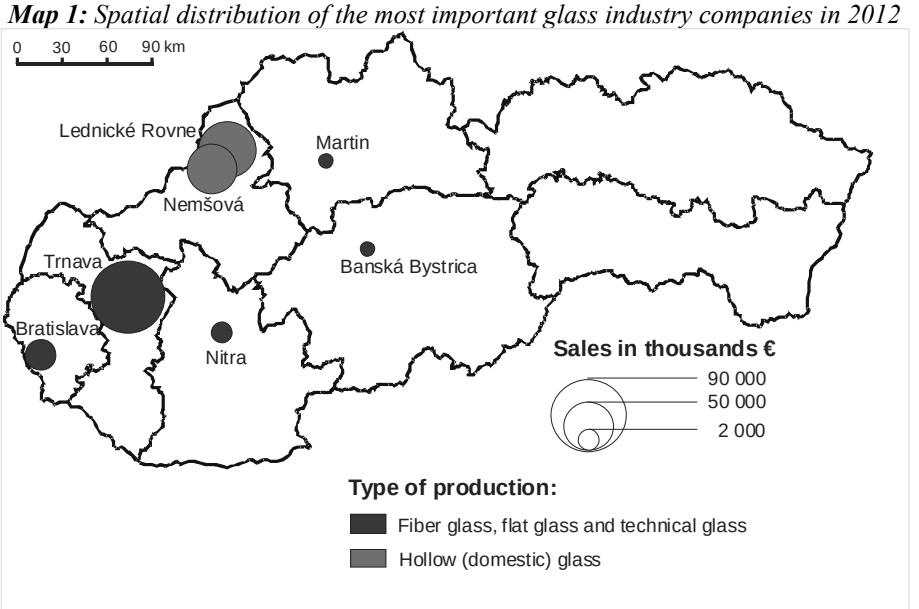
The spatial distribution of the most important glass industry companies in Slovakia is presented in the map 1. In practice, all major glass factories are located on Považie, contrary the traditional areas of glassmaking - especially surrounding of Poltár – have disappeared from the map of glass factories.

Graph 4: *Sales trend in glass industry between the years 1996-2012*



Source: Industry yearbooks 1996-2013, ŠÚ SR

Map 1: *Spatial distribution of the most important glass industry companies in 2012*



Source: TOP TREND priemyslu 2013.

THE CHARACTERISTICS OF THE MOST IMPORTANT GLASS COMPANIES

As we have mentioned above, studied branch of industry is one of the smallest industries in Slovakia. The industry is essentially powered by five major companies: Johns Manville, Rona, Vetropack, Medical Glass and Saint-Gobain, which proportion in total sales reaches almost 70% (table 3).

Table 3: *Selected indicators of the major glass companies*

Company	Sales thousands of €)	Added value (thousands of €)	EAT (thousands of €)	Number of emploees			
	Rok 2012			2006	2007	2008	2012
JohnsManville Slovakia, a.s. Trnava	94 015	26 774	-929	1347	1327	1323	900
Rona, a.s., Lednické Rovne	61 222	25 842	694	1461	1414	1400	1279
Vetropack, s.r.o., Nemšová	51 771	16 174	1 150	369	366	369	380
Medical Glass, a.s., Bratislava	24 161	8 744	1 754	.	.	.	n
Saint-GobainGlassolutionsNitrasklo, s.r.o., Nitra	12 690	2 674	-176	.	.	.	114
Izoglobal, s.r.o, Martin	2 257	503	423	.	.	.	n
DoMo-Glass, s.r.o., Banská Bystrica	1 646	637	-17	.	.	.	n
PPC Čab, a. s. Nové Sady*	18508	5805	317	.	313	304	**250.
AGC Tatry, a. s. Stará Ľubovňa*	2798	674	-151	.	n	n	***n
AGC Trenčín, s. r. o. Trenčín**	7861	1957	1	.	80	76	***95
Nitrasklo, a. s. Nitra**	10195	2446	-230	.	.	.	109
Izoglobal, s. r. o. Martin**	1814	307	-275	.	.	.	***33
DoMo-Glass, s. r. o. Banská Bystrica**	1559	669	147	.	.	.	***n
(Slovglass a. s. Poltár)****	6668	423	- 1532	1000	.	.	0
(Ultraglass, a. s. Medzilaborce)	(217)	(6678)	0	.	.	.	(227)

Source: Trend Top 30.09.2004, 29.09.2005, 28.09. 2006, 27.09.2007, 2.10.2008, 1.10.2009, 30.09.2020, 29.9. 2011, 27.09.2012; 2. Revue priemyslu 2009/9.
*Notes: * data from 2008, ** data from 2010, *** data from 2009, in brackets are extinct companies and currency conversion from Slovak crowns – year 2003.*

Johns Manville Slovakia a. s. has continued in 40 years old production tradition of the Skloplast – the original company. In 2001, the US Company Johns Manville became the majority owner of the former Skloplast, a.s. and in 2003 the name of company was changed to Johns Manville Slovakia, a. s. The factory in Trnava is one of the biggest factories. It employs more than 900 employees. The company in Trnava produces mainly fibre glass used in products that can be utilized in the transport industry, building, energetics, infrastructure and the sport branch.

Rona Lednické Rovne is the latest major glass producer, in which the tenant in severalty are three Slovak subjects (each of them own 33,3%). The base of offer is beverage glass and dining accessories, thus restaurants and hotels are the primary partners. Even majority of Rona production is exported to foreign countries. Partnership with airlines, which has affirmed its position as world's leader in the drinking glass supply, is essential for the company. Nowadays, it employs nearly 1300 workers.

Vetropack Nemšová is part of the Swizz glass packing network of Vetropack Holding AG (60%) and Vetropack Austria Holding AG (40%) that has its own operating companies in other European countries, e.g. in Croatia, in Czech Republic and in Ukraine. Daughter companies are: ŠK LR CRYSTAL, s. r. o., RONA, a. s. Liberec, ZTS-LR NaJUS, s. s. RONA Bratislava, s. r. o., LR COMFORT, a.s., RONA Trading CZ, a. s. Liberec. The company is oriented on the production of packaging glass. The company produces more than 4.5 milliard of glass packaging products per year. Since the arrival to Slovakia, the parent company has invested around 70 million euros and it maintains stable sales and revenues. It is almost a monopoly in Slovakia however about half of the company's production is exported abroad.

Medical Glass is the succession company of Bratislava Technické Sklo Company and it is Daughter Company of Italian Stevanato Group. The collapse of the glass industry has little affected the company, whereas key customers are mainly companies from the pharmaceutical environment, for which the company produces glass ampoules, etc. Since 2008, it has significantly increased in sales and in number of employees (an increase of 60 persons).

In the east of Slovakia in Medzilaborce, the successor of the traditional manufacturing of crystal chandeliers is company **Glass LPS**. It processes the raw material of Bohemia Crystal. Up to 90% of its production is exported to Australia, the EU countries, Ukraine and Russia.

4 GLASS REGIONS AND LOCALITIES

In former times, expansion of glassmaking in Slovakia was typical of the mountain areas. On the basis of the historical location of glassmaking (14 cent. - 1989) we can define 13 regions, where the glassmaking was concentrated during the 14^{th} – 20^{th} century – map 2. The glassmaking has persisted in several localities longer, in other parts shorter. Some of them were oriented on internal market; others were successfully oriented on export.

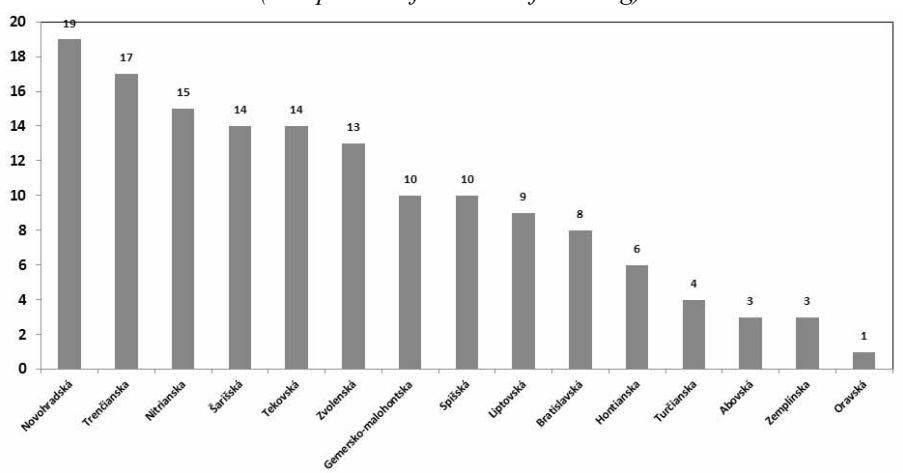
1. **Bratislava-Trnava** (7 localities[10]: Doľany, Píla, Jabloňové, Trnava, Bratislava, Bašovce, Drahovce)
2. **Stredopovažský** (9 localities: Zliechov – Gápeľ, Adamovce, Horné Sŕnie, Chocholná – Velčice, Dubnica nad Váhom, Nová Lehota, Selec, Nemšová, Lednické Rovne)
3. **Hornonitriansky** (7 localities: Handlová – Nová Lehota, Slatina nad Bebravou, Zlatníky – Stará Huta a Kulháň, Žitná – Radiša, Uhrovec, Valaská Belá)
4. **Tekovsko-novobanský** (12 localities: Sklené Teplice, Nová Baňa, Obyce, Tekovské Nemce, Jedľové Kostoľany, Čaradice, Skýcov, Veľké Uherce, Velčice – Huta, Rudno nad Hronom, Kľak, Trnavá Hora - Kľačany)
5. **Hontiansky** (6 localities: Dudince, Čabradský Vrbovok, Drženice, Bzovík, Hontianske Nemce, Krupina)

[10] *Localities are sorted by the (probable) time of origin, respectively by the first or other written evidence (from the oldest until the youngest). The numbers of region and localities (in the brackets) correspond with the map, in case of more time profiles of glass factories existence, we use letter symbols of the map (Example: Region 10, towns 1-12, in the case of town nb.1, there are localities a) (Bardejovská Nová Ves) and b) (Bardejov).*

6. **Novohradsko-zvolenský** (17 localities: Stará Huta, Vígľaš, Zvolen, Zvolenská Slatina, Detva, Divín, Horné Strháre, Dobroč, Hriňová - Slanec, Podkriváň – Dolná a Horná Bzová, Látky, Sliač, Horný Tisovník – Balážove a Blískavica, Vígľašská Huta, Detvianska Huta)
7. **Gemersko-malohontský** (21 localities: Muránska Huta, Muránska Lehota, Šumiac, Utekáč, Sihla, Kokava nad Rimavicou, Rimavské Brezovo, Kociha, Zlatno, Cinobaňa – Katarínska Huta, Málinec – Dobrý Potok, Samoterč, Hámor I. a II., Vlčovo a Stupník, Šoltýska, Čierna Lehota, Lom nad Rimavicou, Poltár)
8. **Hornopovažský** (14 localities: Ľubochňa, Huty, Bešeňová, Beňadiková, Fačkov, Vyšná Boca, Tvrdošín, Malužiná, Malé Borové, Hubová, Veľké Borové, Štiavnik, Teplička nad Váhom, Čadca)
9. **Zamagursko** (6 localities: Lesnica, Reľov, Veľká Lesná, Malý Lipník, Sulín, Mníšek nad Popradom)
10. **Spišský** (3 localities: Baldovce, Dúbrava, Teplička)
11. **Hornošarišský** (13 localities: Bardejov – Bardejovská Nová Ves a Bardejov, Dubová, Stebnícka Huta, Gaboltov, Livovská Huta, Lukov, Kurima, Kružlov – Huta, Hervartov, Šiba – Huta, Šarbov, Sabinov).
12. **Abovský** (4 localities: Medzev, Slanská Huta, Nový Salaš, Košice)
13. **Hornozemplínsky** (2 localities: Stakčín, Medzilaborce)

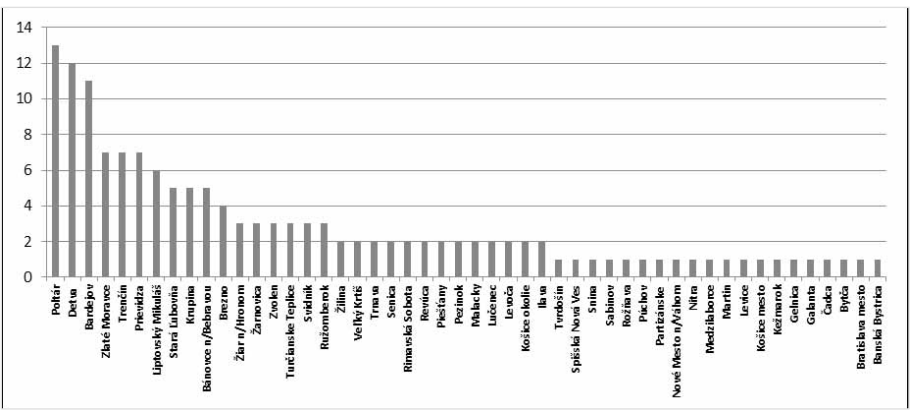
In the past, when the administrative units in Slovakia (as a part of the Kingdom of Hungary) were called seats and counties, the most of the Slovak glass factories came into the existence. In Slovakia, the deployment of glass factories in seats and counties was as follows – see graph 5.

Graph 5: *The number of glass factories according to historical seats – counties (irrespective of the time of working)*



As we can see in the graph 5 during the historical period (until the 1950), glass factories were established in the seats – counties with more significant area of higher altitudes and thus timbered area with forests structure pertaining to a given altitudinal zonation. The glass factories were located mainly in the higher altitudes in Novohradska seat – county (19), Trenčianska and Nitrianska County. Šarišská County with 14 glass factories was dominant in the Eastern Slovakia. Only one glass factory (in Tvrdošín) belonged to Oravská County, where in the forest are dominant mainly needle-leaved trees. Glass factories were not located in the dolnozemská Counties, respectively in counties: Komárňanská, Ostrihomská; with the small area of timbers and agricultural oriented areas, where are not suitable conditions for glassmaking because of lack of beechwoods.

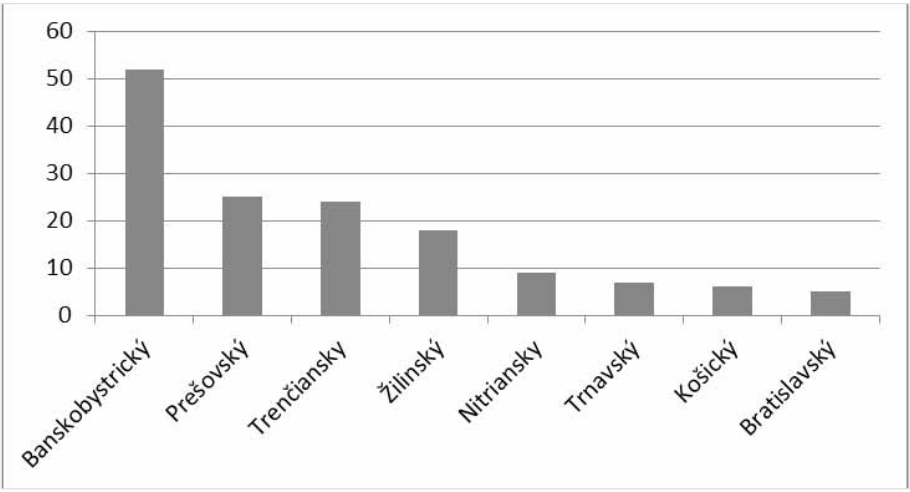
Graph 6: *The distribution of historical glass factories according to current districts in Slovakia*



For better spatial vision, we present historic deployment of glass factories according to current districts. Throughout history, the glassmaking was presented in 50 current districts in Slovakia (63% of districts). More than 10 glass factories were located in Poltár (13), Detva (12) a Bardejov (11) districts. More than 5 glass factories were in the next 7 current districts : Zlaté Moravce , Trenčín, Prievidza (7), Liptovský Mikuláš (6) and 5 glass factories were located in Stará Ľubovňa, Krupina and Bánovce nad Bebravou district. During the history, the only one glass factory was in 20 current districts (graph 6).

Cumulating the data of current regions, the situation is the most favourable in Banská Bystrica region (52 glass factories), Prešov region (25) and Trenčín region (24). On the contrary, they are 5 glass factories in Bratislava region, 6 in Košice region and 7 in Nitra region – graph 7.

Graph 7: *The distribution of historical glass factories according to current regions in Slovakia*



However the glassmaking have not persisted in these regions, in regard to unstoppable development of competitiveness and others location conditions, in these regions are saved many movable and immovable artefacts that are falling into disrepair. As cultural elements, they have a potential for substitution use. In case of revitalization, they can serve the purpose of the original or similar utilization as well as they can be used in cognitive tourism.

CONCLUSION

Glass industry is one of the traditional industries in Slovakia. However the recent years cannot be considered as favourable for its development. Along with textile, clothing and leather industries, we can assign it to the sectors that have to face the stiff competition, especially from Asian countries. It is due to the fact that mentioned industries constantly require a high proportion of manual labour (mainly in the production of domestic glass).

Map 2: *Glass regions and localities in Slovakia (14 th - 20 th century)*

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To survive on the market, it is necessary to modernize production facilities, to introduce the latest production technologies, but it requests a considerable investment. The good news is that many companies (Johns Manville and Ron Lednické Rovne) have announced the modernization of production lines in the next few years. Production restoration in Slovglass Poltár is sounding more promising at that time, because in 2014 the company gained the state donation to its "rebirth". The products of this company should be able to find a trade outlet in the Middle East, for instance. Determining programs for development and modernization that should have guaranteed the future progress are aimed at:

- the introduction of the most progressive technologies of manufacturing of glass fibres and products of them
- the modernization of production of domestic sodium and potassium glasses and leaded hollow and technical glass
- the modernization of thermal insulating materials
- the saving of energy consumption
- the reduction of import expensiveness of production
- the revitalization of old glass factories by establishing the glass open air museums, ecomuseums, etc.
- the strengthening of sole trader sector and maintaining the traditional manual production and artistic formation of glass.

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GEOPOLITICAL ANALYSIS OF NATIONAL REGIONAL DIFFERENTIATION.

SELECTED ASPECTS OF INNER GEOPOLITICS OF RUSSIA.

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Abstract: *Internal geopolitics presents a new challenge for the development of geopolitical thinking.It focuses on several issues related to the functioning of the state in relation to its action in the international arena. The article outlines the main theoretical basis of internal geopolitics, which is applied to the conditions of the Russian Federation. The article emphasizes the specifics of its internal structure, while critically relies on the proposition of Russian authors.*

Keywords: *geopolitics, innergeopolitics, Russia*

INTRODUCTION.

The term geopolitics in its various modifications used an increasingly broader semantic spectrum nowadays. Nevertheless, the geopolitical importance of thinking of political practices, especially in the context of functioning of state is underrated. Geopolitics is understood primarily as a study of political-state operation of power in the international arena, especially in terms of the formulation of the doctrine of foreign policy, as well as its implementation in practice in terms of its national interests.

In this context, it is understood by M. I. Glassner (1996), who considered the application of geographic information and geographic perspectives in the process of formulation and implementation of foreign policy. This understanding of geopolitics combines the process of division of the world of space between different geopolitical entities, thereby underlining its international (supranational) dimension. The national aspect of geopolitics that has a significant effect on the action of the State as a subject of international relations was recently on the side of geopolitical thinking.

Applied geopolitical thinking operates with four spatial scales in the definition of which shall be developed for analysis.

So we can focus on global geopolitics (which actors are important global international organizations and global powers and aims to solve the problems at the global level, in particular the issues of peace, international cooperation and the hegemony of power), supra-state (macro-regional) geopolitics (whose main actors

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are mainly regional international organizations, regional powers respectively, numerous ethnic and confessional communities and its aim is to solve the problems of large civilizations, maintaining macro-regional stability, etc.) and national (state) geopolitics (which actors are nation-states) that addresses the issues of state action on the international scene. The fourth level is sub-national (domestic) geopolitics, which actors are different regions of the hierarchy (especially territorial and administrative units) and communities living in them, respectively, minority communities living in mixed communities in the territory. Some authors allocate at the subnational level two levels: regional and local levels (Turovskiy 2013)

Sub-state geopolitics addresses issues of the status of regions of different hierarchical levels, the application of subsidiary, as well as the share of regional communities and minorities in state power, even in the context of the possibility of enforcement of their interests at the international level. This is particularly the elimination of national centrifugal forces (particularly separatist) that weaken the cohesion of the state. Subnational geopolitics should therefore be involved in the search for optimal solutions in favour of maintaining, respectively strengthening the stability of the state and influence the behaviour of politicians towards this goal. This factor has significant impact on its position, the action and influence in the international arena.

On analysis of internal geopolitics, which our contribution deals, is involved in the subnational dimension of geopolitical thinking in connection to the national (state) scale. This reflects the fact that the state must be studied not only in the context of its internal structure (consisting of regions of different scales), but also as a holistic phenomenon, defined by boundaries, which maintains relations with the international community. As G. N. Nuryshev (2005) writes, the formation of transnational world leads to divert foreign policy to the internal states and vice versa. Understanding between external and internal geopolitics are gradually losing differences. Each state, a specific model, focused on maintaining its territorial and political integrity of the coordination of foreign and domestic geopolitics.

THEORETICAL ASPECTS OF INTERNAL GEOPOLITICS

It follows that one of the ambitions of geopolitical thinking should be a comprehensive view of the functioning of the state in terms of its understanding as a spatial-political structure. This structure consists of regions of different hierarchical degree,which activity should be as a subject to geopolitical analysis. In this context there is a need to emphasize the importance of internal geopolitics. National interests that are trying to push individual states are heavily influenced by spatial-political factors. Therefore, to their fulfilment can significantly contribute geopolitics, which is in its “classical” form linked to the realization of national interests of a particular state in practice.Geopolitical analysis should answer the question of what should be done to meet this objective, respectively;what kind of action is needed to bring this filled. One of the conditions for the successful implementation of national interests is the promotion of the national population, which is connected with a sufficient degree of stability is one of the aspects contributing to the growth of the importance of analyses that internal geopolitics provides.

In this context, it is necessary to take into account the influence of other factor that is the growing importance of national actors. This process is associated

particularly with the decentralization of responsibilities from the central authorities of the state to sub-state regions of different hierarchical levels, and this process takes place mainly in countries with democratic regimes. In addition, in the last two decades we have seen a growing number of internally destabilized countriesin the world,where the central state power is inefficient, respectively, weakened under the influence of national centrifugal forces.

This was reflected in the increasing interest of geopolitical analysis of sub-state actors, in particular regions and minority communities. State as the most important international geopolitical actor both within its operation must take into account their spatial-political action, with a view to its aim - to achieve the highest degree of internal stability. This stability is based on three dominant postulates:

- Ensuring efficient power and political control of the state territory by central government authorities;
- Maintain compactness and territorial integrity of the national territory in terms of eliminating centrifugal forces;
- Strengthen the stability of the ruling political system (Ištok 1996).

Developing of internal geopolitics is also a reflection of efforts to use knowledge regularities on functioning of the globalized world in which the changing status and role of the state. Increasingly important role in the new global situation is played by the various national regions and localities. Geopolitical activities are becoming to new form; while within them still mobilize new actors into andparticipating with more people. This process is reflected in the growth number of conflicts of different nature, the escalation of political power rivalry and struggle for enforcement of various political or cultural values. To these processes occur at all spatial levels - from global to subnational.

Internal geopolitics has been developed mainly in France. Its traditions were based on the works of great French geographers, like P. Vidalde la Blache, A. and L. DemangeonFebvre.It is also tie with the tradition of French geopolitical thinking, especially the spiritual legacy of his compatriot A. Siegfried, who examined the percentage of ideas of political parties and movements in the context of regional structure of France. Systematic development of this direction (in French la géopolitique interne) is now linked to the work of contemporary French geographer Y. Lacoste and his followers, combined magazine about Herodotus (1986 wide team under his guidance issued by the extensive work to analyse regions of France). Y. Lacoste understood the internal geopolitics as an analysis of specific regional situations using selected methodological models, which are taken from classical geopolitics. Internal geopolitics was reflected in a large number of works that analysed the territorial-administrative units of France on different hierarchical levels (from regions across departments to cities). According to them is geopolitics understood very broadly and is associated with a variety of spheres, sectors and activities, with virtually all manifestations of human and social activities (Tomeš 2000).

Development of internal geopolitics in recent decades has been a turning point in the geopolitical thinking and at the same time opened new horizons for its further development. We can speak of "deglobalization" of geopolitics, which create new possibilities for the use of the geopolitical approach until a few mainstreamed into the subnational scale. In recent years, the internal geopolitics developed in the United

States, the United Kingdom, as well as Latin American countries. For this dimension of geopolitical thinking is gradually being called the term internal geopolitics *(inner geopolitics, geopolíticainterna*).

Currently, there is widely emphasized on the importance of internal geopolitics in intellectual discussion of the future of Russia. The country is an ideal "laboratory" for the application of inter-geopolitical approaches, whereas regional stratification here has deep roots. Several Russian thinkers point out that the geopolitical analysis of the current situation and the future development of this state are decisive approach that is characteristic of geopolitics *(vnutrenňaja geopolitics)*. Territorial dimensions of Russia, as well as the transformation of its geopolitical position after 1991, accentuated the importance of thematically far reaching geopolitical analysis. Their objective is based on a comprehensive assessment of the current state of geopolitical propose alternative solutions to problems in the direction to achieving internal stability of Russia. This stability is the primary condition for restoring its great power status. As G. N. Nuryshev(2005) writes, the key problem of internal geopolitics of Russia is to maintain the unity of the internal geopolitical space, as well as integrity of the state within the borders of the former Russian Soviet Federative Socialist Republic. For Russia is therefore a priority to develop national geopolitical concept, which should include an analysis of each region from the aspect of socio-economic, natural, historical, ethnic and other geopolitical determinants.

Internal geopolitics is understood as part of an innovative geopolitical school, which is called the new geopolitics. The direction of geopolitical thinking in contrast to the "classical" geopolitics, focusing primarily on the natural environment factors, considered to be the dominant human factors (demographic, economic, and sociological characters). Taking into account that any spatial hierarchical levels - from national regions to global dimension. As Ó Tuathail (1996) writes, understanding of the term spatialization in terms of spatial organization in the geopolitical thinking "spread" of global; respectively super state scale to the state or regional dimension.
It should be stressed again that the internal - inner geopolitics is applied toward geopolitical thinking. This is a power-political analysis, which is useful for understanding the relationship between regions of different scales themselves, while the state as a whole and also in relation to its position in the world. Broad understanding of internal geopolitics allows framing a broad spectrum of geopolitical analysis, preferring a variety of factors to take into account the condition of their national spatial dimensions. Internal geopolitics includes mainly analyses the following topics:

- The establishment and operation of space-political organization of the state, priority territorial and administrative division;
- Spatial distribution of power and political forces within the State within the meaning of the relationship between the centre and regions, respectively between regions with each other (and also other specific relations and digestion);
- Power and political context of the application of the regional policy of the state in relation to the centre of the region;
- Power and political status of ethnic, confessional and racial minority communities in the context of their impact on the stability of the state.

Geopolitical analyses linked to the operation of state are essential for the assessment of its internal stability. Antagonistic forces that operate within should

be considered as subjects to geopolitical analysis, which is linked to the power and political objectives of the specific political forces acting on the citizens of the state. These forces can promote the application of centripetal tendencies (which aim is to unify and strengthen the state), respectively encourage centrifugal tendencies (which erode the unity of the state). Internal geopolitical analysis may include a wide range of approaches to this issue, and cannot ignore the impact of "external" geopolitical factors on the stability of the state, which takes over from the 'classical' geopolitics.

SELECTED ASPECTS OF INNER GEOPOLITICS OF RUSSIA

Extensive territory of the Russian state, which expansion has been shaped over more than four centuries led to the emergence of the concept of "burden of space", which introduced the Russian philosopher I. Ilyin. This burden, according to several authors related to the visibility of the efforts of Russia in the international arena. According to Russian philosopher P. A. Chaadaev had to be extended Russia from the Bering Strait to the river Oder to get noticed at all in the world (cit. Nolte 1992). Vast territory, controlled by Russia does not mark only its superpower status. He also met with the view that the size of Russia was his misfortune. The state long bore its imperial burden, only to have his government paid close attention to the changing area of law as a definite sign of its global superpower status. The extensive Russia Empire, however, the increasingly heavy burden for the Russian state-forming nation.

As wrote philosopher N. Berdyaev (2003) the territorial expansion had a great importancein the life of Russian society, as evidenced by the fact that it has become a collectively alongside with Orthodox one of the pillars of Russian idea, which appeared in the late 19th century. The author also stresses, however, that the Russian nation was exhausted by tremendous loss forces, which had caused him vastness of the Russian state. Colonization of large areas had always been a significant burden on the national economy, absorbing a huge material and human resources, but also the mental energy of the Russians. It could not be reflected well on the political development of Russia and the management and organization of large territory. This historical experience is also reflected in the current spatial-political structure of Russia despite the Soviet Union as a successor empire, must therefore be taken into consideration in the analysis of the domestic political landscape.

According to V. Weber (2001) the excessive size of Russia was the root cause of its backwardnessand its political and economic system was unable to handle it. As Weber pointed out, the effort to keep growing empire and to solve the problem of managing such a large territory at the same time wasover the economic potential of the Russian state. It turns out that it was and still is too high tax for great power behaviour of the Russian ruling elite and for increasing Russian confidence. The emergence of internal political and economic crisis in the changing global situation at the end of the 20th century was therefore essentially inevitable.

The effort to find effective power-political organization of the vast territory stagnated for a long period on a system of self-governance (samoderžavija). Its application could under certain historical conditions, not only to fulfil the role of "administrator" imperial territory, but also to secure the expansion of the territory through its relentless expansion. Constant fear of threats from „outside" justifies the legitimacy of the military forces of the empire as well as the totalitarian nature of the regime.As it turned out neither the Soviet system did not mean a substantial change

in the nature of a totalitarian regime. Despite stalled Russian expansion, respectively even retreat Russia from conquered the territory in the early 20th century (after the First World War) the imperial policy was a part of the political doctrine of the Soviet Union as the successor to Russia. It has been partially transformed only in terms of creating spheres of influence thus abandoned by direct connection to the Russian state. This was reflected in the system of satellite countries in Central and Eastern Europe.

The disintegration of the Soviet Union as a successor to the Russian Empire for the political elite and the Russian people meant a huge shock. As said, the current Russian President V. V. Putin, it can be seen as a "geopolitical catastrophe". It is therefore obvious that at present only the Russian ruling elite, but also looking for Russian geopolitics in the imperial past in addition to inspiration and ideological justification for the theory and practice of Russian foreign policy. Recent developments suggest that it is still valid, says British historian N. Davies (2000), who considers that Russia needed an increasing supply of countries and people to compensate for their sense of insecurity. Several authors point to the fact that the Moscow´s rulers so far mostly behave rationally and were willing to give up any territorial objective, if it is possible - as it presents too great a risk of interference with the Western powers. It turns out that is no longer valid, because of current development in Ukraine is seen as exceeding the "geopolitical carrying capacity" in terms of threats to his position.

As it was mentioned, despite the positive developments in the last thirty years in the context of historical experience the authentic application of liberal democracy is problem in Russia. According to P. Juza (1999), the application of any type of consolidated democracy in Russia tempered in the context of maintaining (or extension) of its current territorial scope. This is due to the fact that historically the territory of Russia is the product of purely imperial manner. Create a real functioning system of internal political-spatial organization of the Russian state in accordance with the principles of democracy and subsidiary is therefore a very difficult task.

It can be said that many problems associated with load space are badly in Russia today, despite the already changed political, economic and technological conditions. It should be also noted the impact of the huge dimensions of the territory on the settlement. Its isolated and separate character in the northern part of European Russia, Siberia and the Far East disrupts the internal continuity of a huge territory. It also affects the relationship complication remote regions to the centre.According to the Russian geographer R. F. Turovskiy (2005) is a realistic image of Russia archipelago, which consists of hundreds of large and small towns that are scattered in the forests. Residents of Russia havenot always inhabited contiguous territory, but lived in separate and spaced self-sustaining communities and thus lack a sense of national, respectively state of belonging (Pipes 1998).

The adversely effect on the internal continuity of the country also has enormously long communication, the use of which was and still is difficult to adverse natural conditions. These circumstances have always adversely affected the functioning of Russian society and weaken the internal cohesion of the state. To this may be added the problems with the formation of regional identity, which in Russia is only poorly developed despite considerable internal economic disparities. This applies particularly to areas with dominant ethnic Russian population. In the territory of sparsely populated Asian part of Russia and enhanced the macro-regional (Siberia),

respectively local identity. In terms of internal geopolitics are other shortcomings as well as asymmetrical ethnic structure of the entire country, greatly polycentricism developed and underdeveloped, poorly differentiated economy. In addition, the lack of developed communication network, as well as high transport costs are forcing some Russian peripheral regions (e.g. areas of the Far East) to make searching for economic ties with neighbouring states rather than the remote metropolis.

For problematic factor contributing to the difficult burden of space can also be considered natural conditions, particularly climate, which significantly adversely affect the suitability of a large part of the territory of Russia for the development of a modern economy and the emergence of permanent settlements. This applies particularly to areas with a tendency to the Arctic Ocean and the vast areas of the interior of the Asian part of Russia. The establishment of permanent settlements and economic capacity building in these areas can require high financial cost.This fact cannot fully offset the considerable resources of minerals and other natural resources. Significant changes in the regional structure of Russian north can cause climate change in the Arctic. These will affect the intensification of maritime transport along the northern coast and in the more distant future, the development of mining and quarrying (especially energy carriers) from the shelf of the Arctic Ocean. These situations may result in demographic and economic revival of the Russian North.

R. F. Turovskiy (2013) writes that, in connection with an area of Russia, it is necessary to emphasize the role of geographical distance, which has an adverse impact on governance. Long distance causes spatial polarization accompanied by the interregional differences and create specific identities of inhabitants of remote areas. There have been created the areas of geopolitical risks, which are characterized by a large distance from the centre of the country. Their parts can be separatist regions, respectively the territory in which they can pretend neighbouring states. Under the influence of these various elements is the provision of effective power and political control over the vast area of Russia challenging problem. His solution consisted in finding the optimal political system and in creating a balance in relations between the centre and regions. Vast territory of the Russian state and its features has always caused considerable difficulties for effective governance in the context of applying the optimal relationship model centre - regions. It was largely related to promoting centralization of government by totalitarian regimes, whatever their ideological base. The problem was a management of vast empire from a single centre. Recipe for its solution was centrally controlled transfer of power to the local ruling class. They terrorize the population through the relevant organs and also seek to ensure compliance with orders from the capital (Galeotti1998). The strength of the centre was personified ruler, disposing of an absolute power, relying on his spiritual and mystical irreplaceable role in Russian society. This position inherited the leaders of the Communist Party, among which this effect was dominated by J. V. Stalin.

History of development in the centre and the regions in Russia had several developmental stages. According to R. F. Turovskiy (2013) there were the substitution cycles of centralization and decentralization. After the great cycle of decentralization in the KievanRus in the 14th and 15th century asserted the trend of centralization and then there were various changes of these processes. After the demise of Czarist Russia after the Bolshevik Revolution was introduced federalism, where regional communities gained considerable power. We can conclude that there was a braking

process of disintegration through some "cosmetic" adjustments, mainly in the form of creating apocryphal Federation.

According to F. Pročková (1997) was the preservation of the main area of the Russian Empire by Bolsheviks redeemed for the price of creating a State which did not title the word "Russian" and its division into entities of republics as a federation. In the reign of Stalin argued for centralization and the Soviet federation received only a formal character. After the breakup of the Soviet Union during the reign of B. Yeltsin was the decentralization process that can name the attempt to create a "new Russian federalism". The period of V.V. Putin´s government strengthen the centralization processes.

During the whole history of the Russian empire, the relationship between centre and the regions is marked by the constant efforts of the city to expand and maintain the state's territory. According R. F. Turovskiy (2005) in this respect includes an entire logic of historical development of Russia as a spatial phenomenon. This is a traditional Russian policy of imperative. As follows from the above remarks, this model assumes an emphasis on centralization, respectively centralized control and leads to the suppression of regional principles. Today is therefore the definition of optimal model of the relationship between the centre and regions of Russia still an unsolved problem.

INNER GEOPOLITICS OF RUSSIA AFTER THE COLLAPSE OF SOVIET UNION

Russia's geopolitical balance of losses after the collapse of the Soviet Union was warned (Beydin 2006). Russia sensitively understood this decay as a loss of more than five million km squared of "their" territory. It has lost important approaches to prevent freezing seas (major ports in the Baltic and Black Sea). The whole territory of the state is as if shifted with respect to Europe to the north and east. Russia's new neighbours have become largely destabilized politically and economically less viable states. They are the light of Russian foreign policy considered as "near abroad", naturally belonging to Russia's sphere of interest, but also as threatening of its stability. As M. Galeotti (1998) writes, Russia had to be first in the new situation to deal with itself and with its altered geopolitical position.

The rapid development of geopolitical thinking in Russia in the last quarter century can be regarded as an inevitable phenomenon. After the trauma of the collapse of the Soviet Union, it was necessary to return the frustrated Russian society self-confidence, combined with the chance to return to the Russian state into a global power status. According to Russian politicians it is a place that Russia has its historical traditions, military power, natural and human resources, but especially its territorial size deserves. In this context it should be noted that pride of the area of state is a key element of Russian national pride and one of its last motivations in times of crisis (Besancon 2001).

Geopolitical thinking, enabling a wide variety to formulate conclusions, has become one of the appropriate tools for strengthening Russia's self-confidence. In the development of Russian geopolitical ideas in this context is often emphasized the concept of "island Russia", formulated by V. L. Cymburskiy in 1993 (see also Potulski 2010). According to him, it is necessary to focus attention on the Russian intelligentsia and its own internal problems in the spirit of philosophical ideas that

celebrate Russia as a self-contained "third Rome". At this direction should also focus geopolitics, which is aptly called "insular". This geopolitics, however, while not imply the conclusion of Russia in their problems or conscious isolation. Essentially, it means encouraging the development of internal geopolitics, which in its analysis should take account of development in abroad. As write Krivov A. and J. Krupnov (2006), in Russian geopolitical thinking has dominated internal geopolitics. Practical role of external geopolitics in Russia, according to them only consist in the fact that the world community to ensure support for internal stabilization of the Russian state, whose successful implementation is to contribute to the stabilization of the world system.

Geopolitical analysis of Russia according to T. A. Mikhailov, (1999) after the collapse of Soviet Union must be necessarily based on a number of specific premiums. It should be stressed in particular the balance of the characteristics of the Russian state, namely:

1. Centralized and state controlled economy, which should ensure, in particular the colossal military power.
2. Strict authoritarian, respectively totalitarian political system, coupled with messianic ideology, which was only called upon to manage the economy so focused and who was leaning against a huge military force.
3. Building Empire, thus vast territorial and political expansion, while increasing the size of the state creates new vulnerabilities, which stimulated further expansion.
4. The constant confrontation with the outside world as a result of the previous characteristics which justify its political system and all its specifics.

If we think of these starting points, then we can conclude that their contents die away today. Currently in Russia we can see the efforts to strengthen centralism, creation of illiberal democracy headed by a charismatic leader, the tendency to spread area and also increasing confrontation with the West.

As we already mentioned, a prerequisite for the empowerment of Russia in the world is its internal stabilization. Therefore, after 1991 internal geopolitics in Russia sought to emphasize the factors that Russia together into a single unit, using geographical, but also historical factors, respectively combination both of them. Analysis of the mosaic nature of the Russian country is associated with an occurrence of a number of "local" or "regional" statehood at the huge Russian plane in the Middle Ages, after the liberation from the Tartar yoke resulted in a robust state through a legitimate process called "harvesting" of Russian countries.This process did not stop at the borders of the Russian population, but logically continued on to the north and east, where the Russian colonization of the region created a "free and enterprising people", while the expansion of the territory to the west and south meant a spatial connection with the new Euro, respectively old Asian (Middle Eastern) history (Ilyin 2001).

R. F. Turovskiy (2013) points to the internal heterogeneity of contemporary Russia, which is related to several factors. Important role plays the time factor here, related to the time belonging to different regions of the Russian state (the difference between the regions in the historical centre and the Kaliningrad area). Another factor according to this author is the degree of ethno-cultural regions spacers against the statist core, which dominates the Russian Orthodox religious population. Based on

this factor may be entered Russian ethno-cultural and diverse ethnic core periphery, which consists of three areas: Volga-Ural, North Caucasus and South Siberian. Has a characteristic similar to the northern area, which, however, is sparsely populated and has a low proportion of indigenous population.

According to M. Ilyin (2013), the internal structure of Russia's geopolitical configuration characterized by specific population, which consists of three large structures. They operate on the basis of relations core - background. On this basis the Great Russian centre in Moscow defines the core, "Russian-speaking" area of the Urals and Western Siberia and the Far East. It points to the fact that especially the last two structures are characterized by "islands" that form the big cities and their agglomerations. In this context it should be noted weakness in such internal structure which lies in the lack of communication and economic infrastructure of the country.

Russian geographer J. L. Pivovarov (1992) also stresses the great diversity of the vast territory of Russia and mosaic, great differentiation of the population, economy and nature. Nevertheless, according to him, Russia is a synthetic world consisting of many nations, cultures and religions, is thus (as in the case of USA) boiler, which created new community of people. Emphasize the other positive features of Russian history, intended to strengthen the confidence of Russians. In this context, for example, emphasizes that it was the Russian nation, which created a single Eurasian state, and unite all nations into the "Eurasian brotherhood" and formed "Eurasian superethnic system" (Geopolitics and bezopasnost - harmlessness of Russia 2006).

Thus was formed the natural internal structure "Eurasian" Russian Empire, which was disrupted its decay. In relation to the current Russia it should be emphasized that the process of disintegration of the territory of the Soviet Union took place not only at the level of the union republics, but also threatens the stability of the Russian Federation. Its entities seek to get rid of genuine autonomy and dependence from the centre, respectively some of them tended to declare independence. This trend is less likely to be observed in other former union republics. Mentioned processes in the territory of the Soviet Union overlap and influence each other (Kotyk, 1998). Russia itself, however, was threatened by disintegration as a greater degree than most other former constituent republics.

From the internal-geopolitical analysis view, one of the causes of this phenomenon is considering that ignoring Russia's natural geopolitical subdivisions after the victory of the Bolsheviks. The emergence of the Soviet Union was associated with the definition of new quasi autonomous administrative-territorial units of different hierarchical degree, many of which had the ambition to rely on the ethnic structure of the country. Their territorial scope and position in the hierarchy is changed quite often. Thus formed deformation began during the crisis of the Soviet system significantly manifest their destructive potential. These contradictions, however, remained unchanged to this day, because these units have been retained after the collapse of the Soviet Union as the subjects of the Russian Federation. There is no doubt that after the demise of the Soviet Union, Russia has found itself in a dangerous situation, which threatened to escalate into its disintegration in the form of the second stage of the disintegration of the Soviet empire. Relations of the Moscow centre with some regions (Tatarstan, Bashkortostan, Chechnya) has become increasingly difficult, even acquired an explosive character. Efforts to achieve some degrees of independence from the centre, but hit all regions of Russia, though with varying intensity.

In terms of the analysis of internal geopolitics is worth mentioned that for the majority of federal subjects in a relatively short time after the collapse of the Soviet Union created quite influential regional elites, and so such entities are given the status of real actors involved in the political and economic power federation. These elites, however, show a long time interest in the elaboration of strategies relations between the centre and regions and between regions to each other, which would correspond to the new situation.Therefore in Russia a long time absents a coherent conception of regionalism. Instead, create a special administrative pyramid on top with Moscow under which to establish a hierarchy of regions - "provinces" that controlled regional centres - "little Moscow". The situation is especially complicated economic differences between subjects federation of this aspect of a heterogeneous mosaic of regions. This created a complicated knot of mutual contradictions, consisting mainly of conflict between economically self-sufficient regions and subsidized regions, which affects their relationships and also their relationship with the centre. Economically developed regions in contrast to the backward regions seek to obtain the highest degree of political and economic autonomy.

With this tendency is indirectly linked the factor, which emphasizes R. F. Turovskiy (2013). According to him, Russia is characterized by the existence of national macro-regions, which are linked to the main sub-state identity. Their boundaries are often unclear (there are between areas without clear identity). At the same time, it must be emphasized that the identity of the inhabitants of these macro-regions are developed to varying degrees. This is the 10 macro-regions: North Wing, Russian North, Northwest, Centre - Medium Russia, South, Volga Region, Ural, Siberia, Far East and the Kaliningrad Area.

Analysis of the internal geopolitics of Russia logically aims at identifying the real geopolitical structure more than twenty years after the collapse of the Soviet Union. They rely in particular on the definition of its natural cores (which may have different hierarchical level) in relation to peripheral regions. Account is taken of a vast complex of geopolitical factors, e.g. location, population density, ethnic structure of the nation state-building positions, respectively level of infrastructure. Particular emphasis is placed on these analyses the status of the issue especially sensitive regions of the functioning of the Russian state, such as the Volga, Ural, Siberia and Far East.

If we conclude that the internal geopolitics of Russia is still largely uncertain (Ilyin 1998), then part of the Russian thinkers but also follows a policy oriented analyses deserve considerable attention. In this context it should be noted that due to the size of Russia, and also in the context of his ambitions, cannot be strictly separated in the Russian geopolitical thinking external and internal geopolitics. According to several authors the basics of Russian geopolitics are derived from the national space. According to him, it is necessary to examine Russia's geopolitical space in the unity of the internal and external components through its internal and external interests. Thus, the analysis of the internal geopolitics of Russia must be strictly subordinated to his outside interests, the primary of which is to restore Russia's status as a global geopolitical actor. It is therefore clear that several conclusions aim to promote an optimistic approach to find new ways to rebuild Russia's size.

EFFORT OF CENTRE TO CONSOLIDATE TERRITORIAL INTEGRITY OF RUSSIA AND SELECTED CONCEPTS OF INSIDE-GEOPOLITICAL ANALYSIS

Russia inherited from the Soviet Union (and the Russian Empire) asymmetric and multilevel character of territorial and administrative division (Turovskiy 2013). Thus it formed a complex system of units which formally created federation of nearly 90 departments. Some of them had a nation-state in nature (they are formed for the "non-Russian" ethnic communities), the others were kind of direct part of Russia (included in particular areas). In addition, the Russian federalism is still characterized by marked heterogeneity names of individual units. Between the collapses of the Soviet Union consisted of the Russian Soviet Federative Socialist Republic 16 Autonomous Soviet Socialist Republic, 5 autonomous regions, 10 autonomous circles, 6 regions and 49 areas. It was therefore rather different structure. Such system in the period of historical breaks presented the danger of destabilization and disintegration of the state.

The centre has tried to deal with the danger of disintegration of Russia by formulating a Federal agreement, which was signed by almost all regions of the 31 March 1992 completing the legislative process was the adoption of the Constitution of 12 December 1993, which reflect the specific nature of Russian federalism. According to the Constitution, all territorial administrative units of First Instance acquired the status of equals Federation subjects. It was created as a specific phenomenon of "composite" federation subjects, where there are entities Federation, involving others Federation (Turovskiy 2013). By this act created a difficult problem, which seeks to deal with Russia today.

Federal agreement as well as the current constitution was stabilizing the asymmetric nature of the federation. This asymmetry reinforces the fact that different regions (the status of federation subjects) are very specific in terms of their internal development, population structure, as well as economic level and thus necessarily mutually differ significantly. In this respect Russia consist entirely unique state entity (Kotyk, 1998). In addition, the period after the collapse of the Soviet Union was also different in status between the various republics. Some of them acquired under agreements with the centre gained a greater range of powers. Reaction was moreover failed attempts of some "Russian" federal entities (counties and regions) to obtain the status of republics (e.g. Sverdlovsk region has sought to establish itself as the Ural Republic). It turns out, however, that the process of emancipation in some regions continues to this day (the efforts of the regional elites Siberia, the empowerment of the macro-region in the Federation). In addition, there was in the 90s of last century to the establishment of inter-regional associations with an aim to coordinate the economy.

When signing the contract to the Federal Administrative Russia was divided into 21 republics (which possess the highest degree of autonomy), 1 autonomous region, 6 regions, 49 regions, 10 autonomous circuits and 2 cities of federal significance (as a new type of unit structures Federation). Thus, the Russian Federation consisted of 89 subjects, more than in the Soviet period. Republic, autonomous region and autonomous circuits were formed on ethnic basis, other units (especially the area) were from ethnic terms "Russian" character. Before the reforms of the federal structure that took place during the reign of President V. V. Putin, was criticized this asymmetric division. According to Russian geographers V. A. Kolosov and N. S. Mironenko (2001) it is

complicated in terms of hierarchical structure, the different entities of the same level are not equal, it is excessively fragmented, and many centres of government are weak in terms of their position in the hierarchical settlement structure. There is no doubt that the fragmented structure of the federal units accounted for centralized management, which is promoted in Russia, as a very inefficient system.

After a year, the government V. V. Putin the centre focused on levelling power status and competence of the Russian Federation. Gradual transformation of this complex system is from 2003, while its goal was to reduce the number of subjects Federation and streamline their hierarchy in terms of their competence. Impact on the structure of the federation will have annexation of Crimea on 21 March 2014 after the merger of several entities (territorial integration was to reduce the number of areas and autonomous circuits) currently has 83 Russian Federation subjects - 21 republics, 1 autonomous region, 9 regions, 46 regions, 4 autonomous circuits and two cities with special status. After a transitional period lasted until 1 January 2015 should be attached to the Russian Federation in the position of the Republic of Crimea and Sevastopol in the position of the city with special status.

It can be assumed that the process of reduction of Federation subjects is coupled with clarification of its structure that will continue mainly in the form of:

- Unification counties with former Autonomous District (which were until 1991 their parts and then became a republic);
- Unification of cities with federal importance with neighbouring areas;
- Unification of larger entities with neighbouring smaller entities that are not economically successful (Turovskiy 2013).

On May 13, 2000 on the initiative of Russian President V. V. Putin created seven regions (Federal District), associating entities Federation (in 2010 their number increased to eight). Their representatives appointed by the Russian president and represent the formal instrument of executive power. Main power structures of the federal circuits are acting as representatives of the Russian president by the monitoring, control and coordination function for the benefit of the city. It is therefore a tool aimed at optimizing central management in terms of fragmented structure of the federation subjects. In addition, the executive power generated in all subjects Federation departmental network, representing a centralized management tool whose role and importance of a diverse (Turovskiy 2013).

This trend is likely in the current Russian government to strengthen represents (and in the future will likely pose significant) part of determining centripetal forces. In contrast, the act (and no doubt will work) and opposite centrifugal forces stemming from the specifics of the Russian state. In particular, the above-mentioned the high level of internal regional differentiation of the country, coupled with ethno-cultural and socio-economic heterogeneity. Such a situation constitutes an appropriate basis for strengthening the regionalist tendencies (which can be eliminated reforms) and secessionist efforts (which may not be subdued path of reform from the centre).

Creating a Federal District is understood by the regions in two senses. On the one hand is considered as a step centre, directed against disintegration trends and on the other hand, is seen as a precondition for the development of relations between regions within a radius of one another. In terms of evaluation of the current internal

political power structures of Russia, it is essential that neither V. V. Putin found the courage for a radical reform of the territorial-administrative organization of Russia. Definition of Federal District relies on the internal borders of the federal subjects of the Russian Soviet Federative Socialist Republic. These were largely defined in the 20th and 30th years of the last century during the Stalin government. Apparently there was also applied principle that it is better known evil than new one and that has nothing to risk major changes because they could destroy everything. This dilemma, according to M. Galeotti (1998) characterized the whole of Russian history.

Russian geopolitical thinking runs counter to the ongoing dilemma of Russian philosophical thinking. It has long been tossed about in search of direction of the Russian state which is difficult to find spiritual journey to Europe and was considered not to be part of Asia. Even now, the issue is related to current and finding sources of Russia's own internal and external revival. This also applies to internal geopolitics, as a Russian geopolitical thinking itself the objective of finding the optimal model for the stabilization of the Russian state, which can be performed by different models. One of them is the application of Western European experiences that are associated with the application of subsidiary and decentralization. Russian internal geopolitics but mostly promotes its own model for solving the stabilization of the state. In our contribution we mention only selected concepts, but in a sense, outline trends in contemporary Russian geopolitics.

The relationship between the centre and regions came to the fore immediately after the proclamation of sovereignty of Russia in June 1990 and quickly became the dominant issue of Russia's domestic policy, while further impetus became the disintegration of the Soviet Union. It can be stated that this situation prompted the development of Russia's geopolitical thinking in its internal dimension. The result was quite extensive discussions that sought to find the optimal path that would lead to internal stabilization of the Russian federal state endangered in the first years of post-Soviet existence of wave separation from its subjects.

Several authors in this context pointed to the need to revise the territorial and administrative division of Russia. To justify the high number of subjects Federation, as well as substantial differences between them in terms of their size, population, resource and economic potential. As we already mentioned, these views also responded central power. Criticism also points to the fact that these entities are indeed in line with current constitution equal, but have different status (republic, region, region, autonomous areas, autonomous regions and cities with special status).

Another problem is a phenomenon that is specific to the Russian Federation model. It lies on the fact that some entities are part of the Federation of others (despite the transformation of a federal division of autonomous circuits except the Chukchi autonomous area are part of the "Russian" regions or counties), which creates a number of contradictions and competence problems. Big problems create the mutual territorial disputes subjects Federation, which is now a few dozen (Sulgina 2005). All these negative factors still influence the effectiveness of management's internal cohesion and political stability of the state.

It is widely strengthen this trend promoted the idea of Russian nationalism. One of the supporters of the current Russian thinking M. Nazarov (2004) proposes to eliminate fictitious national services (Republic of autonomous circuits) in which the titular nation constitutes a minority "discriminates against other citizens", i.e. the

population of Russian nationality. Moreover, according to current federal structure and national structure of state power (deputies minorities are too high a proportion of the number of deputies of the Federation Council), which in his words offends the rights of citizens, committed to the Russian nation. Therefore, instead of artificial units based on ethnic differences would be fairer to ensure national minorities "All-Russian cultural autonomy, irrespective of their place of living."

These ideas are shared by the controversial Russian politician A. V. Mitrofanov (1997), who claims that the Russians are essential to promote "national egoism", because only this principle solves their dilemma as a nation to choose between "life and death". Its application means the destruction of all "national sovereignty" (i.e. republics, autonomous region and autonomous area) in Russia in addition to the sovereignty of the Russian nation. This step will lead to the consolidation according to him, the Russian state and progress of all peoples living on its territory. So then Russia could return to good administrative division in the form of governorates, which operated on its territory since the 18th century.

Post-Soviet Russian politicians promote the creation of a new administrative division of the Russian Federation (e.g. G. Yavlinkiy, A. Tulayev). This issue has also become a subject of research of state institutions. For example Council for the Study of the productive forces presented the President's Office proposal that Russia became a unitary state structured in 7 lines and 28 governorates (Jumper, 2005). Radical reform is not only opening the new issues of the administrative organization of Russia, but also means the opening of the amount previously unsolved problems. As already mentioned, even relatively authoritarian government of President V. V. Putin, it has never been able to afford and therefore opted for "buck-passing" the way "integration" federated entities in federal circuits. In addition, recent developments have shown that Russia can survive without radical reform of the administrative organization.

In Russia, moreover, quite intensively speaks of "dispute capitals". These are some of the unanswered questions as possible in terms of political and economic transformation (which persists to the present) from one centre to manage such a huge country (Galeotti 1998). Some authors consider that Moscow is the Russian state symbol "Eurasian empire" until Saint Petersburg has more to become a centre of a new, modern Russia, functioning on the basis of polycentricism. S. Gradirovskiy and S. Preslegin (2006) argued in this context that the system one centre was favourable to the creation of the classic period of imperial structures in the 19th and early 20th century, but today it is no longer an adequate response to the challenges Russia. It is therefore necessary to create several centres of power that will be functionally specialized and due to its functions will also be appropriately geographically localized.

According to them the „Atlas of power" in Russia should have looked like this:

1. Five places with the status of federal centres, namely:
   - Vladivostok as the seat of president (Pacific region will be the incentive for the development of Russia)
   - Kazan (resp. Samara) as the seat of the Prime Minister and the Government
   - Moscow as the seat of Parliament,
   - Tomsk as the seat of the judiciary,
   - St. Petersburg as the seat of financial institutions.

2. Seven cities as centres of circles:
   Kaliningrad, respectively Murmansk, Voronezh, respectively Smolensk, Rostov-on-Don, Nizhny Novgorod, Yekaterinburg, Novosibirsk and Khabarovsk.
3. Sieť miest, ktoré budú mať status konfesionálnych centier:

Vladimir, respectively Kiev, Sevastopol' and Blagoveshchensk as centres of Orthodox and Ufa, Kazan and Makhachkala as centres of Islam.

The authors of this interesting project recognize that such reform will require considerable organizational effort and determination, but it will lead, however, in their view, to optimize management and to accelerate development.

CONCLUSION

From current knowledge it is obvious that Russia thus still must seek a way to achieve the preservation of its unity and territorial integrity while ensuring autonomy of the regions. As G. N. Nuryshev (2005) writes there is a priority for Russia to retain a geopolitical space, controlled by Russia, subject to account for the coordination of the interests of regions, as well as regional and city-based relations within the federation and also NON historical formation of ethnic system. Doing so may lead to a situation where the individual regions spontaneously switched to other centres. Such a development could lead to liquidation of Russia as a geopolitical entity.

Towards the consolidation of the internal structure of Russia related to activities of central state authorities, which in the case of the Russian political system influenced the current non liberal political system. In addition, it should be emphasized that creation of functional internal organization of such a huge country such as Russia is undoubtedly a complex issue. On the one hand, the views on the political map of the world is very flattering for Russians, on the other hand, the territorial government Colossus considerable economic problems.This follows from the fact that a large distance is a considerable burden for the economy. While in the development of rudimentary economy (colonization of uninhabited territory, fur trade), this factor did not play a significant role, at present, the situation is different. The area is necessary to recover economically, and in terms of benefit mainly to manage the state (Besancon 2001). In this context, it is necessary to ask whether the current power structure of the Russian state (even after power-political changes taking place since the beginning of the new millennium) is able to handle these tasks.

In addition, we can say that Russia experienced two different targeted development trends. On the one hand, the efforts to ensure the unity of the state, relying on the legal homogeneity throughout its territory, and on the other hand, the need to maintain ethnic and economic sovereignty Federation entities that make up the natural heterogeneous regional-political structure of its vast territory. As already mentioned, the area of the territory associated with ethnic, cultural and economic heterogeneity create the conditions for a high degree of internal autonomy of regions and necessarily preclude the achievement of absolute centralism. On the other hand, the weakening of the centre raises concerns in Russia with an impact on the regions and the growth of separatist tendencies, which can destabilize "the whole system of territorial state" (Ivashov 2006).

Internal spatial-political structure of Russian legacy of the past interferes with the development of number of factors. This heritage is a politico-cultural structure of

space. R. F. Turovskiy (2013) has earmarked 6 main elements that affect it is affected:
- Fission"centre - periphery";
- Fission "city - countryside";
- Fission "North - South";
- Fission "West - East";
- Fission "Russian core - ethnic periphery";
- Fission "inner core - borders".

The central government of Russia in the current conditions has a dilemma how to consolidate his power in his own space. This process is an important way to achieve the goal of restoring Russia's global position as a world power. According to R. F. Turovskiy (2013) spatially-balanced political system can work only under the suppression of impulses from the regions. In every country (especially territorial extensive and ethnically differentiated) regional communities have developed their identity and also their political interests. This is not possible without the threat of destabilizing the central government (even in conditions of limited democracy) to ignore. Therefore, mechanisms are created for the presentation of regional interests which may conflict with the interests of the city in favour of the relative dominance of nationwide (national) interests throughout the country. The ideal model is the acceptance of regional interests with harmonic asserting nationwide priorities. Therefore, there should be a functional regional autonomy and ensured participation of regions in shaping decisions at the national level.

Solution, beneficial to the whole of Russia, would be to judiciously designing regional policy, tailored to the specifics of the Russian state, which should be based not only on the hierarchical structure of the Russian Federation, as it was previously. This policy should take greater account of the Russian space network structure, based on direct inter-organization relations. In this regard, reference should be made to the reserves that can be found in the regions.Their elites have not created clear and unambiguous political doctrine of regionalism, which would not be explained from the centre as separatism. New "transregionalism" should create a new, All-Russian, truly polycentric regional structure, functioning without directives from the centre of competence over exposed. Pragmatic view on this issue from the position of the internal geopolitics would certainly contribute to the stabilization of the Russian state.

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LA PRODUCTION FROMAGÈRE À ZÁZRIVÁ UNE LOGIQUE DE DISTRICT INDUSTRIEL?

DOES THE CHEESE PRODUCTION IN ZÁZRIVÁ HAVE AN INDUSTRIAL DISTRICT LOGIC?

Daniel RICARD [1]

Abstract: *Following the ancient works of the British A. Marshall (1890), some searchers, economists, but also geographers, have gradually worked on the appearance and characteristics of industrial districts. Those districts also called clusters (in GB) or localized systems (SPL) in France stand for a particular organization of productive systems in territory, generally a small-sized one. We find there companies with similar or complementary activities, which use human capital and which have weaved particular relationships and interdependent set. Finally, that local specialization and those forms of collaborations are presented as positive and depicted by the searchers as a competitive factor, creating wealth and local development industrial district is thus an asset for the concerned territories. Their efficiency has largely been put forward in Italy, but those industrials districts also exist somewhere else in Europe and throughout the world and are often performing. We find such dynamics in northern Slovakia, notably around the Kysuce textile business, or in the wood industry near Žilina and Rajec. We focus here on Zázrivá region which offers a similar configuration with milk valouring thanks to a traditional cheese speciality: korbačiky. This activity has strongly been developed since the end of communism; it occupies several companies and employs several tens of people in a village which shows today evident signs of renewal. We will try to think about the real integration of the productive dynamics of Zázrivá region in logic of industrial district. There are three main questions and will deal with the following points. The industrial or artisanal character of this strategy. The intensity of relations between companies and collectives strategies. Those relations and strategies seem quite limited, even if they have developed there since a few years a project of protected geographical indication (PGI / IGP) for korbačiky. Third point is about valouring or not local resource. Effectively, firms little valour ewe milk produced locally and prefers catering in hrudkovy syr outside the valley, in artisanal or industrial dairies using ewe and cow milk.*

Key words: *Local specialisation, Industrial district, Region of Zazrivá*

INTRODUCTION

J Zázrivá est localisée dans une vallée des montagnes du Nord de la Slovaquie. Ce village, classique des Carpates slovaques, s'individualise en fait par le processus de développement original qui s'est mis en place ici depuis 20 ans, fondé en partie sur une intense activité de transformation fromagère et notamment sur l'élaboration d'un produit spécifique de ces montagnes : les korbáčiky. Cette dynamique agroalimentaire originale, unique en Slovaquie et peut-être même en Europe, pose de nombreuses questions au géographe qui enquête dans le village. On s'interroge alors sur l'organisation de ce système de production, sur les rapports qu'il entretient avec le

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territoire et, finalement, sur la présence éventuelle ici d'un *système productif localisé (SPL)* ou *cluster*.

I – ZÁZRIVÁ: AU COEUR DE LA MONTAGNE SLOVAQUE

A – Contexte montagnard et activités économiques

Le village de Zázrivá est situé entre l'Orava proprement dite (la montagne située à l'Ouest des Tatras) et le massif des Malá Fatra, connu par le bourg de Terchova, sa statue de Janošik, la station touristique de la Vrátna dolina et la montagne du Veľký Krivaň.

Cette grande commune de 6 725 ha comprend plusieurs vallées qui se rejoignent au niveau du village, bâti lui-même à 600 mètres d'altitude. En dehors de l'étroite «plaine» de la Zázrivka, où est installé le village principal, la commune est constituée de grands versants herbagers, à la topographie souvent tourmentée, qui grimpent jusqu'à 800 ou 900 m d'altitude. L'habitat y est dispersé ou regroupé en de nombreux hameaux (Havrania, Grúne, Plešivá, Petrová…), une situation très différente du reste de l'Orava où dominent les gros villages. Plus haut, les versants se couvrent de forêts qui occupent plus de la moitié de la superficie communale. De tous côtés, la commune est limitée par des sommets à la topographie assez lourde qui culminent à 1 394 m au Minčol (au Sud-Est). Enfin, à partir de 1 100 à 1 200 mètres d'altitude, la forêt cède la place aux *pasienky* (pâturages d'altitude) qui, toutefois, sont peu étendus. Zázrivá s'inscrit donc pleinement dans le contexte des Carpates et de la moyenne montagne slovaque, une montagne assez froide en hiver, humide et souvent très neigeuse.

La commune ignore l'industrie et vit de l'agriculture et des emplois tertiaires classiques. Le tourisme s'y développe, mais le village ne dispose pas d'installations de ski, ni d'une vraie réputation touristique et la dynamique d'ensemble reste donc limitée : un hôtel au cœur du village, deux ou trois restaurants de type *hostinec*, plusieurs *penzión*…. La construction d'une maison de retraite destinée à l'accueil d'une clientèle aisée, slovaque ou internationale, devrait permettre de diversifier prochainement les activités. L'agriculture reste donc importante, mais elle est plutôt en difficultés et peine à entretenir cet espace de montagne assez difficile à mettre en valeur. La coopérative notamment est sortie affaiblie de la transition post-communiste, les agriculteurs privés, assez nombreux, n'exploitent souvent que de petites surfaces et l'élevage ovin n'est pas très dynamique.

Le bilan économique d'ensemble est donc modeste et Zázrivá vit largement de ses relations avec l'extérieur. En effet, en dépit de sa position de cul-de-sac, le village n'est pas réellement isolé, situé à moins de 10 km de Párnica et de l'axe de la vallée de l'Orava[2]. Or, on trouve là de nombreux emplois tertiaires et surtout industriels : usine sidérurgique d'Istebné, vaste zone industrielle de Dolný Kubín puis, un peu plus loin, chaîne de montage automobile Kia de Žilina et, plus au Nord, zone industrielle de Nižna. Beaucoup d'actifs de Zázrivá partent donc travailler chaque jour dans la vallée, surtout à Dolný Kubín.

Cette situation d'ensemble relie en fait Zázrivá à la Slovaquie d'aujourd'hui, moderne, urbaine, industrielle et dynamique et explique le maintien d'une démographie

[2] *L'axe de l'Orava permet de joindre Žilina à la frontière polonaise avant de continuer vers Cracovie.*

assez dynamique : la commune compte en effet 2 720 habitants, soit 40 hab./km², une densité assez remarquable compte tenu de la configuration des lieux et de la faiblesse de l'emploi sur place.

B - Retour sur l'économie agricole traditionnelle

Le village s'est longtemps inscrit dans le contexte de l'économie traditionnelle de l'Orava, marquée par une certaine contrainte climatique et, à partir du milieu du XIX è siècle, par une forte croissance de la population[3]. La commune fait alors une large place aux cultures d'autoconsommation (pommes de terre notamment) et aux prairies et la pression démographique accélère le morcellement des parcelles. Ici comme dans tout l'Orava, la tradition était celle de l'élevage ovin, avec de nombreux troupeaux qui fournissaient à la fois laine, lait et viande. La présence de cet élevage avait favorisé le développement de la transformation fromagère à la ferme, notamment en korbáčiky. Ces filaments de fromage, de 40 à 50 centimètres de long et de quelques millimètres de diamètre, tressés ou non, sont des pâtes filées et sont vraiment particuliers, spécifiques à la région, appréciés par les slovaques. L'élevage ovin connaît toutefois un recul structurel dès les années 1870[4], en liaison avec la crise de la laine (concurrence de l'outre-mer), puis celle de la viande et enfin face au développement de l'élevage bovin laitier socialiste, stimulé par le régime après 1948[5]. Dès lors, la tradition ovine, laitière et fromagère, recule à Zázrivá, sans disparaître toutefois.

La collectivisation se concrétise surtout par la création d'une ferme coopérative, avec passage au salariat agricole, réorganisation du parcellaire et du paysage, développement de l'élevage bovin laitier et intégration dans des filières agroalimentaires (collecte par les laiteries notamment). Deux éléments importants sont à considérer à propos de l'évolution agricole pendant cette période. Tout d'abord, la collectivisation est tardive, puisque la coopérative n'est fondée que vers 1980. Une telle configuration se retrouve dans d'autres communes de la montagne slovaque, jugées marginales et à faible potentiel agronomique et qui n'ont justement été collectivisées qu'à cette époque, quand généralisa ce type de structures. La coopérative, dont les bâtiments dominent le village, aura donc fonctionné, en tant que structure collective, moins de 10 ans ! Le second point important concerne la permanence de la fabrication de korbáčiky[6] puisque le réseau des magasins *Jednota* en faisait fabriquer et tresser

[3] *Il y avait déjà 2 441 habitants dans la commune en 1880.*

[4] *Les effectifs ovins slovaques passent de 2 974 379 têtes en 1874 (maximum historique) à 1 288 638 en 1910, puis à 660 658 en 1920, pour atteindre un point bas de seulement 276 365 têtes en 1945. Le recul est donc de 93 % sur la période ! (Mintálová, 2004)*

[5] *Dans les atlas tchécoslovaques de l'entre-deux-guerres, le vieux foyer slovaque d'élevage ovin ignore presque totalement les vaches laitières.*

[6] *Les korbáčiky sont une spécialité fromagère obtenue à partir du hrudkový syr, un terme traduit le plus souvent par fromage en motte. Ce « pré fromage » était jadis fabriqué à partir de la traite des brebis, en été sur les pasienky. C'est une boule de tomme de quelques kilos, compacte parce que relativement pressée et qui se conserve en cave avant d'être reprise pour fabriquer la plupart des grandes spécialités fromagères slovaques : korbáčiky, parenice et surtout bryndza. Pour obtenir des korbáčiky, le fromager utilise du hrudkový syr (au lait de brebis, mais aussi de vache, voire de chèvre) qu'il fait tremper dans l'eau*

au village à partir de hrudkový syr venu de l'extérieur. Le savoir faire fromager s'est donc maintenu pendant la période socialiste.

II – LA RÉORGANISATION DES ACTIVITÉS APRÈS 1989

La chute du régime socialiste bouleverse le village. Elle se manifeste notamment par la crise de la coopérative. Son troupeau bovin diminue, elle perd de nombreux emplois et certaines parcelles sont finalement reprises par des agriculteurs privés (les SHR). On observe aussi, au début des années 1990 le retour d'individus originaires du village qui s'étaient établis dans le reste de la Slovaquie, surtout dans la vallée de l'Orava et qui venaient d'y perdre leur emploi.

On voit surtout le développement de la fabrication de fromages à pâte filée, notamment des korbáčiky, mais aussi des parenice[7], voire des oštiepok[8], mais jamais de bryndza[9], les fromagers de Zázrivá considérant que ce dernier marché est « *déjà pris par les grandes laiteries* ». Le mouvement commence dès 1993 avec la création d'entreprises par deux frères Zaň[10] et la société Syrex, suivies de nouvelles créations en 1996, 1997 et 2000. Cette nouvelle organisation de la fabrication fait rupture avec la période socialiste comme avec les vieilles pratiques de tressage domestique. Plusieurs facteurs expliquent ce mouvement : la présence de savoir faire anciens, la permanence du tressage dans les années 1980 et enfin le rôle de quelques leaders (l'entreprise Syrex, la plus importante aujourd'hui, Pučko et la famille Zaň). On compte aujourd'hui 10 entreprises de ce type[11] ayant chacune entre 5 et 40 salariés, soit au total quelques 250 postes de travail, à peu près le quart des emplois localisés dans la commune. Ajoutons que plusieurs personnes tressent en petite quantité à la maison.

Le succès de cette dynamique productive doit beaucoup au professionnalisme de ces fabricants efficaces qui maîtrisent parfaitement la technique de fabrication (qui, il faut l'avouer, n'est pas très complexe), disposent de locaux neufs et fonctionnels et

très chaude (+ de 70° selon le cahier des charges de l'IGP). Cette technique de bain-marie permet au fromage de filer, un peu comme lors de la fabrication de l'aligot en France. On obtient alors une pâte filée que l'on passe dans une machine à étirer pour obtenir des filaments au diamètre homogène que l'on coupe ensuite à la longueur voulue. Les korbáčiky peuvent être vendus tels quels, en motte de 500 grammes en général, mais peuvent aussi être tressés, ce qui améliore leur présentation et augmente leur caractère festif … ainsi que leur prix.

[7] *Les parenice sont issus de la même technologie de fabrication mais la pâte filée est découpée en lamelles de quelques centimètres de large que l'on enroule sur elles-mêmes. Cet autre produit traditionnel de l'Orava est également produit par les laiteries industrielles et se retrouve largement en grande distribution, comme les korbáčiky d'ailleurs.*

[8] *L'oštiepok est un fromage à pâte pressée, de forme ovale (celle d'un ballon de rugby), également fabriqué dans le Podhale polonais voisin sous le nom d'oscipek.*

[9] *La bryndza est LE fromage emblématique de la Slovaquie, toujours fabriquée à partir de hrudkový syr. Elle se présente en général sous la même forme que les plaquettes de beurre mais s'effrite facilement. Elle est surtout utilisée comme ingrédient de cuisine et sur des tartines.*

[10] *Quatre frères Zaň dirigent aujourd'hui des entreprises de tressage des korbáčiky !*

[11] *La dernière entreprise a été créée en 2014.*

dominent les aspects sanitaires de la fabrication[12]. Ces entrepreneurs sont également performants sur le plan commercial. Ils vendent localement, au village et surtout sur la route touristique de Terchova, et ont ouvert des commerces dans plusieurs villes de Slovaquie et de République Tchèque[13]. Ils approvisionnent aussi les magasins, les restaurants, certains hôtels et quelques laiteries qui font de la revente (celle de Kežmarok par exemple). Plusieurs vendent aussi en grande distribution. L'autre élément clef du succès vient de la présence d'une main d'œuvre féminine travailleuse, bon marché[14] et satisfaite de trouver du travail si près de son domicile. En revanche, les enquêtes montrent que ces fabricants n'ont guère sollicité les aides européennes.

III – DE NOMBREUX QUESTIONNEMENTS GÉOGRAPHIQUES

Le village présente donc un système fromager original, par sa localisation dans une montagne assez isolée et surtout par ses relations particulières avec le milieu local, avec la production agricole, voire avec la tradition fromagère de l'Orava. Le hrudkový syr vient en effet presque toujours de l'extérieur de la vallée et les produits sont surtout fabriqués au lait de vache, loin de la tradition ovine locale. En revanche, les fabricants exploitent l'image du village, propagée au cours des années auprès du consommateur urbain satisfait de retrouver ce produit festif qui renvoie à la montagne, aux pratiques traditionnelles, à la nature... Cette configuration particulière interroge à propos de la notion de filière agroalimentaire, du lien entre produit et territoire et, au-delà, de la présence éventuelle d'un *système productif localisé.*

A - Le fonctionnement de la filière

Dans le monde laitier, les relations sont fortes entre producteurs et transformateurs, avec des circuits de collecte qui mettent en relation toutes les 24 ou 48 heures ces deux catégories d'acteurs, les laiteries cherchant à organiser les producteurs en bassins de production faciles à collecter.

Or, ce modèle d'organisation ne se retrouve pas à Zázrivá où, à l'inverse, les liens entre agriculture locale et transformation fromagère sont particulièrement faibles. Les villageois produisent en effet surtout de la viande (bovine ou ovine) et l'ancienne ferme collective vend son lait de vache à une laiterie extérieure. L'approvisionnement en hrudkový syr de brebis se fait auprès de différents salaš[15] situés en Orava ou, parfois, dans les Basses Tatras. Le hrudkový syr de vache lui, de loin le plus utilisé, doit provenir pour moins de 5% de la vallée. Une partie est achetée à la laiterie de Leštiny[16], près de Dolný Kubín, mais cette entreprise est de taille modeste et les

[12] *Il faut dire que le filage dans l'eau chaude agit comme une pasteurisation qui détruit les germes pathogènes.*

[13] *Nous en avons repéré dans la galerie commerciale de l'hypermarché de Dolný Kubín, mais aussi dans un passage commercial fréquenté d'Olomouc, en Moravie. Il en existe aussi à Bratislava et à Prague. Syrex semble le plus dynamique sur ce plan.*

[14] *Le salaire minimal en Slovaquie est de 352 euro par mois en 2014.*

[15] *Le salaš est le local de production du lait de brebis sur les pasienky.*

[16] *La laiterie de Leštiny, issue d'une ancienne coopérative agricole, produit de la bryndza, du hrudkový syr et des produits frais (yaourts…).*

fromagers s'approvisionnent donc dans tout le reste de la Slovaquie[17] (Zvolenská Slatina, Bánovce, Turčianske Teplice, Liptovský Mikuláš…). Bref, on est plutôt en présence d'une simple relation de client à fournisseur, largement fondée sur le prix. Les transformateurs peuvent changer de fournisseurs facilement et ne connaissent pas les producteurs de lait.

Cette organisation particulière s'explique par une fabrication réalisée en deux étapes, au sein d'une filière qui associe trois maillons principaux, contre deux habituellement. Le premier regroupe les producteurs de lait, de vache, de brebis, voire de chèvre. Le second est celui des fabricants de hrudkový syr, qui sont des fromageries ou des salaš. Dans les laiteries qui transforment du lait de vache, celui-ci vient surtout des grandes exploitations anciennement collectives et il n'y a donc plus de lien avec une quelconque tradition. Le hrudkový syr au lait de brebis, lui, vient très largement, l'été, des *pasienky*, le socialisme n'ayant pas remis en cause ce vieux système pourtant très traditionnel. Le troisième maillon est celui des fabricants de produits finis (korbáčiky, parenice…). L'organisation d'ensemble du système fait que les deux maillons extérieurs n'ont pas besoin d'avoir de relations fortes et peuvent même s'ignorer, ce qui est le cas à Zázrivá[18].

Certains fabricants du village cherchent toutefois à se rapprocher de la production locale en s'approvisionnant auprès des éleveurs ovins de la commune. La démarche s'avère toutefois difficile face au déclin structurel de cet élevage, à tel point que plusieurs entreprises se sont même regroupées l'hiver 2014 pour acheter des citernes de lait de brebis en Italie !

B – Quel lien avec le territoire ou avec le terroir ?

Les fabricants utilisent l'image positive du village, de la montagne, des bergers, de l'artisanat, de la tradition, du local… mais on voit que les liens sont en réalité faibles entre la production de korbáčiky et le milieu local et la tradition locale. Le hrudkový syr notamment, qui vient presque totalement de l'extérieur de la vallée, est généralement fabriqué au lait de vache et l'on voit même arriver l'hiver, toutes les deux semaines, des camions de lait de brebis venant d'Italie ! Tout cela conduit à s'interroger sur la présence réelle à Zázrivá d'un éventuel terroir fromager… alors que les professionnels ont engagé des demandes d'IGP.

La Slovaquie a fait enregistrer officiellement à Bruxelles (12 mars 2011) deux IGP pour les *zárivský korbačik* et les *oravský korbačik*, cette dernière concernant une zone plus vaste qui regroupe l'ensemble du bassin de l'Orava (districts de Námestovo, de Trvdošin et de Dolný Kubín) quand la première concerne la seule commune de Zázrivá[19].

[17] *La laiterie de Tvrdošin (Nord de l'Orava), approvisionnait plusieurs fromagers de Zázrivá jusqu'à sa fermeture il y a 3 ou 4 ans par le groupe français Bel.*

[18] *On se rapproche de la fabrication des fromages fondus (type La Vache Qui Rit), produits à partir de « fromages » destinés, justement, à être fondus. Les usines de fromage fondu n'ont donc pas de liens avec les producteurs de lait qui approvisionnent, eux, les fromageries « intermédiaires ».*

[19] *Une autre IGP a été demandée pour les zázrivské vojky (11 avril 2014), ce dernier terme désignant les brins utilisés pour la fabrication des korbáčiky.*

En Europe, l'Appellation d'Origine Protégée (AOP) concerne des produits ayant un lien fort au terroir et pour lesquels toutes les étapes de l'élaboration du produit fini (production et transformation) se déroulent dans l'aire d'AOP. Manifestement, les korbáčiky de Zázrivá ne peuvent pas prétendre à une telle reconnaissance. L'Indication Géographique Protégée (IGP) concerne des produits dont le lien au terroir est moins fort et pour lesquels toutes les opérations n'ont pas obligatoirement lieu dans la zone délimitée. Le texte européen parle ainsi de produits dont *« la qualité déterminée, la réputation ou d'autres caractéristiques peuvent être attribuées à une origine géographique »* et dont *« la production et/ou la transformation et/ou l'élaboration ont lieu dans l'aire géographique ».* Ce signe de qualité correspond mieux à la situation des productions fromagères du village.

Les deux IGP s'appuient sur le même argumentaire et concernent en fait le même produit, mais pour deux aires géographiques distinctes, les fabricants de Zázrivá pouvant donc utiliser les deux dénominations. L'argumentaire officiel publié au Journal Officiel de l'Union Européenne décrit la méthode de fabrication (étuvage, tressage…), explique qu'il n'y a pas d'exigences en matière d'alimentation des troupeaux, que *« l'origine du fromage en motte n'est pas déterminante pour la qualité du produit »* et que ce hrudkový syr est obtenu *« à partir de lait de vache cru ou pasteurisé ».*

On s'interroge beaucoup sur le lien à l'origine tel qu'il est décrit dans ce texte officiel qui affirme que *« la commune de Zázrivá possède les conditions appropriées pour l'élevage et le pacage des ovins et des bovins et la transformation ultérieure du lait en fromage »* … mais qui réserve la dénomination aux korbáčiký fabriqués au seul lait de vache ! Les korbáčiky au lait de brebis ne peuvent donc pas bénéficier de l'IGP alors qu'ils sont directement issus de la tradition locale ! Et nous avons quelques doutes sur le fait que *« seules les mains habiles de femmes de Zázrivá sont capables de fabriquer –tresser- le produit »…*

En fait, on semble davantage dans une logique de simple **provenance** que d'**origine** géographique des produits. Les korbáčiky sont tressés au village (ils **proviennent** du village) mais le tressage local confère-t-il à ces produits une qualité particulière ? En réalité, on peut supposer que ces fabrications pourraient être réalisées un peu partout en Slovaquie … dès lors que des entrepreneurs dynamiques pourraient trouver une main d'œuvre féminine bon marché ! Toutefois, le village de Zázrivá bénéficie d'une vraie réputation[20] héritée de l'histoire et entretenue localement et cette réputation est bien considérée par l'IGP comme *« pouvant être attribuée à une origine géographique ».*

C - Zázrivá : un cluster industriel fromager ?

Suite aux travaux de l'anglais A. Marshall (1890), certains chercheurs, économistes mais aussi géographes, ont travaillé sur l'émergence et les caractéristiques des *districts industriels*. Ces derniers, appelés aussi *clusters* (en Grande-Bretagne), ou *Systèmes Productifs Localisés* (SPL) en France représentent une organisation particulière de la production au sein d'un territoire, généralement de petite taille. On y

[20] *Le texte explique que Zázrivá abritait aux XIX è siècle des marchands de fromages et des colporteurs qui diffusaient ces produits très loin de la vallée.*

trouve des entreprises aux activités similaires ou complémentaires, qui s'appuient sur le capital humain (savoir faire, main d'œuvre qualifiée et efficace…) et qui ont tissé des relations particulières, un réseau d'interdépendance. Au final, cette spécialisation locale et ces formes de collaborations sont décrites par les chercheurs comme un facteur de compétitivité, de création de richesse, bref de développement local. Les districts industriels sont donc un atout pour les territoires concernés. Leur efficacité a été démontrée en Italie, mais il en existe d'autres ailleurs, souvent performants. On retrouve de telles dynamiques en Slovaquie du Nord, autour du travail du textile dans les Kysuce (montagnes proches de Čadca) ou de la valorisation du bois dans l'Orava et vers Žilina (maisons en rondins, *chalupa* …).

Zázrivá offre *a priori* une configuration similaire avec la valorisation du lait par le tressage des korbáčiky, d'où le besoin de mieux comprendre ce système productif original où l'on retrouve plusieurs éléments constitutifs du district industriel : une vraie dynamique locale (10 entreprises, 2 000 tonnes de fromages par an), une nette concentration géographique des acteurs[21], des leaders bien identifiés, une dynamique commerciale et des solidarités qui s'expriment au sein de l'association de producteurs dont le président est un des frères Zaň.

Toutefois, d'autres éléments éloignent du modèle habituel du *SPL*. Ainsi, à Zázrivá, la dynamique productive est davantage artisanale qu'industrielle, loin des districts industriels d'Italie du Nord. D'autre part, l'effort d'innovation reste très limité comme le montre la visite de ces entreprises : les bâtiments et les installations sont récents et aux normes, mais l'eau est chauffée sur un simple réchaud à gaz, l'étirage des filaments se fait grâce à du matériel très basique et le tressage ne demande aucune installation particulière. Bref, le contenu technologique et les investissements matériels sont très limités. On s'interroge aussi beaucoup sur les relations d'interdépendance qui animent la profession. Certes il y a l'association professionnelle, qui gère les dossiers d'IGP, mais les entreprises échangent peu[22] et sont surtout concurrentes. De plus, la technologie employée, facile à mettre en œuvre, n'exige pas la mise en commun de compétences particulières pour améliorer le procédé de fabrication. Enfin, le système repose sur la présence d'une main d'œuvre féminine bon marché, loin de la description habituelle du *cluster*, dont la réussite doit beaucoup à la présence d'une main d'œuvre qualifiée.

Bref, le système fromager de Zázrivá ne correspond qu'en partie au modèle du district industriel tel qu'on l'observe en Italie du Nord et ailleurs en Europe.

CONCLUSION

Zázrivá présente une configuration particulière. Localisé dans une moyenne montagne plutôt difficile (pente, climat…), le village abrite une agriculture en difficulté qui contraste avec la dynamique agroalimentaire qui s'appuie en partie sur les héritages locaux (élevage ovin, tradition de tressage des korbáčiky…) et doit beaucoup à l'action de leaders qui se sont montrés particulièrement entreprenants depuis vingt ans.

[21] *Notons que presque tous les fabricants sont concentrés dans une seule des vallées de la commune.*

22 *- Exception faite des relations particulières au sein de la famille Zaň.*

Le bilan apparaît largement positif : les entreprises ont acquis une position de choix sur le marché des korbáčiky, le mouvement crée des emplois et de la valeur ajoutée et Zázrivá s'est fait un nom dans le monde fromager. On doit produire ici 2 000 tonnes de fromages par an, soit approximativement 5% de la production fromagère nationale (38 à 40 000 t/an).

Cette situation est en fait révélatrice d'une facette du dynamisme slovaque contemporain, peu connue des géographes ou des économistes : celui des PME et des milieux ruraux, de surcroît de montagne. On constate aussi que cette dynamique villageoise tranche avec le parcours des communes voisines puisque, à quelques kilomètres, Terchova a surtout investi dans le tourisme alors que la vallée de l'Orava a essentiellement misé sur le développement industriel. A Zázrivá, c'est l'artisanat qui s'est révélé efficace. Il a su exploiter un marché porteur pour un produit festif recherché par la clientèle, et a développé un système productif qui, par certains côtés, s'apparente à un district industriel avec toutefois, on l'aura compris, des caractéristiques bien particulières.

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THE POPULATION DEVELOPMENT IN THE LEVOČA MOUNTAINS (SLOVAKIA)

Štefan KYŠELA[1]

Abstract:
This article analyses the main characteristics of the demographical development and present-state in the Levoča Mountains in Slovakia. Before analysing the population, we develop an approach to determine the number of people residing in the geomorphological mesoregion of Levoča Mountains, which is the key point of this article, since many municipalities lie on the mountains border. For the purposes of the latter we consider municipalities cadastral areas and built-up areas. There are new concepts introduced into geographical terminology: CIN coefficient, COUT coefficient, IN mountains population, OUT mountains population, CORE municipality, BORDER municipality, OUTER municipality.

Key words:
Levoča Mountains. Population. Demographical development. People living in the mountains. New geographical concepts.

INTRODUCTION

Geomorphological mesoregion of the Levoča Mountains (called Levočské vrchy in Slovakia) delineated by Mazúr and Lukniš (1978) with an area of 620 km^2 are located in the northwestern part of Eastern Slovakia surrounded by the towns of Levoča, Kežmarok, Stará Ľubovňa and Lipany (figure 1). They are bounded by basins in the west and south (Poprad and Hornád basin), by mountains (Branisko, Bachureň and SpišskáMagura mountains) and by intermountains (Spiš-Šariš intermontains) in the east and north. The mountains maximum width is 30.8 km and maximum height 30.0 km. The highest point is a hill called Čierna hora (1289 m) and the lowest point is the Torysa river (480 m). Half the area was the Javorina Military District (316 km^2) from 1953 to 2010, which was terminated in Slovak Law on 1 January 2011 (by 455/2010 Coll.).

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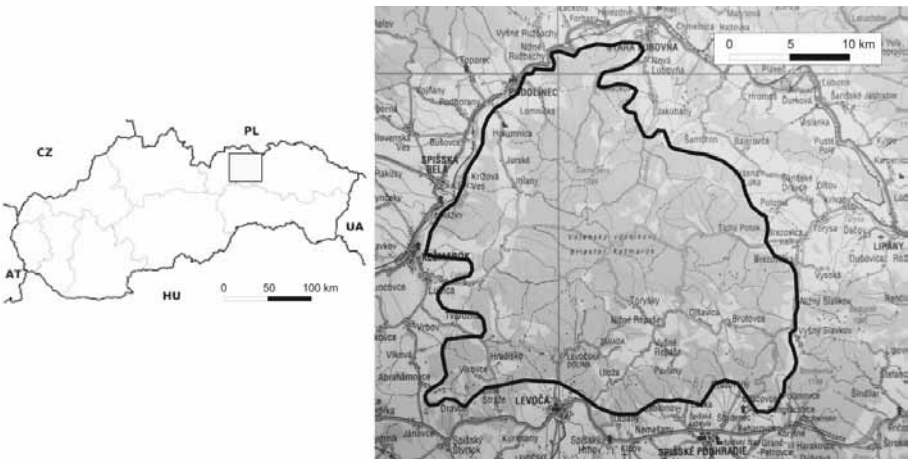


Figure 1: *Levoča Mountains location within Slovakia.*

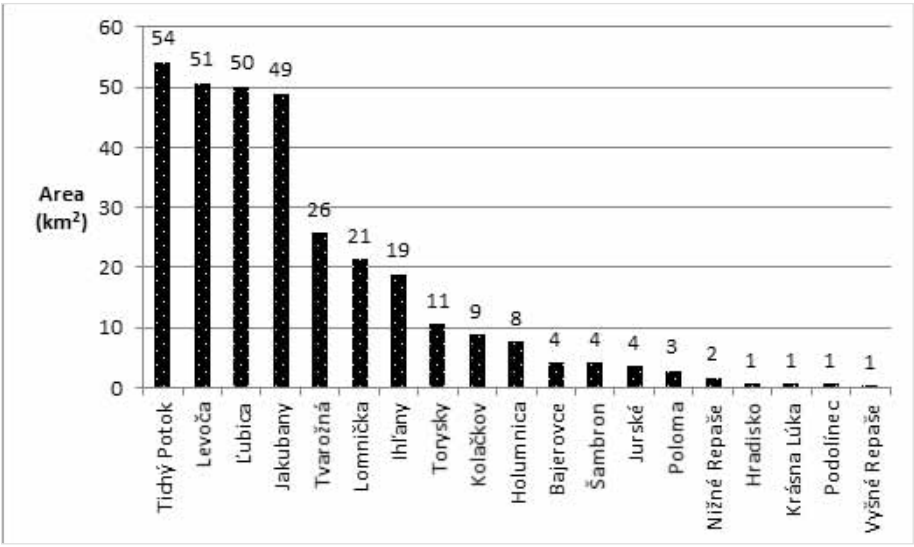
LEVOČA MOUNTAINS MUNICIPALITIES

Since 2011, there are 56 municipalities with their cadastral area reaching into Levoča Mountains territory, including 6 towns (Kežmarok, Levoča, Podolínec, Spišská Belá, Spišské Podhradie and Stará Ľubovňa). Just 12 municipalities' cadastral areas are entirely within the mountains border (table 1). Due to the formation of the Javorina Military District in 1953, Blažov (46 km^2) and Ruskinovce municipality (18 km^2) were liquidated; a further 23 municipalities had suffered a loss of part of their cadastral areas, especially Jakubany (49 km^2), Levoča (40 km^2), Ľubica (33 km^2) and Lomnička municipality (21 km^2). Following the temination of the Javorina Military District in 2011, the cadastral area of 19 municipalities expanded (figure 2). In the course of history there have been several occurances of municipal integration.

Table 1: *Municipalities and their cadastral areas within the Levoča Mountains (LM) since 2011.*

COUT in LM	Number	Names of municipalities
1	12	Brutovce, Hradisko, Ihľany, Jurské, Lomnička, Nižné Repaše, Oľšavica, Pavľany, Tichý Potok, Torysky, Vlkovce, Vyšné Repaše
0.8 to 0.999	8	Holumnica, Kolačkov, Krížová Ves, Lúčka, Ľubica, Ordzovany, Tvarožná, Uloža
0.6 to 0.799	6	Bijacovce, Doľany, Jablonov, Jakubany, Levoča, Pongrácovce
0.4 to 0.599	5	Abrahámovce, Brezovica, Brezovička, Forbasy, Nižný Slavkov
0.2 to 0.399	10	Bajerovce, Dravce, Hniezdne, Kežmarok, Klčov, Nemešany, Nižné Ružbachy, Podolínec, Poloma, Studenec
0 to 0.199	15	Bušovce, Dlhé Stráže, Jánovce, Krásna Lúka, Nová Ľubovňa, Poľanovce, Spišská Belá, Spišské Podhradie, Spišský Hrhov, Spišský Štvrtok, Stará Ľubovňa, Šambron, Vlková, Vrbov, Vyšný Slavkov

Figure 2: *Municipalities' cadastral area expansion due to the Javorina Military District termination in 2011.*



Based on 455/2010 Coll.

METHODOLOGY FOR CALCULATION OF THE LEVOČA MOUNTAINS (LM) POPULATION

How many people live in the Levoča Mountains (LM)? There is no easy answer. No census was taken in LM; national census always takes place only within particular municipalities' cadastral areas. It should also be said that LM borderline, as delineated by Mazúr and Lukniš (1978) is not identical, nor approximate to the borderlines of somemunicipalities cadastral areas. Thus, to determine the LM population, a different approach must be applied. In the following lines we consider four approaches to determine the LM population: LM as a part of Slovakia, LM macro municipality, LM municipalities cadastral areas and LM built-up area.

Firstly, the Levoča Mountains form about 1.27% of area of the Slovak republic, therefore, we could say that 1.27% of the Slovak population (68,323 people in 2011) live in the LM area (provided the uniform population density in Slovakia). It could also be stated that this number of people influence in certain way the LM territory (provided the uniform influence of Slovak citizens on their territory).

Secondly, taking the LM macro municipality, which means taking all municipalities' cadastral areas, at least part of each one is located in the LM area. There are 56 municipalities with total population-size of 105,632 and the area of 1062 km^2 in 2011. Since LM covers the area of 621 km^2, thus we could say only 58.5% of 105,632 people live or influence the LM territory, which is 61,795.

The third approach for determining the LM population is to determine the coefficient of the single LM municipalities. The coefficient will be denoted as COUT. COUT = 1 means that cadastral area of a municipality is entirely located in LM. For instance, COUT of Abrahámovce municipality is 0.541, what means that 54.1%

of municipality's cadastral area is located in the LM area. The product of COUT and population of a municipality determines the number of people living in the LM territory. In 2011, there were 12 municipalities in the LM area with their cadastral areas completely within the LM territory (COUT equal to one). The remaining 44 municipalities extend into the LM territory only in part, between 0.9 and 98.3% (COUT 0.009 to 0.983), see table 1. The number of people in LM or people who influence the LM area was calculated at 41,851 in 2011. We denote these people as OUT population.

One could argue that people do not live uniformly over the cadastral area of a municipality, but they live only in built-up areas of a municipality. Thus the fourth approach to determine the LM population is similar to the third. The difference is that instead of the coefficient of a municipality cadastral area (COUT), the coefficient of a municipality built-up area is going to be calculated. We denote this coefficient as CIN. This approach is applied in this paper in order to characterize the LM population. There are just 27 municipalities having a part of their cadastral area within the LM area, 15 municipalities' cadastral areas is completely covered within the LM area and 12 municipalities between 5% and 60% (table 2). The population calculated by CIN will be called IN population. Depending on the value of CIN we introduce also terms of CORE municipality (CIN = 1), BORDER municipality (CIN is ranked between 0 and 1) and OUTER municipality (CIN = 0).

Table 2: *Municipalities built-up area proportion in the Levoča Mountains since 2011.*

CIN in LV	**Number of municipalities**	**Names of municipalities**
1	15	Brutovce, Holumnica, Hradisko, Ihľany, Jurské, Krížová Ves, Lomnička, Nižné Repaše, Oľšavica, Pavľany, Tichý Potok, Torysky, Uloža, Vlkovce, Vyšné Repaše
0.4 to 0.6	3	Lúčka, Nižný Slavkov, Vyšný Slavkov
0.2 to 0.3	3	Abrahámovce, Doľany, Pongrácovce
0.05 to 0.1	6	Bijacovce, Dravce, Jánovce, Kolačkov, Levoča, Ľubica
0	29	Bajerovce, Brezovica, Brezovička, Bušovce, Dlhé Stráže, Forbasy, Hniezdne, Jablonov, Jakubany, Kežmarok, Klčov, Krásna Lúka, Nemešany, Nižné Ružbachy, Nová Ľubovňa, Ordzovany, Podolínec, Poloma, Poľanovce, Spišská Belá, Spišské Podhradie, Spišský Hrhov, Spišský Štvrtok, Stará Ľubovňa, Studenec, Šambron, Tvarožná, Vlková, Vrbov

It must be said that none of the approaches for determining the population of a mountain area is perfect, but they are all only approximate. There are municipalities in LM with permanent residency of a people recorded, however, many of them work in towns outside the mountains and are only residing or vacationing in the mountains. A group of people aged 20 to 30 very often have their permanent residency registered in a small village of LM, although they live outside that area in big cities or abroad. On the other hand, there are town borders extending into the LM area, whose vacancies attract people of those surrounding municipalities, which are not registered as permanent residents in LM.

What does being a resident of a municipality mean? It requires further examination. Not everybody listed as a permanent resident of a certain municipality actually lives in that municipality; not only people listed as permanent residents of certain municipality live there. Generally, it can be declared the greater population of a certain municipality the greater the influence of IN and OUT people on it. Places where people work, road network and its quality, attractiveness for tourism and other factors are not negligible in this examination.

COUT has been calculated based on municipalities' cadastral areas in LM by means of QGIS 2.2.0 software. CIN has been calculated based on municipalities built-up areas in LM using the Google Maps application. The population-size, number of houses and flats of a municipality, the population ethnic and age structure, economic activity, education and computer skill shave been drawn from the Statistical Office of the Slovak republic data (portal.statistics.sk) and from Com. authors (1978 and 2004) books. When analysing the population characteristics, we consider the population distributed evenly within a municipality built-up area.

POPULATION DEVELOPMENT IN THE LEVOČA MOUNTAINS (LM)

When applying the approach of municipality cadastral area (COUT coefficient counting, for OUT population), we find that there is population-size decline in 1880-1921 and population growth in 1921-2011 (table 3). The 34% population growth in 2001-2011 was caused by the Javorina Military District termination. This does not mean that there are really 10,000 more people, but rather that the LM territory is now more open for human activities, such as agriculture, forestry, cottaging or settlements building. Thus more people would influence the mountains by their action. Not overnight, but gradually activity would increase.

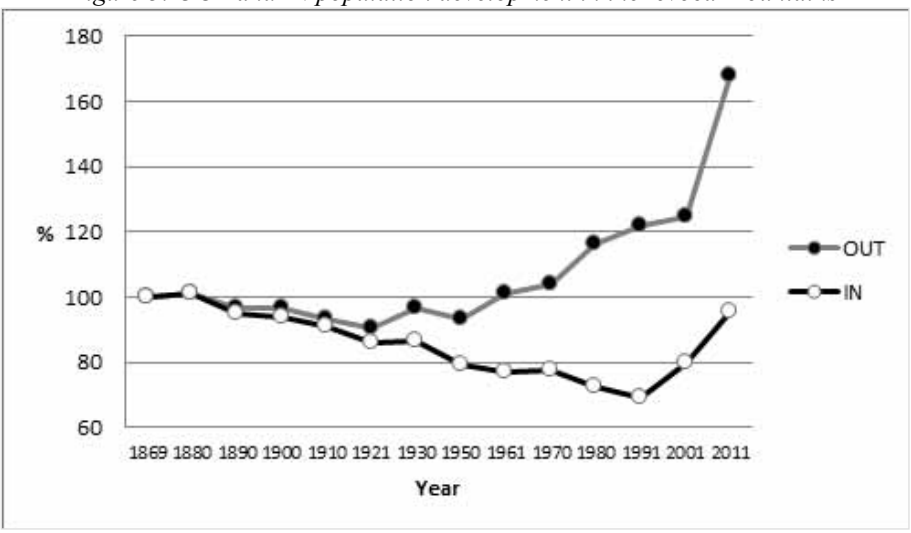
When applying the approach of municipality built-up area (CIN coefficient counting, for IN population), we find that there is 32% population-size decline in 1880-1991 and population growth in 1991-2011 (table 3). Population density of LM (calculated from IN population) was 20.2 people per km^2 in 2011. The comparison of IN and OUT population in LM is shown in figure 3.

Table 3: *Development of OUT and IN population-size in Levoča Mountains.*

Year	**1869**	**1880**	**1890**	**1900**	**1910**	**1921**	**1930**
OUT population-size	24,959	25,298	24,066	24,079	23,327	22,553	24,117
IN population-size	13,117	13,229	12,416	12,282	11,923	11,237	11,344
Population density	21.2	21.3	20.0	19.8	19.2	18.1	18.3
Year	**1950**	**1961**	**1970**	**1980**	**1991**	**2001**	**2011**
OUT population-size	23,239	25,186	25,986	28,956	30,357	31,164	41,851
IN population-size	10,394	10,060	10,134	9501	9076	10,456	12,517
Population density	16.8	16.2	16.3	15.3	14.6	16.9	20.2

Based on Statistical Office of the Slovak republic

Figure 3: OUT and IN population development in theLevoča Mountains



The OUT population growth is primarily related with urbanization at the border of mountains. The IN population growth in the last 20 years has been related with the very high birthrate of the Romany population. The IN and OUT population and the LM municipalities division into core, border and outer municipalities is shown in a map (figure 4).

The greatest number of IN inhabitants in LM was in the year 1880 (13,229) and the least in 1991 (9076). However, we assume there were even more people living there in the period 1869-1950 than IN population-size indicated, as many of OUT inhabitants used to farm the mountain area, especially in the summer time. The Javorina Military District formation in 1953 caused complete depopulation of the central part of the LM. In the LM in the last decades, we assume there were even fewer people than the IN population-size indicated, since farming in the mountain area has been replaced by the industrial work in towns and cities where many people commuted to work, while still being registered as permanent residents of the LM territory.

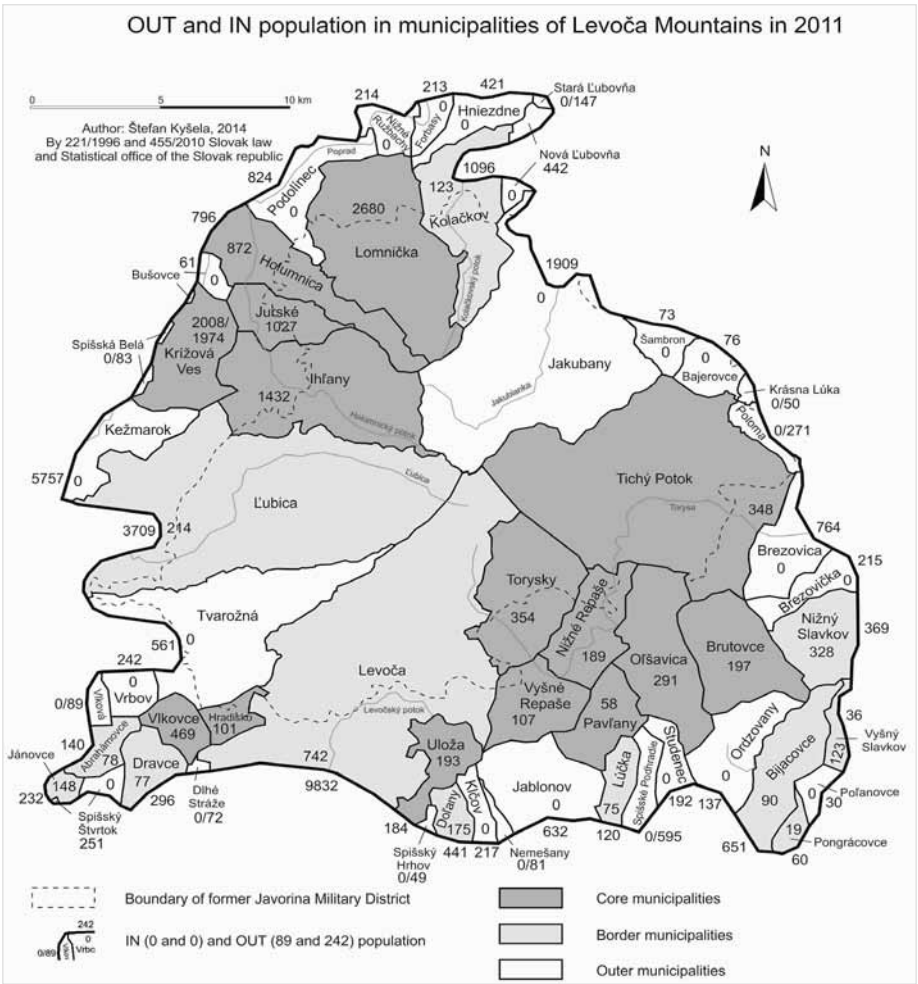


Figure 4: *OUT and IN population in municipalities of Levoča Mountains in 2011.*

HOUSES IN THE LEVOČA MOUNTAINS

The number of houses has decreased in 1880-1961 and has increased in 1961-2011. Similarly with the number of people per house, which is related with the growth of standard of living and the large panel houses building (table 4).

Table 4: *Houses in Levoča Mountains.*

Year	1880	1890	1900	1910	1921	1930	1950
Number of houses	2091	2182	2389	2322	2442	2518	2379
IN population-size	13,229	12,416	12,282	11,923	11,237	11,344	10,394
People per house	6.3	5.7	5.1	5.1	4.6	4.5	4.4
Year	1961	1970	1980	1991	2001	2011	
Number of houses	1863	1862	1827	1747	1755	2141	
IN population-size	10,060	10,134	9501	9076	10,456	12,517	
People per house	5.4	5.4	5.2	5.2	6.0	5.8	

Based on Statistical Office of the Slovak republic and Retrospective lexicon of municipalities 1850-1970

AGE STRUCTURE OF THE LEVOČA MOUNTAINS POPULATION IN 2011

Among the 12,518 LM people in 2011, there were more male (50.5%) than female. There were 3920 people (31.3%) aged 0-14, 7259 people (58.0%) aged 15-59 and 1338 people (10.7%) aged 60 and over (table 5), which is very similar to the Slovak population age structure in 1920-1940. This is a progressive population with continuous growth in the number of children (figure 5).

Figure 5: *The Levoča Mountains population in 2011 by the year of birth.*

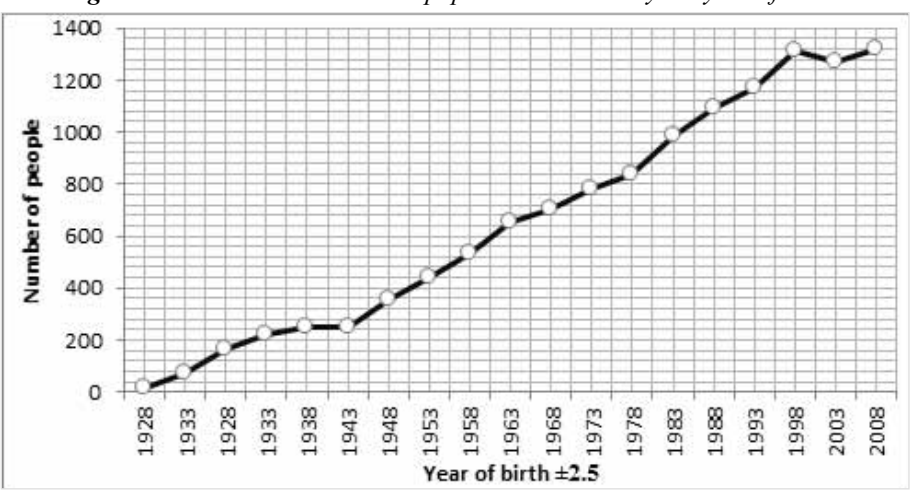


Table 5: *Age structure of the Levoča Mountains population in 2011.*

Population-size			Age group							
Total	Men	Women	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39
12,518	6320	6199	1326	1275	1319	1178	1100	993	846	789
Age group										
40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
706	662	538	447	358	252	255	220	166	72	15

Based on Statistical Office of the Slovak republic

ETHNIC STRUCTURE OF LEVOČA MOUNTAINS POPULATION IN 2011

According to the data from the national census, out of the 12,517 people 59.7% admitted to be of Slovak ethnicity, 30.2% of Roma ethnicity, 2.3% of Ruthenia ethnicity and 7.4% were undetected. However, our estimate (based on Com. autors, 2004) would suggest that the Roma ethnic group was in fact the majority (table 6).

Table 6: *Ethnic structure of the Levoča Mountains population in 2011.*

	Etnic group	Slovak	Roma	Ruthenian	Another	Undetected	Total
According to the census	Number of	7474	3774	292	46	931	12,517
	%	59.7	30.2	2.3	0.4	7.4	100
Estimate	Number of	4610	7560	300	47	-	12, 517
	%	36.8	60.4	2.4	0.4	-	100

Based on Statistical Office of the Slovak republic and Atlas of Romany communities 2004

ECONOMIC ACTIVITY OF THE LEVOČA MOUNTAINS POPULATION IN 2011

Among the 12,517 inhabitants of LM there were 5156 (41.2%) belonging to the economically active population (EAP) group and 2221 people actually working. The unemployment rate among EAP was 55.0%. The share of employed in the overall population was only 17.1%. There are more details listed in table 7.

Table 7: *Economic activity of the Levoča Mountains population in 2011.*

Category	Total	Employed (except ret.)	Working retired	Maternity leave	Parental leave	Unem-ployed	High school
Number	12,517	2141	80	60	288	2836	515
%	100.0	17.1	0.6	0.5	2.3	22.7	4.1
Category	**Uni**	**At home**	**Retired**	**Up to 16**	**Another**	**Undetected**	**EAP**
Number	164	138	1520	4152	53	581	5156
%	1.3	1.1	12.1	33.2	0.4	4.6	41.2

Based on Statistical Office of the Slovak republic

COMPUTER SKILLS OF LEVOČA MOUNTAINS POPULATION IN 2011

According to the 2011 census most LM people are able to work on the Internet (63% EAP) and the least are able to work with tables (41% EAP). One fifth of the population work with email and less than a quarter with word processing (table 8).

Table 8: *Computer skills of the Levoča Mountains population in 2011.*

	Working on the Internet	Working with word processing	Working with email	Working with tables
Number	3257	2883	2536	2124
% of population	26.0	23.0	20.3	17.0
% EAP	63.2	55.9	49.2	41.2

Based on Statistical Office of the Slovak republic

CORE MUNICIPALITIES OF THE LEVOČA MOUNTAINS

The category of the core municipalities category includes 15 LM municipalities, whose entire built-up areas are located on the LM territory. In 2011, 83% of the LM population were living in these municipalities. Following population development in 1910-2011, 1991-2001 and 2001-2011 they can be divided into two groups: municipalities with growing populations and municipalities with declining population (table 9). The most significant population decline was recorded in Pavľany village (77% in the last 100 years, or 30% in the last decade). On the other hand, the most significant population growth was recorded in Lomnička village (282% in the last 100 years, or 77% in the last decade). Comparison of population development of the increasing and decreasing municipalities is shown in figure 6. By 1961, the both categories have had similar trend. In the 1960s, the sudden change owing to the social development (urbanization, industrial growth) occurred.

Let us now consider relation of distance from the nearest town (measured using Google Maps) and population growth over the last 100 years hinted in Table 9. Generally, for the core municipalities it is true to say that the greater distance from the nearest town the smaller population growth in 1910-2011. Among 9 municipalities with the greatest distance from the nearest town (13 to 20 km), there are 8 with declining populations. On the other hand, among 6 municipalities with the shortest town distance (TD), there are 5 with growing population-size rate (figure 7).

Table 9: *Population growth of the core municipalities in the Levoča Mountains.*

Name of municipality	Population-size				Percentage growth			Increase/ Decrease	TD (km)
	1910	1991	2001	2011	1910-2011	1991-2001	2001-2011		
Brutovce	526	260	221	197	-63	-15	-11	↓	22
Holumnica	535	694	777	872	63	12	12	↑	4
Hradisko	181	110	104	101	-44	-5	-3	↓	14
Ihľany	997	1075	1251	1432	44	16	14	↑	10
Jurské	309	543	758	1027	232	40	35	↑	8
KrížováVes	583	1387	1613	2008	244	16	24	↑	3
Lomnička	701	972	1516	2680	282	56	77	↑	4
NižnéRepaše	533	273	231	189	-65	-15	-18	↓	15
Oľšavica	808	372	327	291	-64	-12	-11	↓	20
Pavľany	252	138	83	58	-77	-40	-30	↓	16
TichýPotok	612	387	393	348	-43	2	-11	↓	15
Torysky	886	470	416	354	-60	-11	-15	↓	16
Uloža	394	196	190	193	-51	-3	2	↓	7
Vlkovce	164	377	437	469	186	16	7	↑	16
VyšnéRepaše	398	160	128	107	-73	-20	-16	↓	12
Total	**7879**	**7414**	**8445**	**10,326**	**31**	**14**	**22**	↑	**12**

TD – Town Distance, distance from the nearest town
Based on Statistical Office of the Slovak republic

Figure 6: *Population development of the increasing and decreasing LM core municipalities.*

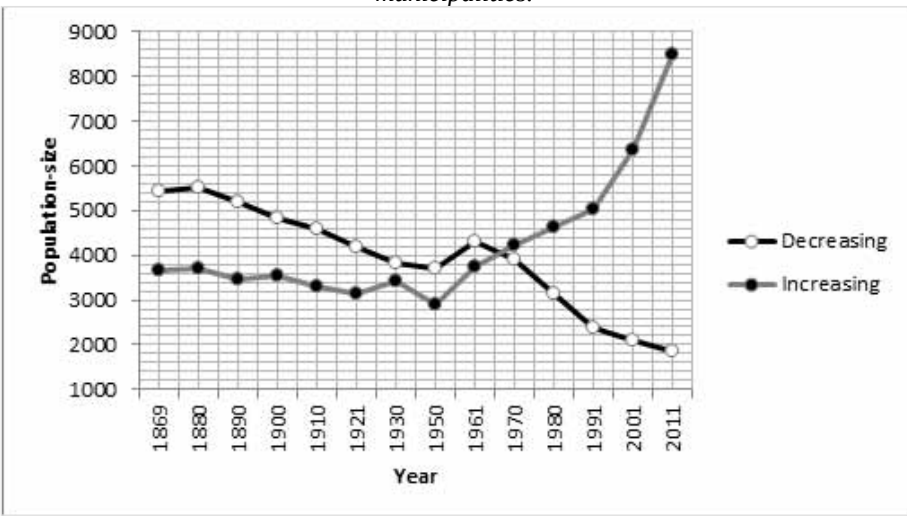
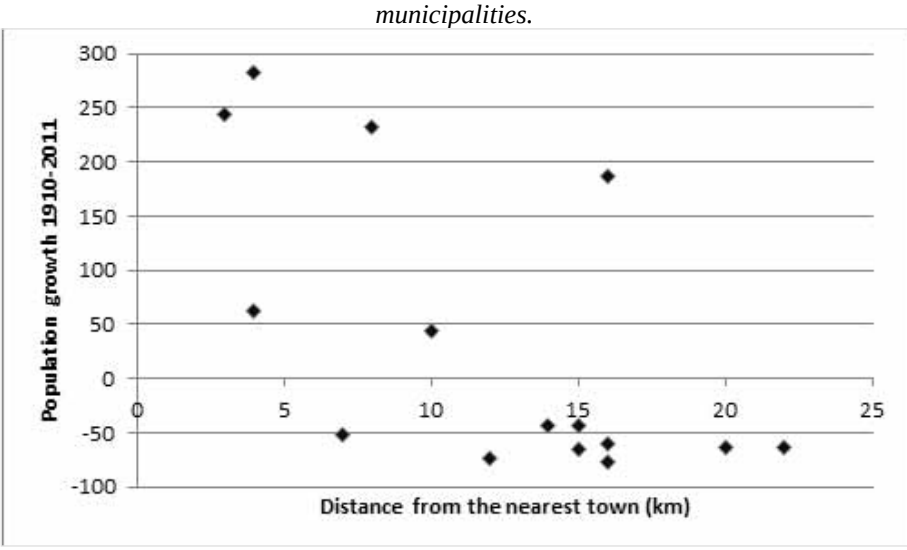


Figure 7: *Relation of the town distance and population growth in the LM core municipalities.*



DECREASING CORE MUNICIPALITIES OF THE LEVOČA MOUNTAINS

There are 9 decreasing core municipalities in LM: Brutovce, Hradisko, Nižné Repaše, Oľšavica, Pavľany, Tichý Potok, Torysky, Uloža and Vyšné Repaše. In the last 100 years the population-size has decreased by 2.5 times and the number of houses 1.2 times. Many houses are abandoned and there were on average 2.3 people per house in 2011 (table 10).

Table 10: *Population, houses and flats development in decreasing core municipalities of Levoča Mountains.*

Year	1869	1880	1890	1900	1910	1921	1930	1950	1961	1970	1980	1991	2001	2011
Population-size	5432	5530	5211	4813	4590	4174	3810	3703	4318	3893	3147	2366	2093	1838
Number of houses	-	893	931	989	937	939	917	874	830	790	752	664	609	784
Number of flats	-	-	-	-	-	-	-	-	-	805	786	698	644	526
People per house	-	6.2	5.6	4.9	4.9	4.4	4.2	4.2	5.2	4.9	4.2	3.4	3.4	2.3
People per flat	-	-	-	-	-	-	-	-	-	4.8	4.0	3.4	3.3	3.5

Based on Statistical Office of the Slovak republic and Retrospective lexicon of municipalities 1850-1970

There were 1838 people living in these municipalities in 2011. In the 0-14 age group were 14.4% inhabitants, 58.5% ranged in age between 15-59 and 26.6% were aged 60 and over. The age structure of these people is shown in figure 8. It is a regressive population. Among ethnic groups the Slovak population is most dominant (over 80%), followed by Ruthenian (15%) and Romany ethnic group (2%), see table 11.

Table 11: *Ethnic structure in decreasing core municipalities of Levoča Mountains in 2011.*

Etnic group		Slovak	Roma	Ruthenian	Another	Undetected	Total
According census	Number of	1480	7	266	6	79	1838
	%	80.5	0.4	14.5	0.3	4.3	100
Estimate	Number of	1520	36	275	7	-	1838
	%	82.7	2.0	15.0	0.4	-	100

Based on Statistical Office of the Slovak republic and Atlas of Romany communities 2004

Now we shall consider the population's highest level of education attained - 98.6% of those aged 15 years and older completed primary schol and 73.1% of those aged 20 years and older completed high school. There are 10.2% people in the 25+ age group, who graduated from university. Regarding computer skills, 46.4% of inhabitants are able to work on the Internet (110% of EAP) whereas only 37.5% of people (89% EAP) were able to work with email. The number of EAP is 776 (42%). EAP unemployment rate is 21.6% and there are many of retired people (28%). All over the declining municipalities population the third is employed (table 14).

INCREASING CORE MUNICIPALITIES OF THE LEVOČA MOUNTAINS

There are 6 increasing core municipalities in LM: Holumnica, Ihľany, Jurské, Krížová Ves, Lomnička and Vlkovce. Over the last 100 years the population-size has increased 2.6 times and the number of houses 1.37 times. There were many people and only a few houses in 2011 – over 9 people lived per house (table 12).

Table 12: *Population, houses and flats development in increasing core municipalities of the Levoča Mountains.*

Year	1869	1880	1890	1900	1910	1921	1930	1950	1961	1970	1980	1991	2001	2011
Population-size	3676	3720	3465	3540	3289	3156	3438	2896	3745	4233	4618	5048	6352	8488
Number of houses	-	550	529	647	662	695	739	684	683	701	700	722	788	905
Number of flats	-	-	-	-	-	-	-	-	-	763	813	847	990	1008
People per house	-	6.8	6.6	5.5	5.0	4.5	4.7	4.2	5.5	6.0	6.6	7.0	8.1	9.4
People per flat	-	-	-	-	-	-	-	-	-	5.5	5.7	6.0	6.4	8.4

Based on Statistical Office of the Slovak republic and Retrospective lexicon of municipalities 1850-1970

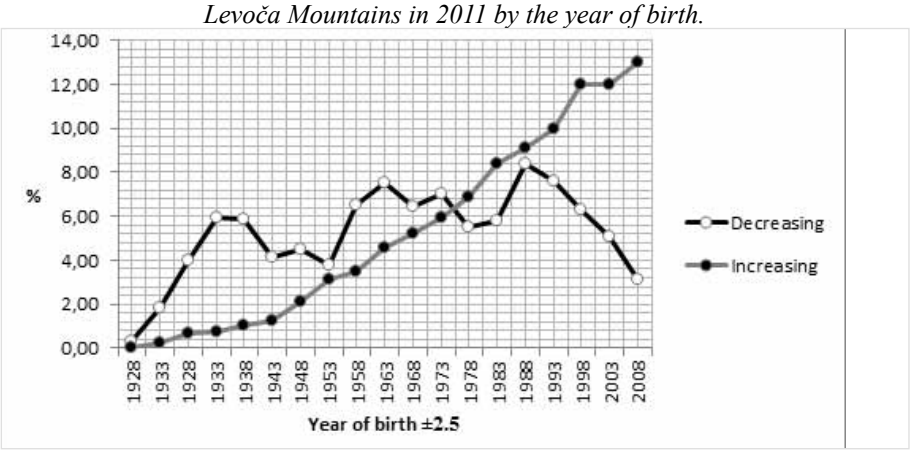
In 2011, 8488 inhabitants lived there, 37% of which match the age group 0-14, 57% were aged 15-59 and only 6% were 60 or over. The age structure of these people is shown in figure 8. It is a progressive population. In accordance with the census data, the Romany population comprise 3550 people (42%) and less than a half were Slovaks. However, we have estimated there is in fact a majority of the Romany ethnic group with 68%, while the Slovak ethnicity accounts for only about 31% of the population (table 13).

Table 13: *Ethnic structure in increasing core municipalities of Levoča Mountains in 2011.*

Etnic group		Slovak	Roma	Ruthenian	Another	Undetected	Total
According census	Number of	4192	3550	21	29	696	8488
	%	49.4	41.8	0.2	0.3	8.2	100
Estimate	Number of	2663	5800	10	15	-	8488
	%	31.4	68.3	0.1	0.2	-	100

Based on Statistical Office of the Slovak republic and Atlas of Romany communities 2004

Figure 8: *Share of population in decreasing and increasing core municipalities of Levoča Mountains in 2011 by the year of birth.*



Let us now consider education. Among those aged 15 years and older, 95.1% completed primary school. Among those aged 20 years and older, 40.3% completed high school. There are 6.7% of people in the 25+ age group, who graduated from university. There are 17% of inhabitants,who are able to work on the Internet (43% of EAP), with just 12.5% of people (31% EAP) using email. The number of EAP is 3385 (40%), EAP unemployment rate is 70.5% and there are only a few retired (7.7%). All over the increasing municipalities less than the fifth of the population does work (table 14).

Table 14: *Economic activity of the decreasing and increasing core municipalities population of the Levoča Mountains in 2011.*

	IN population		Decrasing core municipalities		Increasing core municipalities	
	Number	%	Number	%	Number	%
Population-size	12,517	100	1838	100	8488	100
Economically active population (EAP)	5114	41.2	776	42.2	3385	39.9
Share of employed in the population	2221	17.7	608	33.1	961	11.3
EAP unemployment rate	2836	55.0	168	21.6	2388	70.5
Childcare and home	486	3.9	45	2.5	353	4.2
Pensioners	1520	12.1	516	28.1	650	7.7

Based on Statistical Office of the Slovak republic

VLKOVCE MUNICIPALITY

Vlkovce village is ranked among the core municipalities of the Levoča Mountains. The whole of its cadastral area falls to the LM territory. It is the only core municipality of LM with a growing population despite the fact that there is no-one of Romany ethnic group. The 16-km distance from the nearest town (Kežmarok) does not appear to be an obstacle to growth. There were 469 inhabitants in 2011 and 50.7% were male. The 0-14 age group included 23.7% people, the 15-59 age group 63.6% and there were 12.6% people aged 60 or over. EAP category included 206 people (44%). There were 37.9% of inhabitants working and EAP unemployment rate was 15%.

LOMNIČKA MUNICIPALITY

Similarly as with the former municipality mentioned, Lomnička village is a core municipality of Levoča Mountains with a growing population. About 99.5% of people are Romany. The distance from the nearest town (Podolínec) is only 4 km. There were 1516 inhabitants in 2001 and 2680 in 2011, which is an enormous growth of 76.8% of people in just 10 years! Considering the same population increase in the future, Lomnička village would have 4737 inhabitants in 2021, 8375 in 2031, 14,806 in 2041, 26,174 in 2051 and an unimaginable number of over 400,000 inhabitants in 2100, what is very unlikely. There were 50.8% of male in 2011. The 50.4% of people were in the 0-14 age group, 47.7% in the 15-59 age group and only 1.9% aged 60 or above. The EAP category included 836 people (31%). There were only 2.9% of

inhabitants working and the EAP unemployment rate was over 70%. There is no doubt it is unsustainable (figure 9). The reduction of poverty in the context of sustainable development is here essential.

Figure 9: *Life motivation of Lomnička inhabitants*

19/20 century	20/21 century
money = farming children = help with farming	money = having children children = money from government

CONCLUSION

In this article we provided the basic statistical characteristics of the inhabitants of the Levoča Mountains, which despite their limited accuracy and reliability help us to have a better understand of the LM population. While the LM population grows in number, it falls economically. So-called autochthonous inhabitants of LM have been decreasing since 1869 to this very day. Conversely, allochthonous inhabitants of LM have strongly increased in the last decades, because they are relying on the governments benefits for children taken monthly from nearby towns. The population-size of the central part of the mountains has been decleaning not only because of the existence of Javorina Military District in period 1953-2010, but also because of three more reasons: farming in mountainous area was replaced with industrial work in towns, it is quite far to travel to a town from there and there are no allochthonous inhabitants.

There are several opportunities for Levoča Mountains development: in the military region (forest management, tourism, cottaging etc.), but especially in the Romany ethnic region development (quality education, jobs creation, local business development, gardening, Romany culture tourism etc.).

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