

ISSN 2067-4082  
e-ISSN 2068-9969  
L-ISSN 2067-4082

# Journal of Urban and Regional Analysis

**Volume X - Issue 2 - December, 2018**

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# Journal of Urban and Regional Analysis

**Volume X - Issue 2 - December, 2018**

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## THE EVOLUTION OF OLD SHOPPING CENTRES IN THE TOWN CENTRE OF BRAGA, PORTUGAL

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**Abstract:** Cities are innovative places. Retail is one of the key features that better define them. In this paper, we study one of the most dynamic retail concepts — shopping centres. Using a case study methodology, we analyse the main features that characterise the evolution of shopping centres located in the main town centre of Braga, a medium-sized city in the northwest of Portugal. Data from fieldwork conducted by the author in 2017 in 16 shopping centres was compared with pre-existent databases from 1995 and 2008. Findings of this paper are in line with previous studies on the same city and they show that a marked downward trend is affecting the large majority of the shopping centres analysed, which is reflected on the high vacancy rates and changes in the importance of some retail categories, causing structural modifications in the tenant mix and questioning the economic viability of several of these retail precincts.

**Key Words:** *shopping centres, dead malls, retail categories, Portugal.*

### Introduction

Looking at cities, one may find a place where innovative and evolutionary processes take place. Effectively implemented in full or not, for some time, urban agglomerations have been considered for urban experiments in order to improve the living conditions of their inhabitants. Examples can be found in models such as Ebenezer Howard's Garden cities (Beevers 1988, Allmond 2017) or Le Corbusier's ideas of an ideal city expressed in the plan of the *Ville Radieuse* and implemented in Brasilia, Brazil, and Chandigarh, India (Lehmann 2016). However, these are not always in-depth changes. As mentioned by Hall (2001: 2), changes are "gradual [...] through processes of accretion, addition or demolition"; adding to that, among others, academics have been using the following terms to describe some of these changes: "... from industrial to post-industrial, from modern to post-modern, from Fordist to post-Fordist" (Hall 2001: 3). These changes are observable in a wide range of sectors that characterise cities. Retail is one of these sectors and it is decisive in the structuring of space (Barata-Salgueiro 1989). Urban retail systems ensure the supply of the population — whether residents, daily commuters or occasional passers-by, such as tourists. Some changes in society, such as increased purchasing power and time available for leisure, as well as the massification of tourism among a wide range of interconnected features, have supported the rising importance of consumption, seen as a combination of both the purchase of products and the enjoyment of the whole environment built around that very purchase. Besides, retail has always performed an important social function (Wu and Lo 2018). For instance, traditional retail markets were important places for encounters of local residents (Guimarães 2018a), strengthening social bonds in local communities. Strongly characterised by innovation, retail has evolved over time (Bromley and Thomas 1993, Reynolds and Cuthbertson 2004). Within this evolution, one of the trademarks of the sector is the appearance of new retail concepts. Supermarkets, hypermarkets, shopping arcades, department stores, retail parks, shopping centres are all part of the innovation path of retail. Although some of these concepts have greater deployment in certain countries or regions, they are well-known by the majority of the

world's population. In this paper, we will devote our attention to shopping centres, one of the most innovative of all retail concepts. This is a concept endowed with great dynamic and mutability; and since its inception and dissemination in the second half of the 20<sup>th</sup> century, shopping centres have been spreading across the world and at the top of consumer preferences. However, they are not immune to failure and they can decline (Guimarães 2018b). In the face of the rather scarce but growing body of literature devoted to the evolution of shopping centres, especially the one concerning dead malls and demalling (Mccusker Feronti 2003, Cavoto 2016), this article aims to provide new data regarding a specific case study and to contribute to the scientific literature on the subject.

Using Braga, a medium-sized city in the north of Portugal, we will analyse the evolution of shopping centres in this city's main historical centre. The paper is organised as follows: after this introduction, the next section discusses the theoretical framework; the third section introduces the methodology employed; the following section presents the analysis of our case study; and finally results are discussed and conclusions withdrawn. The research developed in this paper is anchored in the following research question: "What are the main features of the evolution of shopping centres in the main historical town centre of Braga?" By means of the significant transformations felt in the retail fabric of the analysed city, our research hypothesis is the following: "Shopping centres located in the main centre of Braga have gone through a negative evolution, losing retailers. This evolution has led to the decline of a large part of the retail precincts and to the consequent loss of their economic viability".

#### *Literature Review*

Understanding the process of evolution of cities is by no means an easy task, perhaps impossible if one tries to summarise it in a single paper. A wide range of reasons explain the appearance of cities, either for trade, military, religious or other reasons (Kotkin 2011), seen individually or together. Nevertheless, what is consensual is the idea that each city is unique and it "has an individual character" (Pacione 2005: 2). Consequently, also the reasons for the spatial growth of each city are difficult to generalise as global assumptions. Nonetheless, abundant literature has been devoted to the theorization of cities, their internal structure and evolution (Legates and Stout 1996), which has led to broader explanations such as Carter's (1995) referring to three causes of urbanisation: (i) economic development; (ii) agglomeration economies; (iii) political, cultural and social influence. Within this field of research one should also enhance the Chicago School from the beginning of the 20<sup>th</sup> century and the models that emerge from it and the more recent attempt from California researchers being more focused on the relation between urbanisation and capital (Dear and Scott 1981). Noting the difficulty of obtaining wide generalisations and theories about the evolution of cities, even if centered in a specific period of time, we share Hall's (2001: 4) view: "the diversity of city types and processes of urbanisation cannot be reduced to a simple, linear evolutionary process". Thus, aware that the complexity of cities forces us to choose some paths and discard others, we will restrict ourselves to specific elements that concern retail, namely shopping centres, our object of study. Although the designation of shopping centre actually covers a substantial variety of retail precincts, a widely disseminated definition is the one established in the 1950s by the Urban Land Institute:

"A group of architecturally unified commercial establishments built on a site that is planned, developed, owned, and managed as an operating unit related by its location, size, and type of shops to the trade area that it serves" (Urban Land Institute 1957, as cited in Scharoun 2012: 7).

Following Beaujeu-Garnier's (1980) discussion, cities can be seen simultaneously as subject and object. As a subject, because cities influence and shape their inhabitants. As an object, because cities attract inhabitants and supply them with the amenities they need to live, such as

retail and public services and facilities. Although it is not the only retail concept that ensures this, shopping centres fit here by supplying the population with the goods they need. Aware of the urban development that has characterised most of the developed world for several decades, retail promoters have been using the urban space for the reproduction of capital. As Harvey (1985: 13) stated, “the urban process implies the creation of a material physical infrastructure for production, circulation, exchange, and consumption”. This partially explains the significant expansion of shopping centres, especially peripheral retail precincts due to great road connections and increasing motorisation rates.

Although with some noteworthy differences between the evolution of shopping centres in the US and in Europe, in both contexts, the urban space and its added value is appropriated by retail developers. According to Clark (1982), significant urban growth can be traced back to the UK, at the time of the industrial and urban revolutions. In most Western European countries, urban growth was a corollary of industrialisation. In the US, Clark (1982) states that urban growth was due to the industrial changes in the East and to the settlements’ dynamics in the West, and its patterns can be clearly defined by the existing means of transport. This historical background has clearly influenced the dissemination of shopping centres.

Across North America, the dissemination of shopping centres is closely connected with suburbanisation (Kellerman 1985). Suburbanisation, which characterised the growth of several American cities throughout the 20<sup>th</sup> century, enabled and strengthened the necessary conditions for shopping centres to be built in peripheral locations, to the point where they began to be a typical feature in the landscape of those regions. Nevertheless, this development was also linked with the structural issues of the consolidated urban fabric of town centres, particularly with the difficulty of moving and parking in that area associated with the growth in the motorisation rate (Balsas 1999). The first planned peripheral shopping centre — Country Club Plaza — was developed in 1923 near Kansas City (Beaujeu-Garnier 1980). Since then, the shopping centre industry has evolved significantly. According to Jayne (2006: 67), more recently, new shopping centres opened in the 1980s and 1990s “extended the cultural significance of suburban shopping [...] a safe, privatised, highly controlled version of the crowded street, free from ‘contamination’ and benign disorder”. Furthermore, they “could be replicated in any part of the city and constructed to meet the needs of middle-class consumers” (Jayne 2006: 67). Besides being a commercial space, shopping centres have acquired significant relevance in other aspects of everyday life in North America. In some cases, they even possess the same representation as town centres. To this purpose, as stated by Staeheli and Mitchell (2006: 977), “in North American cities, shopping malls are heralded as the new town square”. In the same way, Pyyry (2016) enhances the role of shopping centres as social spaces. Within this understanding, Howard (2007) highlighted the role of leisure as an important feature of shopping centres.

In Europe, the process was initially slower, not only due to the less intense expression of the process of suburbanisation, but also because of the lower economic capacity following the Second World War (Melo et al. 2001). Additionally, urban sprawl has not reached the same level as in North America, which has led to a more constrained pattern of shopping centres, quite often in the vicinity of the main town centres. In time, peripheral shopping centres did begin to be a common commercial feature in the landscape of several European countries. The first modern European shopping centre opened in the 1950s in Sweden (International Council of Shopping Centers and European Shopping Centre Trust 2008). Since then, they have spread throughout Europe, anchored in some urban and social transformations, such as suburbanisation, the increase in the activity rate, the rise of purchasing power and the growth of the motorisation rate (Pereira et al. 2002). Possibly the most studied country in Europe regarding this aspect is the United Kingdom, where several large-scale peripheral shopping centres were built during the 1980s complying with liberal non-restrictive retail planning policies (Adams et al. 2002). This evolution is not exclusive of the UK and one may find similarities to

what happened in Sweden (Forsberg 1998), Denmark (Sorensen 2004), and other European countries (Guimarães 2016a), where the process of retail decentralisation also occurred with the same delay regarding North America.

Overall, the decentralisation of retail through the appearance and dissemination of shopping centres caused impacts in the pre-existent retail structure of town centres. Although some authors state that this relation deserves further evidences and discussion (Cachinho 2005), some literature states that these impacts do exist (Howard 1993, Balsas 2001, Observatório do Comércio 2002). Guy (2007) illustrates how the opening of peripheral shopping centres will lead to the decline of the commercial environment of town centres. However, although these impacts are felt in the entire retail structure, some retail concepts may be more affected than others. As analysed by Guimarães (2014), the opening of new large peripheral shopping centres may not only impact the traditional street retail stores in town centres but also the existing shopping centres in the surroundings. This conclusion is in line with Tsai (2010), according to whom the “massive overdevelopment leads to mutual cannibalisation among shopping malls”. In fact, in face of the evolution in retail, shopping centres are not invulnerable and they can lose their capacity to attract consumers, losing viability as a retail precinct, and therefore declining. The term dead mall has been used to characterise this evolution (Smith 2014, Ferreira 2015, Garfield 2017). It refers to shopping centres that lost a substantial part of their vitality and viability, although they may still be operating. It is a concept that originated in North America and it describes the evolution of a shopping centre to the point where it is considered dead due to the aforementioned process — the regular opening of new shopping centres that may cause a decrease of the vitality and consequent viability of older shopping centres (Mccusker Feronti 2003). Also related with the negative evolution of shopping centres, it is the uprising subject of ‘demalling’, which refers to the transformation of declined or declining shopping centres into something else (Cavoto 2016). This process also arose and gained relevance in the US, a geographical context where it is still of particular importance (Rossi 2014). While the subject of dead malls alone mainly concerns in providing the status of the viability of shopping centres, demalling concerns the implemented strategies to overcome the decline of shopping centres (Sobel et al. 2002, Techentin 2005), of which the existent literature stresses the transformation of enclosed retail precinct into open-air shopping areas (Rosenbaum et al. 2018). Because of the size of the area occupied by shopping centres, because of their location, whether central or peripheral and because in some cases they play a social function within the local community (Kusumowidagdo et al. 2015), the decline of shopping centres is an important topic of discussion in urban planning. This evolution of retail seems quite anarchical or, at least, left to the will of retail developers, who, because they are private stakeholders, end up making use of the territory without great concern for the impacts their actions might have. However, in this scenario, public authorities are not oblivious to their responsibility to care for the public interest. This intervention of the public sector on retail is performed through retail planning policies, understood “as the regulation carried out on the retail sector which must reflect, directly or indirectly, the national development strategy of the sector” (Guimarães 2016a: 377). These retail-related policies have long been established in the European context (Dawson 1979, Davies 1995). In addition to being planning measures, these policies are the result of political choices. Thus, they have fluctuated between a greater restrictiveness and a greater permeability and deregulation (Guimarães 2016c). In fact, when permeability and deregulation are more noticeable, retail ends up experiencing periods of true innovation and development (Guimarães 2016b). Hence, the appearance and dissemination of retail concepts may not be seen merely as a consequence of the natural evolution of the sector and they should be framed as part of a choice made by the public sector that has fostered the conditions for such an evolution to take place.

## **Methodology**

This paper focuses on shopping centres, a retail concept that has significant dynamism, as we have already mentioned. Using a case study methodology, the author aims to analyse the evolution of this retail concept in the city of Braga, a medium-sized city located in the northwest of Portugal. According to data from the latest national census (Statistics Portugal 2018), the population in the municipality went from little more than 140 thousand people in 1991 to more than 180 thousand in 2011.

Sampling is a key issue in research and researchers are faced with several constraints (Burgess 1997), and thus must justify their choices. Therefore, we have chosen to sample the area where the fieldwork was going to be developed. Other shopping centres are still operating in Braga but because the focus of this paper was the main town centre, the fieldwork was only developed in this area in line with other studies already developed on the city (Guimarães 2014, 2015, 2016b). Thus, our analysis will focus on the 16 shopping centres that exist in that area. The dataset is composed of information from three different years: 1995, 2008, and 2017. Due to the scarcity of data on retail, data from 2017 was collected in person by the author through direct observation (as discussed by Quivy and Campenhout 2005). Our subject of analysis — the retail fabric within the shopping centres we analysed — did not play any role in the data collection. The exception is the data from 1995, which was collected by the Braga Chamber of Commerce (Associação Comercial de Braga 1995) and the data from 2008, previously collected by the author (Guimarães 2009). In the case study that is analysed henceforth, three other shopping centres are mentioned and included in the discussion. This is only due to their relevance in the overall retail fabric of Braga, which justifies their relevance for the evolution of the sector in that city. The classification of retail stores used in this paper is based on Guy's study (1998) on the subject.

## **Results**

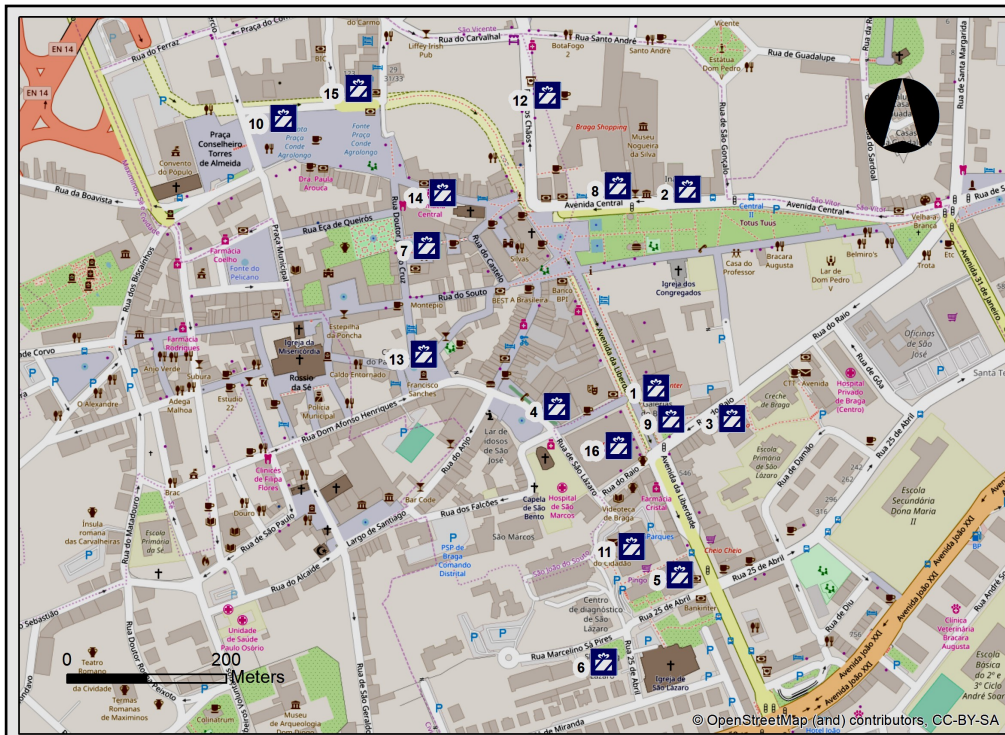
### *Background*

The construction of shopping centres in Portugal occurred with some delay when compared to the same process in North America and even in Europe. This delay is explained by intertwined social and political reasons (Barata-Salgueiro 1996). Until 1974, the country was under the influence of a dictatorial regime that favoured protective measures against the entrance of foreign capital, which did not encourage any investment of large retail developers (Guimarães 2018c). In addition, the low purchasing power of the Portuguese population was also decisive. Regarding regulations, a specific legislation came into force in 1985, defining as shopping centres all the developments which cumulatively: had a minimum of 500 sq. metres of Gross Leasable Area and 12 stores dedicated to retail and services; were located in a single building; had an underlying management structure; and operated during common working hours. Because capital associated with large retail developments was slowly introduced in Portugal, the first stage of shopping centres is mainly characterised by small developments linked with local developers. These local developers, responsible for the construction of this first generation of shopping centres, regarded these retail precincts as mere real estate developments.

### *Shopping centres in Braga*

The urban retail system of Braga is still highly characterised by the existence of a traditional organisation of its retail structure, where the main historical centre still plays an important role in the city and it is seen as an important commercial destination (Guimarães 2016b). Besides being the area where several of the most renowned high streets, monuments and other cultural facilities of the city are located, it is also Braga's buzzing hotspot for locals to meet, where

famous cafés and their terraces have gained much importance. With increasing relevance in the last few years, tourism has still to produce some kind of visible and noteworthy impacts on the area, although it is the most visited area of the city. At the policy level, the City Council has, for some decades, recognised this area as one of the most important areas in the city, and therefore most urban regeneration projects have targeted the area (Guimarães 2016b). In this central location of the city, sixteen shopping centres can be found (Fig. 1). The oldest one opened in 1977 and half of them were inaugurated in the new millennium.



**Fig. 1 – Shopping centres located in the main historical centre of Braga**  
 Source: Author 2018

*Legend: 1: Gold Center; 2: Galerias Lafayette; 3: Rechicho; 4: Santa Cruz; 5: Granjinhos; 6: São Lázaro; 7: Santa Bárbara; 8: BragaShopping; 9: Galerias do Bingo; 10: Galerias do Campo da Vinha; 11: Loja do Cidadão; 12: Galerias dos Chãos; 13: Galeria dos Janes; 14: Alameda shopping; 15: Galerias dos Claustros; 16: Liberdade Street Fashion*

Some of these retail precincts do not fill the formal requirements to be considered shopping centres, mostly because some are small-sized and their stores do not operate within the same working hours. As mentioned before, this is due to the late appearance of large retail developers in Portugal. As a consequence, these retail precincts were built by local real estate companies. Because the majority of these companies did not possess sufficient knowledge of the commercial sector or expertise to develop managerial structures that could manage these spaces as retail precincts, most of them were merely seen as real estate assets.

Beside these shopping centres in the city centre, similar retail precincts are scattered across the city in their vicinity. Nevertheless, what characterises the shopping centre industry in Braga

is the existence of three large and modern retail precincts which are located outside the boundaries of the city centre (Fig. 2). Nova Arcada is the newest of the three. It was inaugurated in 2016 and it has 102 stores. Its main anchor is an Ikea store, the fourth to open in the country, after one in Porto and two in the Lisbon metropolitan area. BragaParque is located just outside the city centre, between this area and Minho University campus. This shopping centre evolved from a small shopping arcade inaugurated in the late 1980s. After several deep renovations involving the physical structure and its tenant mix — the latter already in this decade — BragaParque is currently the main commercial centrality of the city, mostly due to the number of stores it has and the existence of several anchor stores. Lastly, Minho Center was inaugurated in 1997 to the southeast of the city centre. When it opened, the area where it is located was expanding and it is now completely integrated into the dense urban grid of Braga.

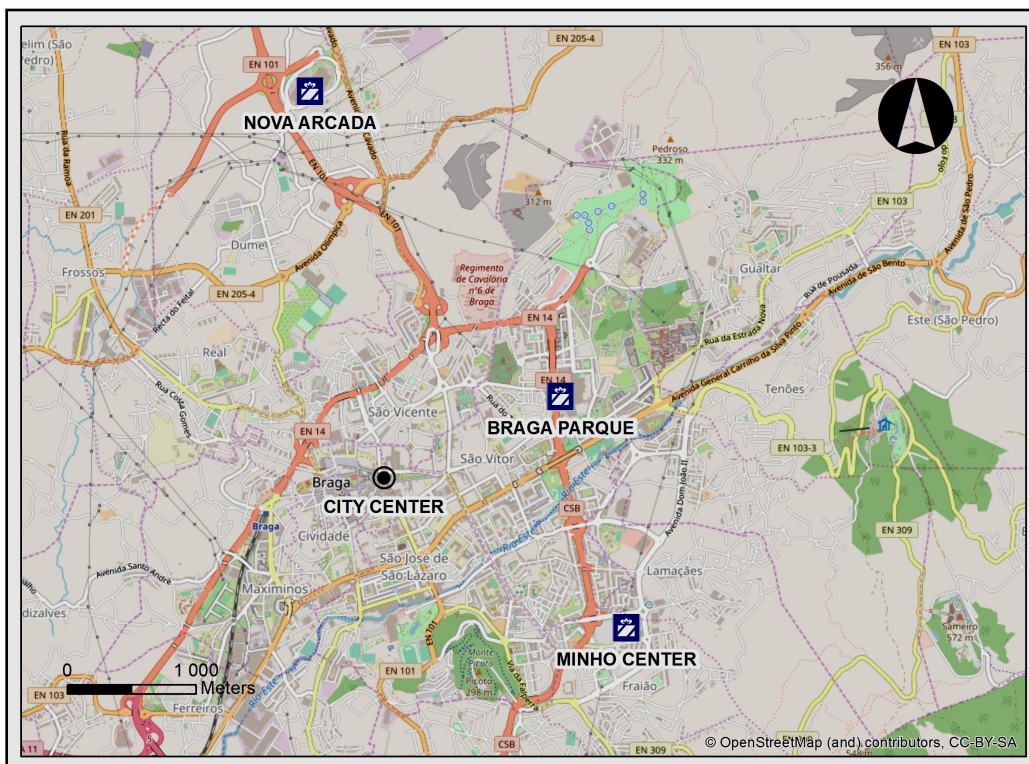


Fig. 2 – Location of the three largest shopping centres in Braga in relation to main city centre  
Source: Author 2018

The opening of these shopping centres, particularly the two oldest ones, was very relevant due to their size and also because each of them originated a new commercial centrality in the city. Similar to the recently inaugurated Nova Arcada, BragaParque and MinhoCenter have both had a hypermarket from the start — this is one of their main anchor stores that simultaneously makes a distinction between these shopping centres and the remaining (none of which with relevant anchor stores) and it strengthens the status of those three shopping centres as the main commercial centralities of the city.

Table 1

**Main features of existent and vacant stores in the analysed shopping centres**

Shopping centre	Total of occupied stores			Vacant stores			Total of stores spaces			Vacancy rate (%)		
	1995	2008	2017	1995	2008	2017	1995	2008	2017	1995	2008	2017
BragaParque #		128	156		4	2		132	175		3	1
Minho Center #	0	59	45		6		0	65	45		9	0
Rechicho	62	48	22	14	28	54	76	76	76	18	37	71
BragaShopping	62	109	80	0	6	35	62	115	115	0	5	30
S. Lázaro	33	19	9	12	26	36	45	45	45	27	58	80
Galerias Lafayette	32	27	10	5	10	27	37	37	37	14	27	73
Gold Center	33	16	21	0	17	12	33	33	33	0	52	36
Granjinhos	48	56	24	18	10	42	66	66	66	27	15	64
Santa Bárbara	85	60	25	9	34	69	94	94	94	10	36	73
Santa Cruz	61	44	20	11	28	52	72	72	72	15	39	72
Galerias do Bingo	-	7	7	-	1	1	0	8	8		13	13
Galerias do Campo da Vinha	-	5	6	-	11	10	0	16	16		69	63
Loja do Cidadão	-	4	3	-	2	3	0	6	6		33	50
Galerias dos Chãos	-	9	2	-	3	10	0	12	12		25	83
Galeria dos Janes	-	3	3	-	7	7	0	10	10		70	70
Alameda Shopping	-	2	2	-	8	8	0	10	10		80	80
Galerias dos Claustros	7	4	3	3	6	7	10	10	10	30	60	70
Liberdade Street Fashion	-	-	7	NA*			-	-	7	NA*		
Total (without BragaParque and MinhoCenter)	423	413	244	72	197	373	495	610	617	15	32	60

Source: After Associação Comercial de Braga (1995), Guimarães (2009), fieldwork performed by the author (2017).

\* Information note: it was not allowed to collect information on the number of vacant spaces.

# The incorporation of these shopping centres is to be viewed from a purely indicative point of view.

Regarding the shopping centres that are located in the main town centre and are the object of study of this research, some profound changes have been occurring. Overall, it seems clear that shopping centres in the city centre are in a downward trend. According to data in Table 1, there has been a very significant decrease in the total number of stores that are actually operating. The data from 1995, in general, cannot be compared with subsequent years because some of the shopping centres opened after that year. Nevertheless, looking into the retail precincts already operating in 1995, between this year and 2008 only Granjinhos and BragaShopping increased the number of stores still in business. The latter can be explained by a renovation performed on the building, which expanded its gross leasable area. Regarding vacant stores, again Granjinhos stands out as the exception to the general increase in the number of stores without any commercial exploitation and thus vacant. Analysing the evolution from 2008 to 2017, this decline is even more evident, with almost twice the number of vacant stores. In 2008, the analysed sixteen retail precincts had 197 vacant spaces, which increased to 373 in 2017. As regards the total number of spaces available for commercial use, only BragaShopping suffered some changes due to the aforementioned physical renovation that enlarged the retail precinct. Considering the relation between available spaces for stores and vacant spaces, one may find that the vacancy rate is growing fast. Even if not fully comparable, it has doubled in the analysed years. Where in 1995 the vacancy rate of the then existing shopping centres was 15%, in 2008 this number increased to 30%, which is a sure sign of

decline. Currently, through the fieldwork conducted in 2017, this evidence became even clearer and the vacancy rate reached a new high of 60%.

Shifting the focus of our analysis from shopping centres examined individually to the evolution of retail categories, we can find some common features (Table 2). The first one is the loss of relevance of the category “clothing, footwear and other personal goods”, probably one of the most relevant types of stores concerning the attraction of a large number of consumers. Other categories, such as the ones that involve the sale of large-sized products, had an expected decrease (Household and Do-it-yourself). Some other categories remained steady with a similar number of stores or they suffered a small decrease. However, because the overall number of retail stores has diminished, this eventually means these categories have actually gained some relevance in terms of the percentage they have in the tenant mix. Restaurants and cafés are an example of this because — although there are less 4 retail stores between 1995 and 2017 — this category grew in percentage from 10 to 16% in the same period. The highest increase was seen in the categories of “Health services” (on the back of the rising sector of gyms), and “Repair services”.

*Table 2*

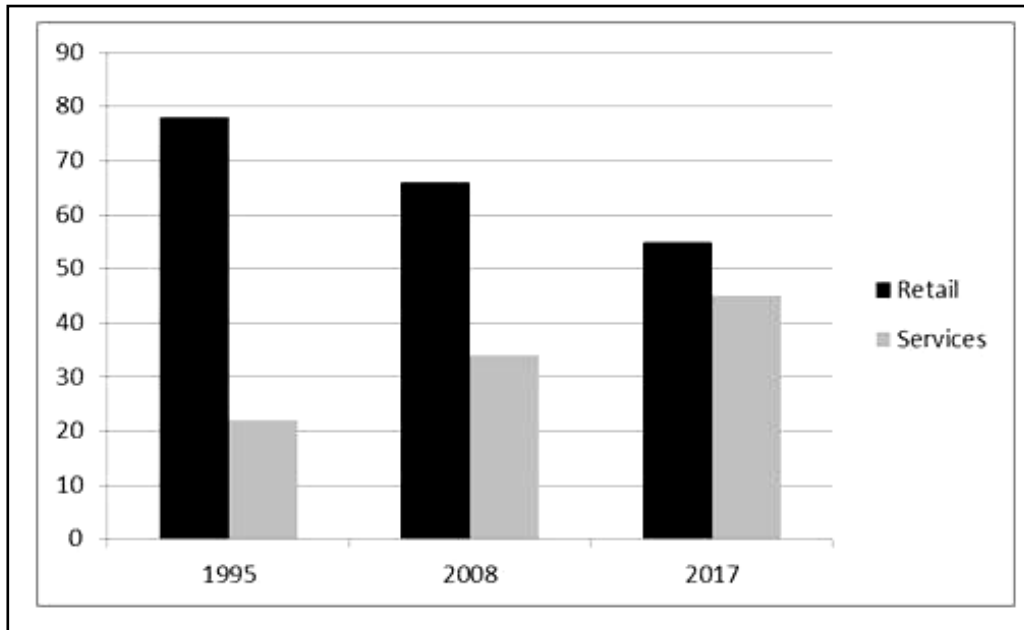
**Evolution of the tenant mix of analysed shopping centres**

Classification of retail goods and services	Number of stores (N°)				Number of stores (%)		
	1995	2008	2017	1995-2017	1995	2008	2017
Clothing, footwear and other personal goods	230	157	81	-149	54	38	33
Non-specialised retail	13	18	4	-9	3	4	2
Do-it-yourself goods	3	0	0	-3	1	0	0
Professional goods / telecommunications	3	9	5	2	1	2	2
Household goods	47	42	14	-33	11	10	6
Recreational goods	24	22	20	-4	6	5	8
Pharmaceutical and beauty goods	9	21	9	0	2	5	4
Food	3	3	1	-2	1	1	0
<b>Total retail</b>	<b>332</b>	<b>272</b>	<b>134</b>	<b>-198</b>	<b>78</b>	<b>66</b>	<b>55</b>
Restaurant and cafes	43	49	39	-4	10	12	16
Other services	24	34	11	-13	6	8	5
Financial services	0	7	4	4	0	2	2
Repair services	1	6	13	12	0	1	5
Health services	1	14	16	15	0	3	7
Personal services	22	31	27	5	5	8	11
<b>Total services</b>	<b>91</b>	<b>141</b>	<b>110</b>	<b>19</b>	<b>22</b>	<b>34</b>	<b>45</b>
<b>Total of occupied stores</b>	<b>423</b>	<b>413</b>	<b>244</b>	<b>-179</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Total store spaces (with vacant)</b>	<b>495</b>	<b>610</b>	<b>617</b>	<b>122</b>			

Source: After Associação Comercial de Braga (1995), Guimarães (2009), fieldwork performed by the author (2017)

Overall, another key feature is the antagonistic evolution of stores found when we look at the two major categories: retail and services. Where in 1995 there were 332 stores dedicated to retail, in 2017 this number dropped to 134, which means that this category lost 60% in terms of stores (less than 198 stores). Regarding the services in the same period, the evolution was

radically different with an increase in the number of stores from 91 to 110. However, an in-depth analysis allows us to see that the evolution of services was significantly high between 1995 and 2008 and then decreased from 2008 to 2017. In general, considering the percentage of each major category, there is a clear alignment trend of the stores in the retail and service typologies (Fig. 3).



**Fig. 3 – Evolution of the share of retail stores and services stores in 1995, 2008 and 2017 (in percentage)**

*Source: After Associação Comercial de Braga 1995, Guimarães 2009, fieldwork performed by the author 2017*

### Discussion

The data presented and analysed previously enlightened us about the significant transformations affecting the shopping centres of Braga town centre. Overall, two main features characterise the evolution of shopping centres in the main town centre of Braga. The first feature concerns the overall declining trend that is affecting the analysed shopping centres. Looking into the data in depth, one can see that the number of occupied stores significantly dropped from 423 stores in 1995 to 244 in 2017, which implies a decrease by 42%. The number of vacant stores is tied with this figure — in the same period; it went from 72 to 373, representing an increase by more than 400%. This negative evolution that is reflected in the data also concerns the number of available store spaces that has increased by 122 stores in the analysed period (from 495 in 1995 to 617 in 2017). Looking into the data from 1995, one can see that some early signs of decreasing viability of the existing shopping centres could already be found. In that year, a 15% vacancy rate should have been seen as indication that something should be done to reverse that situation. However, data from 2008 shows us that the city followed a different direction. A substantial number of new shopping centres opened in the town centre and, at the same time, MinhoCenter and BragaParque established themselves as Braga's main commercial centralities. This evolution meant further pressure on the existing

retail precincts. Data from 2008 demonstrates that this evolution culminated in the worsening of the commercial environment of the analysed shopping centres. Between 1995 and 2008, only two shopping centres increased the number of occupied stores, proving that the low viability of these retail precincts was already evident in 2008, which is clearly related to the general increase of the total number of store spaces. By this year, the vacancy rate had reached 32%. For the current analysis, this also shows that the global economic crisis that began in 2008 did not play any role (either direct or indirect) in the beginning of the declining process. The information regarding 2017 proves that the state of decline has further deteriorated. Despite the situation of deep decline of the shopping centres in the town centre between 2008 and 2017, a new retail precinct — Liberdade Street Fashion — was inaugurated, which posed even more difficulties regarding the viability of existing shopping centres in the area. This opening is most probably related with the goal of the developer that perceived this investment not as a retail investment but as a mere real estate investment. The number of available store spaces is slightly similar in 2008 and 2017, but, in the latter, vacancy rates have soared to 60%. Although we might argue that in 2008 shopping centres were experiencing severe viability issues, in 2017, and in face of the numbers, we have to ask whether these retail precincts can still be called shopping centres. Since there are more closed stores than the ones that are occupied and given that they do not have any anchor stores, those retail precincts can hardly be vibrant, liveable and attract consumers.

The second feature concerns the restructuring of the tenant mix. Not only has there been a decrease in the number of operating stores, but also some changes in the importance of certain retail categories. The most significant of these changes is the decrease in the number of stores from the category “clothing, footwear and other personal goods”, which is a sign that the analysed shopping centres are becoming less attractive. The evolution of other categories is related to the evolution of the town centre’s centrality and accessibility, such as household goods stores that, due to the size of the products they sell, now have a location other than the city centre, because of their low accessibility through individual transport. This idea is further reinforced by the growth of not so relevant categories, such as “repair services”. Actually, through the fieldwork conducted, it was possible to confirm that the majority of new businesses that are opening in the analysed shopping centres has less added-value and it is taking advantage of the declining phase these retail precincts are going through. Because of this situation, rental values in shopping centres are decreasing and it is this tendency that allows for the new businesses to become viable. Nevertheless, they do not add value to the tenant mix of the retail precincts, which clearly questions the capacity of these shopping centres to overcome the declining trend. All of these changes in the retail categories are not exclusive to the tenant mix of shopping centres. Previous studies regarding street retail in Braga point to the same trend (Guimarães 2014, 2015, 2016b).

### **Conclusions**

In this paper, we aimed to analyse the evolution of shopping centres in the main city centre of Braga. Given that retail is a dynamic sector, the shopping centre is a highly relevant and also very dynamic retail concept, which has led to changes in the commercial environment of several cities. Our main methodology was based on a theoretical discussion on the subject and on fieldwork that updated previous databases from 1995 and 2008. The fieldwork was conducted individually and in person by the author. Resuming our research question — “What are the main features of the evolution of shopping centres in the main historical town centre of Braga?” — we have concluded that, as aforementioned in the discussion section, the evolution of analysed shopping centres can be characterised by two major features, and both point to the confirmation of the initially defined research hypothesis — “Shopping centres located in the main centre of Braga have gone through a negative evolution, losing retailers. This evolution has led to the decline of a large part of the retail precincts and to the consequent loss of their economic viability”.

Overall, one may also state that retail is a private sector and the analysed shopping centres seem to have resulted from speculative investment in real estate. Despite the early signs of decline that we traced back to 1995, private retail developers chose to open new shopping centres, which further exacerbated the existing problem. In fact, despite the rising levels of vacancy rates, Braga's town centre saw the number of shopping centres increase and consequently high numbers of available retail stores that only emphasised the scale of the existing problem. Connecting with the established theoretical framework, the data that we have presented in this article leaves no room for misconceptions and it means that dead malls is a problematic that fits well the reality of analysed shopping centres in Braga. High vacancy rates are a sign of decrease in viability. Furthermore, the general modification of the tenant mix is simultaneously a cause and consequence of the lower vitality of those retail precincts. However, in contrast with the North America literature that focuses on the issue of dead malls regarding peripheral shopping centres, usually with a regional catchment, the data from this article show us that a similar problem affects shopping centres located in town centres. The geographical context is obviously very dissimilar and even for what we have analysed in the literature review one should be cautious when proceeding with generalisations. Nonetheless, if the present results may not be immediately comparable to North America, to some extent, they may be analogous to other Western European cities where, in general, suburbanization of retail did not reach the same levels. In what concerns demalling, fieldwork did not provide insightful views on the subject. This is mainly because no measures were so far implemented. Still, because of the number of shopping centres that are experiencing decline, it is not expected a positive turn in which the analysed shopping centres increase their vitality and viability and return to be retail destinations as they once were. Thus, demalling emerges as a future inevitability but, because the analysed shopping centres are in prime location in the main town centre, they also emerge as an opportunity. As referred in the literature review, shopping centres affected by demalling can acquire new functions, such as office centres, residential use and other. Nonetheless, because the problem associated with the evolution of these retail precincts is related with the evolution of the city itself, the solutions must be found in connection with broader urban planning guidelines from the local authorities.

#### Acknowledgements

We wish to thank the FCT – Portuguese national funding agency for science, research and technology [grant number UID/ GEO/00295/2013] and the Center for Geographical Studies, University of Lisbon [grant number CEG-BPD/2015-LT2] for funding this research. I am grateful to the editorial board of this journal and to the anonymous reviewers for their comments. We also thank Carlos Freitas for his support with the cartography.

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Initial submission: 02.08.2018

Revised submission: 19.10.2018

Final acceptance: 15.11.2018

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## URBANIZATION, MULTI-MORBIDITIES AND PREFERENCE FOR HEALTH CARE FACILITY: AN INSIGHT FROM RAJASTHAN, INDIA

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**Abstract:** India experiences rapid pace of urbanization with increasing elderly population and changing disease profile creating new set of health care demands. The study made a novel attempt by exploring the prevalence of morbidities, multi-morbidities along with preferred healthcare facility substantiated by its reasons among the older adults aged 50+ living in urban Rajasthan based on a primary survey. The higher prevalence of single morbidity compared to multi-morbidity reflects the possibility of future healthcare needs. Poisson regression estimates identified the elderly belonging to the non-SC/ST/OBC group and the non-poor household in the age group of 60+ at higher risk of multi-morbidities. The Government hospitals overall enjoy higher acceptance though the reasons vary from their efficiency to lacuna in other healthcare providers. The study suggests incorporating the factors shaping the preferences to develop a suitable healthcare centre for the elderly and the expansion of government healthcare schemes. Successful ageing can get a boost by adequately addressing their healthcare needs.

**Key Words:** *urban, Rajasthan, older population, healthcare, morbidity.*

### Introduction

The world is experiencing demographic transition (leading to population ageing) and urbanization along with epidemiological transition particularly dominant in low and middle income countries (United Nations 2006, He et al. 2012). The simultaneous occurrence of such transitions has major implications for individuals, societies and nations as a whole. Currently, Asia is home to 54% of the world's older population, followed by Europe with a share of 24% (Lin et al. 2008). Further, it is projected that by 2050, 82% of the older population would be residing in regions of Asia, Africa, Latin America and the Caribbean while only 16% would reside in developed regions of Europe and North America. It thus becomes more challenging for the developing economies that are getting old before being rich and they will also be sharing a major proportion of the older population. The issue gets aggravated with the pace of these transitions which is unprecedented; there is no historical evidence to assist the policymakers in deciding the course of governmental actions to ensure healthy urbanization as well as successful ageing (Bloom et al. 2010). India has witnessed almost tripling of its older population in the last four decades (Rajan 2006). Currently, we are home to the second largest older population of the world with a proportion of 8.6% in the total population (Census of India 2011); thus India has acquired the status of an *ageing nation*. This process of ageing would continue to be rapid whereby the percentage of the older population is projected to increase to 13% by 2030 and further to 20% by 2050 (United Nations 2006). Also, the Ministry of Social Justice & Empowerment (2016) has revealed in its report that the number of older population aged 60 years and above would touch the mark of 198 million by 2030. In other words, India has a shorter time span to ensure healthy ageing in its rapidly urbanizing cities.

Globally, urbanization has registered a sharp increase from 30% in 1950, while the percentage of urban population increased to 54% in 2014 which is further projected to increase to 66% by 2050, amounting to more number of people living in urban areas than in rural areas (United Nations 2015). At regional level, North America and Europe stands amongst the most

urbanized regions with more than 70% of their population as urban while Asia and Africa remains mostly rural (48% and 40% urban population respectively) but estimating urbanization at an aggregate level reveals that Asia is home to 53% of the world's urban population followed by Europe (14%); thus, the pace of urbanization will be faster in the Asian and African regions (United Nations 2015); a possible explanation can be the huge population base. It is projected that India, China and Nigeria as a whole will account for 37% of the growth between 2014 and 2050 with India adding the highest number of urban dwellers i.e. 404 million (United Nations 2015). This indicates that the nation with the largest rural population is bound to experience a rapid pace of urbanization in the years to come. The Indian census also confirms it as the decadal growth rate of urban population for the recent decades (1991-2011) is positive while that of total and rural population is negative (Fig. 1). Consequently, percentage of urban population has increased from 11.4% in 1901 to 31% in 2011 (Census of India 1901, 2001 and 2011).

The simultaneous occurrence of urbanization and population ageing as a consequence of

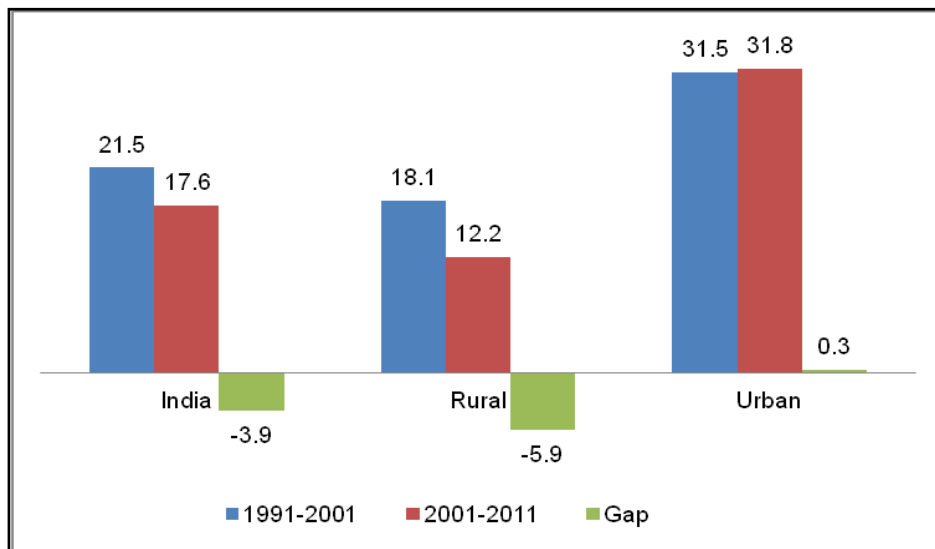


Fig. 1 – Decadal growth rate of rural, urban and total population in India  
 Source: Census of India 2011

economic and medical science development raises various challenges particularly for the health sector since urbanization is a major determinant of public health in the 21st century (World Health Organization 1999). It is generally believed that city dwellers enjoy a better health status (Timaeus and Lush 1995) but an increased exposure to motorized pollution, occupational physical inactivity, access to processed food, tobacco, alcohol etc. has raised critical issues related to the quality of life (Misch 1988, Allender et al. 2010, Kyobutungi et al. 2010, Wagner and Brath 2012). Indeed, mortality levels are controlled in the urban areas but the increasing prevalence of non-communicable diseases (NCDs) raises questions on adding a longer span of diseased years to the human life. The issue gets aggravated with the increasing proportion of the elderly when it is evident that the older adults are at a much higher risk for disease, disability and multiple chronic diseases (Khanam et al. 2011, Salisbury et al. 2011, Salive 2013). The World Health Organization's (2008) estimates show that NCDs accounted for 55% of deaths among the population in the age group of 15 to 60 years whereas for the older population (aged 60+) it was as high as 73%. Further, more than half of the burden of NCDs and 25% of the total disease burden occur in the age group of 45 years and above (Chatterji et

al. 2008); projected to increase to more than 45% by 2030 (Arokiasamy et al. 2015). Along with the increasing prevalence of NCDs, it is the co-existence of multiple chronic morbidities which have become progressively common among the elderly. Studies have shown that multi-morbidities are not only associated with many adverse health outcomes, such as reduced physical functions (Fried et al. 1999, Kadam and Croft 2007), poor quality of life (Fortin et al. 2004), increased use of inpatient and ambulatory care (Salisbury et al. 2011), but their adverse impact is further exacerbated by socioeconomic deprivation and poor medical care facilities (Tu 2004, Lehnert et al. 2011, Marengoni et al. 2011). Another issue that seeks the attention of policymakers concerns with the availability of health care infrastructure as well as the preference of the elderly for health care facility. This was never an issue for India till recently where multiple generations staying together under one roof provided the much needed care, support and security to their elderly members (Kumar 2003, Jain and Prakash 2014); however not only India but many Asian countries are experiencing a rise in nuclear living and the diminishing preference for intergenerational co-residence (Goode 1963, Bongaarts and Zimmer 2002, Adams et al. 2011); thereby uprooting the traditional care givers. In fact, an all-together separate branch of gerontological research focused on the effects of care giving, care receipt and available care options is evolving recognizing the importance of this under researched area (Van Haitsma et al. 2013). Kane and Kane (2001) have proved that if the expectations of care are matched with the receipt of the same, it can certainly enhance the satisfaction of the elderly with care and wellbeing, particularly for the ones receiving long term care. Further, a study by Wielink et al. (1997) on the elderly living independently in the Netherlands revealed that with the extension of duration for care giving or requirement for personal care, the preference for informal care declines. Thus it becomes pertinent to assess the adequacy of health care infrastructure in accordance with the needs of the older adults.

In this background, the paper aims to assess the prevalence of multi-morbidities in a less explored setting of urban Rajasthan, India, among the population aged 50 years and above. Also, there is plenty of literature focused on various dimensions of health in the old age such as care giving framework, health care utilization and infrastructure (Mayhew 2000, Jung et al. 2003, Sheikh et al. 2015, Chokshi et al. 2016), however, studies investigating the preference of the elderly for health care facility are extremely rare. Whether older adults would prefer private doctors or government doctors or non-allopathic form of medicines such as Ayurveda, Yoga and Naturopathy, Unani, Siddha, Sowa-Rigpa and Homeopathy (AYUSH) (Rudra et al. 2017) or have no specific preference? This question becomes pertinent for the old age as the care preferences of the older may bridge the gaps between the receiver preferences and the giver decisions about the long term care planning (Reamy et al. 2011). Also, successful ageing is not only the freedom from disability but also the high cognitive, physical and social functioning (Rowe and Kahn 1987, Rowe and Kahn 1997). The paper also substantiates the preference of the elderly for health care facility by carrying out a quantitative as well as a qualitative analysis.

## **Methodology**

### *Selection of the Study Area*

Considering the subject matter and the objectives of the study, it was pertinent to collect primary data from Rajasthan focusing on its urban parts. With India emerging as one of the fastest growing economies, its eight states are still lagging behind i.e. Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Rajasthan, Odisha, Uttarkhand, Uttar Pradesh grouped together as the Empowered Action Group (EAG) states to give them focused attention (Arokiasamy and Gautam 2008). Cumulatively, these states account for 46% of India's total population and 61% of the population living below the poverty line (Census of India 2011). Also, the health outcomes are worst in these states contributing to the highest disease burden in the country (Ministry of Health and Family Welfare 2011). Rajasthan, one of the EAG states, is also one of the four states selected for the pilot survey of the Longitudinal Ageing Study in

India (LASI) focused on the population aged 45 years and above; being pioneer in such longitudinal surveys in India. LASI is a large scale, nationally representative, longitudinal survey on ageing, health and retirement with an aim of analyzing population ageing and the formulation of mid and long term policies for India (Arokiasamy et al. 2012). As per the findings of the Census of India 2011, Rajasthan is the largest state by area and the eighth largest by its population size of 68 621 012 people. The state is also ill famous for its poor sex ratio of 928 compared to 943 at the country level reflecting its patriarchal social structure. It is worthwhile to mention that though the sex ratio is below the national average it has improved from 921 as per the Census of India 2001. Rajasthan has a density of 200 persons per square kilometer and a literacy rate of 66.11 overall and 79.68 in the urban areas (Census of India 2011). Further, it is a state still dominated by the rural population as only one fourth of its total population resides in urban areas (17 008 776 people); the study is based on the urban population of Rajasthan only.

#### *Profile of the selected District*

Rajasthan is the state with 33 districts and considering the profile of its districts, the city of Jaipur was selected as the study area. It is the capital city and commonly known as *Pink City* of India for its pink colored walled city. It also enjoys the status of being the first planned city of the country along with a rich cultural heritage. Apart from its historical roots, it is ranked at 10<sup>th</sup> place in terms of the largest urban agglomeration by population size in India (Census of India 2011) as well as one of the four cities of Rajasthan selected for the Smart city mission, the Government of India recognizing its pace of modernization. The Ministry of Housing and Urban Affairs launched this mission in 2015, aiming at the promotion of such cities that can provide core infrastructure and ensure a decent quality of life to its citizens, a clean and sustainable environment along with the application of 'Smart' Solutions (Ministry of Urban Development 2015). Further, the Ministry defines the focus of this mission on sustainable and inclusive development and creating a replicable model in compact areas to act like a light house to other aspirant cities; Jaipur being selected as one of the light house cities. Hence, it will be insightful to assess the health care needs and preferences of the older adults living in a light house city. Further, as per the Census of India 2011, 20.49% of the urban population of Rajasthan, i.e. 34 099 204 people, resides in urban Jaipur. The literacy rate in Jaipur district is 76.44 with 82.47 in the urban parts which is higher than the average literacy rate at the state level for overall and urban areas as well (Census of India 2011). Further, the per capita income of the city is € 461.54 (Government of Rajasthan 2015). This study is focused on the population aged 50 years and above living in the urban parts of Jaipur district which constitutes 11.55% of the total urban population of Jaipur i.e. 288 927 people (Census of India 2001). Since it is the work of an individual researcher and also there is hardly a study focused on Jaipur, this study therefore fulfills the research gap as well.

#### *Sampling*

The survey design of the study is finalized by following the Encyclopedia of Survey Research Methods edited by Lavrakas (2008) and other research based on primary data such as the work done by Banjare and Pradhan (2014); hence, a five stage sampling procedure was adopted to select the respondents from urban Jaipur. A brief description of the sampling design is given below:

1. The sample size<sup>1)</sup> was calculated using the sample size formula to arrive at a sample of 400<sup>2)</sup> older adults aged 50 years and above living in the urban parts of Jaipur:

1) This method requires a target precision for the estimates and a given design effect (with the adjustment for expected non-response) (Lwanga and Lemeshow 1991).

2) The sample size formula estimated the number of respondents at 362, but to ensure adequate cell frequency the sample size was inflated to 400.

$$n = \frac{Z_{\alpha}^2 * p * q * (1 + R) * (deff)}{d^2}$$

where, n = estimated sample size

$\alpha$  = level of statistical significance that was set at 0.05

$Z_{\alpha}$  = the z value at 95% confidence level i.e.  $z_{\alpha}=1.96$ , with 95% confidence level

d = the margin of error i.e. **d=0.05**

p = the proportion of older adults aged 50 years and above i.e. **p=0.12**

q = 1-p i.e. **q=0.89**

R = non-response rate i.e. **R=0.10**

deff = design effect i.e. **deff=2**

2. In the second stage, it was purposively decided to collect data from five urban wards out of 91 wards divided into eight zones of Jaipur Municipal Corporation<sup>3)</sup>. The wards were selected on the basis of their residential pattern so as to capture different socioeconomic segments of the population to the largest possible extent. It is however important to note that there is no official record stating the residential pattern and it is based on the observation of the researcher as well as on the findings from the pilot survey<sup>4)</sup>. Hence, the information about the five selected wards is given in Table 1.

3. In the third stage, from each of the five wards, one census enumeration block (CEB) was randomly selected.

4. In the fourth stage, the operation of housing list was carried out in each of the selected CEB of five wards. The minimum eligibility criterion for listing the household was the presence of at least one person in the age group of 50 years and above in the household.

5. In the fifth stage, following the systematic random sampling, households were selected from each of the five CEBs using the household list. It implies that every fifth household listed on the household list was selected for the interview to ensure systematic randomness while selecting the sample.

Table 1

Information of selected wards (Urban Jaipur, 2012)

Ward Number	No of Households	Total population	Selected Area	Major Population Characteristic
Ward No 17	224	1415	Bani Park	Richer section
Ward No 27	9177	41058	Mansorover (SFS colony)	Retired government officials
Ward No 35	11895	58027	Jhalana	Lower income group
Ward No 38	6320	29333	Malviya Nagar	Business and teacher community
Ward No 54	6919	34534	Ramganj	Muslim population

Source: Directorate of Census Operation, Jaipur office; Jain and Arokiasamy 2016

3) See Appendix 1 for the ward map.

4) During the in-depth interviews at the time of the pilot survey, the elderly were asked about the residential pattern of the city.

### *Health care assessment*

Since the study is based on primary data<sup>5)</sup>, a cross-sectional survey design consisting two sets of self-administered questionnaire, i.e. Household questionnaire and Individual questionnaire, were developed<sup>6)</sup>. The former is used to collect information about the household and its members (such as ownership of household assets which is used to calculate the wealth index using the Principal component analysis), while the latter is used to collect specific information about the respondents (such as age, gender, education status, caste, religion). The data on the prevalence of various morbidities was collected by asking the elderly the following specific question: “*If any health professional has ever diagnosed them with a (particular) chronic disease or minor ailment in the last one year or last 30 days preceding the survey respectively.*”

The responses were recorded without conducting any clinical or cross examination of medical reports. Further, consistent with the research carried out in the field of multi-morbidity (for example, Khanam et al. 2011, Arokiasamy et al. 2015), the study defined it as the simultaneous presence of two or more chronic conditions at the time of the survey based on the information collected on individual chronic diseases<sup>7)</sup>. Further, in order to meet the second objective about the health care preferences, the elderly were asked the following questions according to the ailment: “*Which health facility do you prefer for health care and treatment seeking in case of any minor ailment? Which health facility do you prefer for health care and treatment seeking in case of any major illness?*”. The rationale for asking two separate questions was to rule out the probability of having different preferences for a different nature of disease. The reasons that shaped the preferences of the elderly for health care facility were also explored.

### *Data Processing*

The field work for data collection from the 400 elderly aged 50+ was carried out in urban Jaipur during August 2012 to January 2013. The data so collected was then entered using the United States Census Bureau’s Census and the Survey Processing System (CSPPro) version 4.0.1 which is being widely used for processing of survey data. The data was entered as two separate files, i.e. Household file and individual file, which were later on merged with assigned unique identification codes and converted into STATA version 10 (Stata Corporation, College Station, Texas, USA) for the purpose of the analysis. It is important to note that the necessary editing and cleaning of data was undertaken before carrying out the analysis.

### *Statistical tool*

Considering the objectives of the study, the uni-variate, bi-variate and multi-variate analyses were carried out<sup>8)</sup>. The bi-variate associations are tested using the chi-squared goodness of fit statistics which is used as a test for counts and to determine how well each item contributed to a common dependent variable (Phaswana-Mafuya et al. 2013). In the multi-variate analysis, the Poisson regression model is applied as the prevalence of multi-morbidity turned out to be a rare event. Also, its use is justified based on the statistically significant value of the Wald chi-square statistic for the full model (p-value for the chi square) (Saikia and Ram 2010). A brief description of the model is as follows:

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5) In primary data, information is collected and used for the first time by the investigator/researcher.

6) See Appendix 2 and 3.

7) The information collected is used to estimate the prevalence of no disease, one disease and 2+ diseases.

8) See Appendix 4 for the demographic and economic profile of the respondents.

*Poisson Regression Model:* A Poisson random variable  $Y$  has the probability density function,  $f(y) = P(Y = y)$  given as,

$$f(Y) = \frac{e^{-\mu} \mu^Y}{Y!}$$

where,  $f(Y)$  denotes the probability that the variable  $Y$  takes non-negative integer values. The parameter  $\mu$  is the mean value of the random variable  $Y$  which takes on values from zero to infinity, at integers.

The Poisson regression model may be written as:

$$Y_i = E(Y_i) + u_i = \mu_i + u_i$$

where the  $Y$ 's are independently distributed as Poisson random variables with means  $\mu_i$  for each individual expressed as (Gujarati 2009):

$$E(Y_i) = \mu_i = \{\beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + \dots + \beta_k X_{ki}\}.$$

#### *Ethical Consideration and Informed Consent*

This study is based on primary data collected from the older population aged 50 years and above living in the urban parts of Jaipur. A due attention is paid to the ethical considerations by taking a prior approval for the study and questionnaire from the International Institute for Population Sciences, Mumbai. Respondents were interviewed only after taking their informed consent wherein they were assured of keeping their identity anonymous and information shared as confidential. Also, their participation in the survey was voluntary and they were free to discontinue the interview at any point of time and they could choose not to answer the questions they did not like.

## **Results**

### *Prevalence of Morbidities and Multiple morbidities*

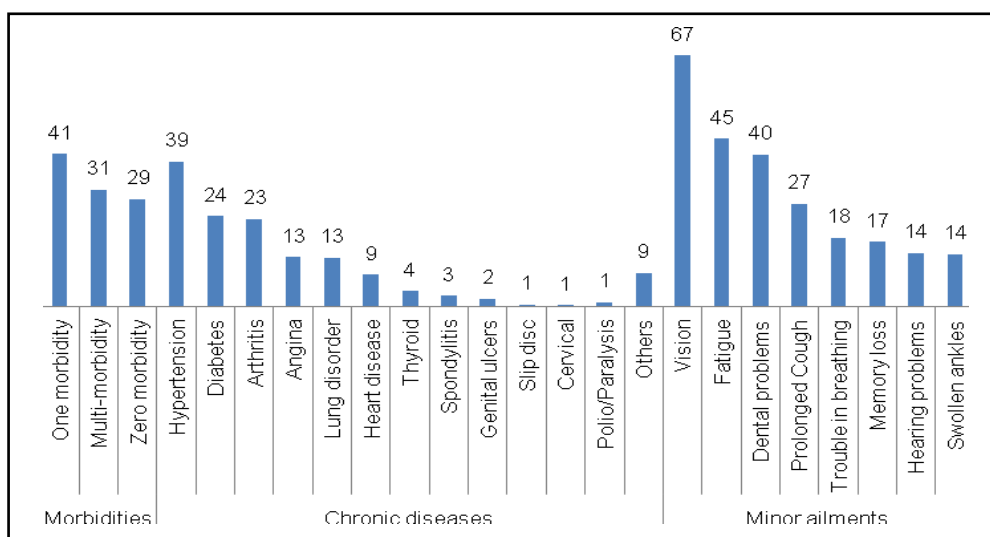
The first objective of the study is to assess the prevalence of various morbidities among the older population, defined in terms of morbidity, multi-morbidities and zero morbidity along with individual distribution of diseases (Fig. 2). The findings reveal that 28% did not report any disease while 40% suffered from one disease and 31% reported the prevalence of multiple diseases. Considering chronic diseases, the majority of elderly reported hypertension (39%) followed by diabetes (24%) and arthritis (23%). Angina and lung disorders were reported by 13% of the elderly. Further, less than 10% of the elderly suffered from heart diseases (eight percent); thyroid (four percent); spondylitis (three percent); genital ulcers (two percent); polio/paralysis (one percent) and less than one percent complained about slip disc and cervical<sup>9</sup>. Among the minor ailments, problems related to vision were the most commonly reported (66%) followed by fatigue (44%), dental problems (40%) and prolonged cough (27%).

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9) The reason for such less percentages was not the less prevalence of these diseases, but rather the elderly who were bed ridden were either unwilling for the interview or those who consented couldn't complete their interviews

*Association of socioeconomic factors with the prevalence of morbidities*

This section deals with exploring the crude associations of multi-morbidities with the socioeconomic and demographic characteristics of the elderly in order to identify the vulnerable groups (Table 2). As expected, the older adults reported comparatively a better health status defined in terms of zero morbidities and multi-morbidities than the oldest old (34% and 23% for zero morbidity and 25% and 37% for multi-morbidities for the population aged 50-59 years and 60+ respectively). In a patriarchal Indian society, females are often an ignored gender yet biologically stronger; hence, 33% of older males reported multi-morbidities compared to 28% of older females though the other two indicators preferred older males. Education and economic status depicts a positive association with multi-morbidities justified on the grounds of a reporting pattern shaped up by the awareness levels. Also, the percentage of older adults suffering from multi-morbidities was more among those living in non-nuclear families (33%) and belonging to other caste group (34%) and to the Hindu religion compared to their counter parts (24% for nuclear families and the deprived caste group and 27% for the Non-Hindu religion).



**Fig. 2 – Morbid conditions among the elderly aged 50 years and above (per cent distribution by morbidities, Urban Jaipur, 2013)**

*Note: Percentage may add up to more than 100 because of multiple responses*

*Socioeconomic correlates of multiple morbidities*

The crude associations were further explored using the sophisticated regression analysis. Table 3 presents the estimates from the Poisson regression model used to examine the determinants of multi-morbidities relative to the reference category “no morbidity”. The results are consistent with the patterns as indicated in the bivariate analysis. For instance, among the predictors, age, caste and the economic status of the elderly are of importance. Age has significant effect on the prevalence of morbidities as older adults aged 60+ have a 1.36 times higher risk of morbidity than those in the age group of 50-59 years. The effect of caste on the risk ratio is paradoxical as the elderly belonging to the deprived caste group experienced a 26% lesser risk ratio of morbidity than their counterparts. Similarly, the elderly from the households with medium and high standard of living experienced a 28% and 27% higher risk ratio of morbidity than the elderly from the low standard of living households.

Table 2

**Prevalence of multiple diseases among the elderly, by socioeconomic characteristics (Urban Jaipur, 2013)**

SES characteristics	Zero morbidity	One morbidity	Multi-morbidity
<b>Age**</b>			
50-59 years	34.17	41.21	24.62
60+ year	22.89	39.80	37.31
<b>Gender</b>			
Male	29.55	37.65	32.79
Female	26.80	45.10	28.10
<b>Educational level*</b>			
No education	27.27	47.27	25.45
Up to higher secondary	30.10	41.75	28.16
Graduation	31.16	41.30	27.54
Post-graduation and above	24.04	34.62	41.35
<b>Working status***</b>			
Currently working	36.36	40.64	22.99
Retired	22.64	35.85	41.51
Not working	20.56	44.86	34.58
<b>Living Arrangement</b>			
Nuclear	31.33	44.58	24.10
Non-Nuclear	27.76	39.43	32.81
<b>Caste***</b>			
Others	23.91	42.03	34.06
SC/ST/OBC	38.71	37.10	24.19
<b>Religion*</b>			
Hindu	30.40	36.63	32.97
Non-Hindu	24.41	48.82	26.77
<b>Wealth**</b>			
Poor	34.33	44.78	20.90
Middle	27.07	36.09	36.84
Rich	24.06	40.60	35.34
<b>Total</b>	<b>28.50</b>	<b>40.50</b>	<b>31.00</b>

Notes: \*\*\*significant at 1% level of significance ( $p < 0.01$ ); \*\*significant at 5% level of significance ( $p < 0.05$ ); \*significant at 10% level of significance ( $p < 0.10$ ), as per the Chi-squared test results.

Overall, the elderly belonging to the forward caste group (non-SC/ST/OBC) and the non-poor households in the age group of 60+ were at a higher risk of morbidities. The results derived consistency with the literature that with poor socio-economic standing sometimes an individual's own understanding of health may not be in accordance with the appraisal of medical experts and thus they fail to realize the presence of a morbid condition and they do not report it (Sen 2002, Jain et al. 2012).

*Preference for health care facility*

There is a plethora of literature focused on the various dimensions of health such as health care infrastructure and their adequacy and availability (Sheikh et al. 2015, Chokshi et al. 2016);

however, studies exploring the preference of people for health care facility are relatively rare. Since the old age needs much of health care, the knowledge about their preferences would certainly assist in designing the appropriate type of health care infrastructure. When in this

*Table 3*

**Poisson regression results (IRR) showing the effect of socioeconomic and demographic predictors on the prevalence of multiple morbidities among the elderly aged 50+ (Urban Jaipur, 2013)**

Morbidity	IRR	95% Confidence Interval	
		Lower Limit	Upper Limit
<b>Age</b>			
50-59 Years®			
60+	1.38***	1.15	1.65
<b>Educational level</b>			
No education®			
Up to secondary	0.89	0.66	1.21
Graduation	1.02	0.69	1.52
Post-graduation & above	1.26	0.86	1.87
<b>Gender</b>			
Male®			
Female	0.91	0.77	1.09
<b>Caste</b>			
Other Caste®			
SC/ST/OBC	0.74***	0.61	0.92
<b>Religion</b>			
Hindu®			
Muslim	1.04	0.79	1.37
Others	0.95	0.78	1.16
<b>Living Arrangement</b>			
Nuclear®			
Non-Nuclear	1.19	0.96	1.49
<b>Economic Status</b>			
Poor®			
Middle	1.36**	1.07	1.73
Rich	1.37**	1.05	1.78
Constant	0.88	0.57	1.36
N	400		
<b>Wald Chi-Square (13)</b>	<b>50.8</b>		
<b>Prob&gt; Chi-Square</b>	<b>0.000</b>		
<b>Pseudo R Square</b>	<b>0.0353</b>		

Notes: \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.10$ ;

®: reference group;

IRR: Incidence Risk Ratio.

study the older adults were asked about their preference for the type of health care facility, their response varied with the types of morbidities (Table 4). To illustrate this, 42% of them preferred the government hospitals for the treatment of chronic diseases (42%) while for minor

ailments, the majority preferred home remedies on any other health care facility (31%). Despite increasing the consumption of allopathic medicines, AYUSH still managed to be a preferred option by 14% of the older adults for minor ailments. Further, 15% and three percent of the respondents did not have any specific health care preference for chronic and minor morbidities respectively.

Table 4

**Most preferred health care facility by type of ailment (Urban Jaipur, 2013)**

Health facility	Chronic diseases	Minor ailments
Government Hospitals/Clinics	42.50	22.50
Community/Charity Centers	#	3.00
Private practitioners/Hospitals	33.75	17.00
AYUSH	0	14.50
Pharmacy/Drug Store	NA	8.50
Home Remedies	NA	31.50
NGO/Trust Hospitals	7.00	0
No Specific Preference	15.50	3.00

Note: # cell frequency is less than 8

While responding to the question of preference for health care facility, a few of the older adults (31%) expressed their strong inclination for a particular health care facility irrespective of the nature of ailment (Table 5). Fourteen percent of the elderly have always preferred the government hospitals or clinics followed by 10% of the elderly with the preference for private hospitals and seven percent for NGO/Community hospitals. Sixty nine percent of the elderly did not have any specific preference and they were quite flexible with their choice of health care facility.

Table 5

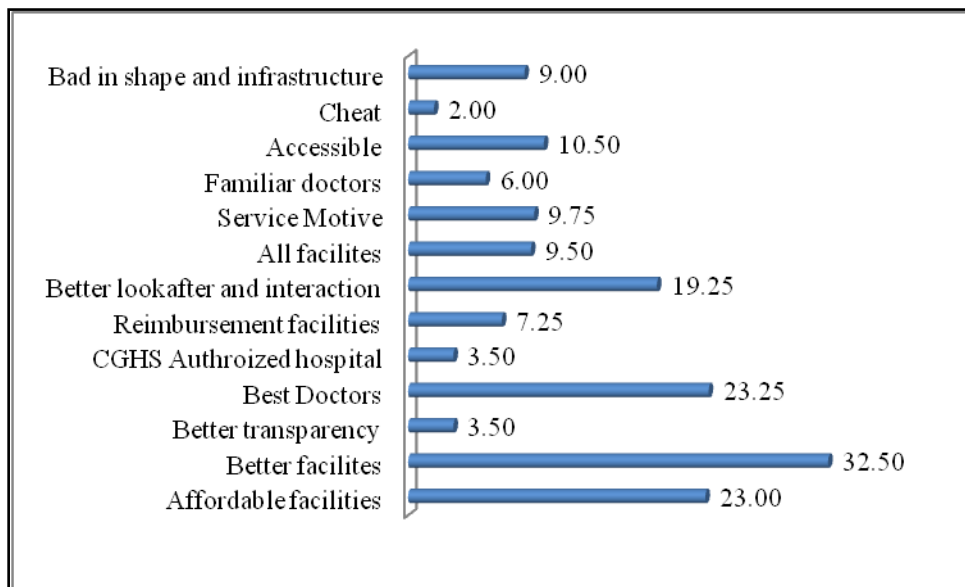
**Percentage of the elderly with fixed preference for health care facility (Urban Jaipur, 2013)**

Fixed preference	Percent	N
Government Hospitals	14.25	57
NGO/Community/Charity Hospitals	7.00	28
Private Hospitals	9.75	39
Flexible preference	69.00	276

*Factors governing the preference for health care facility*

Though the elderly have revealed their preference for health care facility, it would be insightful to understand the factors responsible for shaping up such preferences in order to ascertain the strengths and weaknesses of the existing health care infrastructure (Fig. 3). The availability of better facilities (32%) and best doctors (23%), as well as affordability (23%), was amongst the most commonly reported factors. The facilities of reimbursement and CGHS hospitals also emerged as factors for seven and four percent of the elderly respectively. It is important to note that none of the older adults covered under the CGHS scheme have preferred any other health care facility except the CGHS approved health care facility; hence, there is a need to expand the social security benefits. It was also observed that the choice for a particular health care facility emerged on the account of refusal to other facility. For instance, nine percent of the

elderly did not visit a particular health care facility owing to lack of adequate infrastructure; however, they were indifferent to any other facility. Likewise, two percent of the elderly did not visit a health care facility as they believed providers to be dishonest.



**Fig. 3 – Factors governing the preference for the health care facility (Urban Jaipur, 2013)**

The factors shaping up the preferences were re-analyzed by the type of health care facility to evaluate such facilities from a consumer's view point (Table 6). The majority of the elderly who preferred government facilities rationalized their choice based on the availability of best doctors (61%) followed by the affordable facilities (37%) and a belief that these hospitals are governed by service motive (18%). Likewise, in the context of NGO/Charity facilities, 50% of the elderly preferred it because they believed facilities to be better while 18% chose this facility owing to its accessibility. Fifty six percent of the elderly who preferred the private health care facility were governed by the availability of better facilities and look after while 23% of them preferred it due to the lack of proper infrastructure in other health care facilities; hence, the weakness of other health care providers led older adults to prefer private providers.

The quantitative analysis has clearly brought out the factors shaping the preferences; the qualitative excerpts would however allow us to explain their rationale; for instance, a married male aged 64 years and an elderly widow aged 79 years narrated their reasons for preferring the government hospital:

*"The reliability of the private hospitals is very suspicious... they are sitting there to make money... but government doctors are much more qualified and have service motive... they won't make us to go for unnecessary tests..."* [Married male, 64 years].

*"Doctors in government hospitals don't listen to us properly... there are such long queues and it becomes difficult for me to wait... but I have no choice... I am dependent on my kids after their uncle's death... I have to go where there are lesser fees..."* [Elderly widow, 79 years].

These two elderly preferred government hospitals however their reasons differ considerably; for the former, good facilities are shaping the preference as well as the lack of trust on the other health facility while for the latter there is no willingness to prefer this hospital, but owing to lesser fees, she was forced to. Likewise, there were few more respondents who did not like a particular health facility and so they either chose another or they were forced to visit the same health care facility.

Table 6

**Percent distribution of the elderly according to the preferred health care facility by their reasons (Urban Jaipur, 2013)**

Reasons	Facilities			
	Government	NGO/Charity	Private	Not specific
Affordable facilities	36.84	28.57	0	22.83
Better facilities	17.54	50.00	56.41	30.43
Better transparency	#	#	#	#
Best Doctors	61.40	10.71	0	19.93
Reimbursement	12.28	#	#	11.23
Better look after and interaction	5.26	#	56.41	17.03
All facilities	17.54	0	0	10.14
Service Motive	17.54	14.29	0	9.06
Familiar doctors	0	10.71	#	6.52
Accessible	#	17.86	0	12.68
Cheat	#	0	0	#
Bad in infrastructure	0	14.29	23.08	8.33

Note: # cell frequency is less than 8

### Discussion

Ageing and healthy ageing are two separate issues; the former is bound to happen beyond the control of governments while the latter is to be ensured by policymakers. By now, ageing has hit most of the countries and a crossover of an increasing older population and a declining child population is projected when the number of children and older persons will be the same (United Nations 2006). Both these sub-groups are the largest consumers of health services though they need an all together different health care infrastructure. Hence, it is of utmost importance to carry out systematic studies dealing with the different dimensions of population ageing such as financial needs, wellbeing, and health care infrastructure to assist policymakers in formulating effective policies and interventions. In the context of India, there is limited literature on the socioeconomic correlates of multi-morbidities among the elderly population (Himanshu and Talukdar 2017) and this study has attempted to fill this research gap by providing insights upon Rajasthan, the largest state of India. The findings from the study reveal that multi-morbidities are reported by 31% of the elderly; however the prevalence of only a single morbidity is reported among 41% of the study population which reflect the risk group for multi-morbidities. Thus, the burden on health care resources appears to be increasing in the near future. The study also identified the vulnerable groups that need targeted attention. For instance, the older adults belonging to the non-SC/ST/OBC group and to non-poor households in the age group of 60+ were at a higher risk of multi-morbidities. Though it does not entail for the immunity of their counterparts from multi-morbidities, it should rather be understood in the terms of deciding a starting point for the targeted intervention.

A comparison of the results with the available literature divulges into some contradictory as well as similar results. A study carried out in Chandigarh found the elderly females more prone to morbidities (Swami et al. 2002) but in Karnataka no gender differentials were observed (Shraddha et al. 2012) while this study found a lesser prevalence of multi-morbidities among the elderly females in urban Rajasthan. In addition, consistent with the findings of Banjare and Pradhan (2014), Ha et al. (2015) and Mini and Thankappan (2017), this study also revealed a higher prevalence of multi-morbidities among the well-off section of the society. Further, since India is in the early stages of establishing government programs to support its aging population (Arokiasamy et al. 2012, Jain and Arokiasamy 2016), exploring the preferences of the elderly for health care infrastructure would be insightful. This study shows an inclination towards government hospitals as 14% of the older adults have always preferred government hospitals or clinics while nearly 10% preferred the private hospitals. It is worthwhile to mention that the entire group of older adults covered under the CGHS scheme has always preferred those hospitals affiliated with the scheme; hence, there is 100% acceptance and utilization of the scheme among masses.

The study acknowledges that each country has its own pace of demographic transition and urbanization. The initiatives taken by the developed world such as the restructuring of policies, pension plans and health care infrastructure to ensure successful ageing can still be suggestive of effective policies though they should be modified and adopted according to their own needs. In fact, the state based care options prevailing in Europe differ by scope, organization and quality within the European countries. So that, in Sweden and the Netherlands, health care infrastructures are funded by the state, while Switzerland employs a local system of services and the Denmark represents the example of a public-private policy of both pensions and savings (Davey et al. 2014, Smits et al. 2014, Mair et al. 2016). Similarly, the Stockholm European Council defined a three-pronged strategy to address population ageing through: 1) reducing public debt, 2) raising employment rates and productivity, and 3) reforming pension, health care and long-term care systems (European Commission 2014), while Lee and Mason (2006) believed that European policies should now be designed to exploit the 'second demographic dividend'. India is though in the stage of reaping its first demographic dividend; however, considering the pace of transitions occurring concomitantly, the government should integrate the elements of these lessons in its ageing policies, particularly focusing on health and long term care systems.

### **Conclusions**

The essence of this paper lies in assisting the government to provide for adequate health care infrastructure for the elderly by exploring the prevalence of morbidities and multi-morbidities as well as the preference of the elderly for health care facility shaped up by their reasons in an urban set up. The study recommends the government to keep in mind the preferences of the older adults while designing appropriate geriatric hospitals. Though there was an inclination towards government hospitals, in few instances, there was observed that, apart from quality, lacunas in the non-government health care providers left the older adults with this option which remains valid for choosing a different health care provider in other instances as well. Thus, the burden of government doctors should be reduced by either hiring more staff or creating more hospitals; also, there should be some stringent regulations to monitor the functioning of private providers. The recent incidence of sheer negligence by some big private providers in few cities of India calls for strict actions by the government to avoid such incidences in the future where the possibility of under reporting cannot be ignored. The insight gleaned from the study strongly suggests the expansion of coverage under the insurance schemes (such as CGHS) at least in the urban areas where these schemes have already become popular. Hence, if the inhibiting or promoting factors can be rectified or strengthened, the shape of health care infrastructure will be in accordance with the needs of the elderly.

The study is though based on the data collected from the urban areas of the largest state of India. So that, it would be unjust to generalize the findings for the whole country, but still, the prevalence of morbidities and the preference for health care facility can assist the government in predicting future health care needs and the type of infrastructure required to cater to such needs. Also, the scenario depicted in urban areas can be indicative of the quantum of health care needs in the rural areas where under-reporting is a major issue due to widespread illiteracy and unawareness about the morbid conditions.

Finally the study concludes by an urge to alter the assumption of considering the older population as a burden on resources, and the concept of successful ageing can certainly assist us in this drive. If their health needs are adequately addressed, this sub-group of population is a rich source of experiences which none of the text books can ever teach.

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Initial submission: 10.01.2018

Revised submission: 20.05.2018

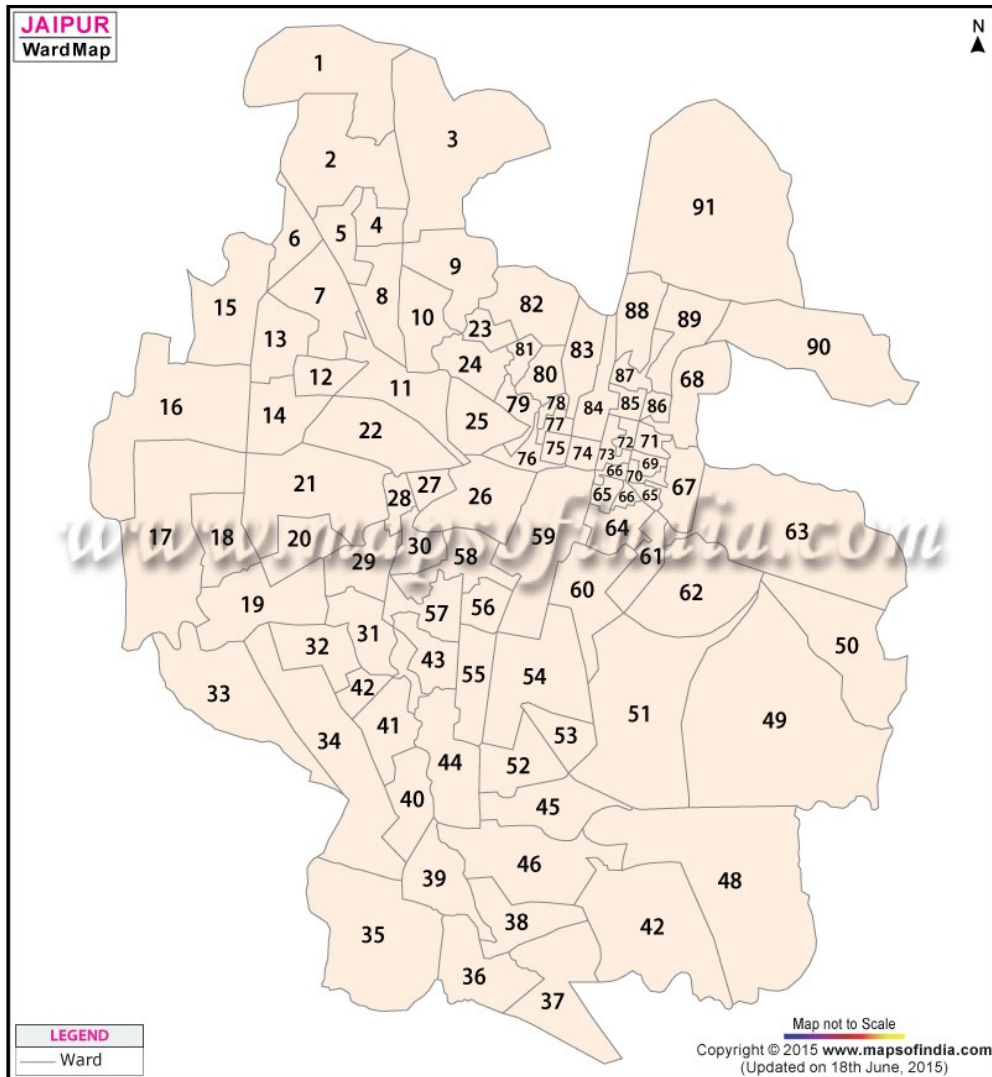
Final acceptance: 12.11.2018

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APPENDICES

Appendix 1



Ward Map of Jaipur

**Appendix 2**

**Household schedule**

Now I would like to have some information about the people who usually live in your household (HH). (Please add sheets and columns if more members are in the household).

LINE NO 001	USUAL RESIDENTS OF THE HH	RELATIONSHIP WITH THE HEAD OF THE HH	SEX	AGE	MARITAL STATUS
	Q 102	Q002	Q003	Q004	Q005
	Please tell me the names of the person who usually lives in your HH starting with the head of the HH	What is the relationship of (NAME) to the head of the household? <b>(A)</b>	Is (NAME) male or female  M=1 F=2	How old is (Name)? (Completed year)  <b>(B)</b>	What is the current marital status of (name)? NM=1 CM=2 S/D=3 W=4 MNG=5 <b>(C)</b>
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					

Urbanization, Multi-Morbidities and Preference for Health Care Facility: an Insight from Rajasthan, India

LINE NO 001	EDUCATION (If Age>/ 5 years)			IF EVER ATTENED SCHOOL/ COLLEGE		
	Q006	Q007	Q 008	Q 009	Q 010	Q 011
	Can (Name) read and write? Yes=1 No=0	Has (Name) ever been to school Yes=1 No=0 <b>IF YES GO TO Q 010</b>	If never attended school What is the main reason (Name) went to school? (D) <b>(GO TO NEXT PERSON)</b>	What is the highest stand-ard (Name) has complet-ed? (E) <b>IF AGE IS 18 YEARS OR MORE GO TO NEXT PERSON</b>	IF AGE IS LESS THAN 18 YEARS Is (Name) still in school/ college? Yes=1 No=2 <b>IF YES GO TO NEXT PERSON</b>	
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						

LINE NO 001	WORKING STATUS			IDENTIFICATION OF ELGIBILE ELDERLY
	Q 012	Q 013	Q014	Q 015
	What is the current working status of (Name)?  CW=1 S/C/P=2 R=3 HM=4 SJ=5 NW=6	IF (NAME) IS WORKING Is (Name) in full time or part time employment FT=1 PT=2	What is the nature of employment?  GS=1 Inst=2 N/T=3 CS=4 PS=5 SE/ Bus=6 O=96	Write (1) if <b>Elderly Person</b> above age 50 years and (2) for others. Also Circle Line No of Eligible Respondents
01				
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				

<b>A. CODES for Q103</b>	<b>B. CODES for Q105</b>	<b>C. CODES for Q106</b>	<b>D. CODES for Q109</b>
<p><b>Relationship With the Head of the Household</b></p> <p>1= Head                      2= Wife or husband                      3= Son or daughter                      4= Son-in-law or daughter-in-law                      5= Grandchild                      6= Parent                      7= Parent-in-law                      8= Brother or sister                      9= Brother-in-law or sister-in-law                      10= Niece or nephew                      11= Other relative                      12= Adopted/ Foster Child/ Step Child                      13= Domestic servant                      14= Other not related                      98= Don't know</p>	<p><b>Age</b></p> <p>00= Age less than one year</p>	<p><b>Marital Status</b></p> <p>1= Never Married                      2= Currently married                      3= Separated / Deserted/ Divorced                      4=Widowed/ Widower                      5=Married but gauna not performed</p>	<p><b>Main Reasons:</b></p> <p>1= School too far away                      2= Transport not available                      3= Education not considered necessary                      4= Required for household                      5= Required for work on farm/ family                      6= Required to work outside to earn                      7= Expensive                      8= No proper school facilities for girls                      9= Required to care for younger siblings                      10= Not interested in studies                      96= Any other reason (Specify)                      98= Don't know</p>

<b>E. CODES for Q110</b>	<b>F. CODES for Q112</b>	<b>G. CODES for Q113</b>	<b>H. CODES for Q114</b>	<b>I. CODES for Q115</b>
<p><b>Standard</b></p> <p>00= Less than one year of education</p> <p>Otherwise actual standard</p>	<p><b>Main Reasons:</b></p> <p>1= School too far away</p> <p>2= Transport not available</p> <p>3=Further Education not considered necessary</p> <p>4= Required for household</p> <p>5= Required for work on farm/ family</p> <p>6= Required to work outside to earn</p> <p>7= Expensive</p> <p>8= No proper school facilities for girls</p> <p>9= Not safe to send girls</p> <p>10= Required to care for younger siblings</p> <p>11= Not interested in studies</p> <p>12= Repeated failures</p> <p>13= Got married</p> <p>96= Any other reason (Specify)</p> <p>98=Don't know</p>	<p><b>Work status</b></p> <p>1= Currently working</p> <p>2=In school/ college/ professional courses</p> <p>3= Retired</p> <p>4= Homemaker</p> <p>5= Searching for job</p> <p>6=Not working</p>	<p><b>Type of work</b></p> <p>1=Full time work</p> <p>2= Part time work</p>	<p><b>Nature of employment</b></p> <p>1= Govt Sector</p> <p>2= Institution</p> <p>3= NGO/ Trust</p> <p>4= Cooperative Society</p> <p>5=Private Sector</p> <p>6= Self employed/ Business</p> <p>96=Others (Specify)</p>

HH 016	What is the religion of the head of the household?	<table border="1"> <tr><td>1</td><td>Hindu</td></tr> <tr><td>2</td><td>Muslim</td></tr> <tr><td>3</td><td>Sikh</td></tr> <tr><td>4</td><td>Christian</td></tr> <tr><td>5</td><td>Jain</td></tr> <tr><td>96</td><td>Other (Specify)</td></tr> <tr><td>98</td><td>Don't know</td></tr> </table>	1	Hindu	2	Muslim	3	Sikh	4	Christian	5	Jain	96	Other (Specify)	98	Don't know			
1	Hindu																		
2	Muslim																		
3	Sikh																		
4	Christian																		
5	Jain																		
96	Other (Specify)																		
98	Don't know																		
HH017	What is the caste or tribe of the head of the household?	<table border="1"> <tr><td>1</td><td>Scheduled Caste</td></tr> <tr><td>2</td><td>Scheduled Tribe</td></tr> <tr><td>3</td><td>Other Backward class</td></tr> <tr><td>4</td><td>General</td></tr> <tr><td>96</td><td>Other (Specify)</td></tr> <tr><td>98</td><td>Don't know</td></tr> </table>	1	Scheduled Caste	2	Scheduled Tribe	3	Other Backward class	4	General	96	Other (Specify)	98	Don't know					
1	Scheduled Caste																		
2	Scheduled Tribe																		
3	Other Backward class																		
4	General																		
96	Other (Specify)																		
98	Don't know																		
HH018	What is the language you generally speak at home or languages you know?	<table border="1"> <tr><td>1</td><td>Hindi</td></tr> <tr><td>2</td><td>English</td></tr> <tr><td>3</td><td>Marwari/ Rajasthani</td></tr> <tr><td>4</td><td>Punjabi</td></tr> <tr><td>5</td><td>Urdu</td></tr> <tr><td>6</td><td>Bengali</td></tr> <tr><td>7</td><td>Sindhi</td></tr> <tr><td>96</td><td>Other (Specify)</td></tr> </table>	1	Hindi	2	English	3	Marwari/ Rajasthani	4	Punjabi	5	Urdu	6	Bengali	7	Sindhi	96	Other (Specify)	
1	Hindi																		
2	English																		
3	Marwari/ Rajasthani																		
4	Punjabi																		
5	Urdu																		
6	Bengali																		
7	Sindhi																		
96	Other (Specify)																		
HH019	Have you always lived in this city?	<table border="1"> <tr><td>1</td><td>Yes</td></tr> <tr><td>0</td><td>No</td></tr> </table>	1	Yes	0	No	→ HH021												
1	Yes																		
0	No																		
HH020	How long have you been living in this area?	<table border="1"> <tr><td></td><td>Months</td></tr> <tr><td></td><td>Years</td></tr> </table>		Months		Years													
	Months																		
	Years																		
HH021	Note the type of house	<table border="1"> <tr><td>1</td><td>Kaccha House</td></tr> <tr><td>2</td><td>Semi- kaccha house</td></tr> <tr><td>3</td><td>Pucca house</td></tr> </table>	1	Kaccha House	2	Semi- kaccha house	3	Pucca house											
1	Kaccha House																		
2	Semi- kaccha house																		
3	Pucca house																		
HH022	How many rooms are in your home excluding bathrooms, porches, balconies or hallways but including kitchen?	<table border="1"> <tr><td></td><td>Number of rooms</td></tr> <tr><td></td><td>If only one room</td></tr> </table>		Number of rooms		If only one room	→ HH025												
	Number of rooms																		
	If only one room																		

HH023	Of these rooms, how many are used for sleeping?	<input type="text"/> Number of rooms
HH024	Do you have separate room for kitchen?	<input type="checkbox"/> Yes <input type="checkbox"/> No
HH025	What is the main source of drinking water for the household?	<input type="checkbox"/> 1 Piped water <input type="checkbox"/> 2 Water from spring <input type="checkbox"/> 3 Rainwater <input type="checkbox"/> 4 Tanker <input type="checkbox"/> 5 Bottled water/ purchased water <input type="checkbox"/> 96 Any other (Specify)
HH026	What type of toilet facility do members of your household use?	<input type="checkbox"/> 1 Flush or pour flush toilet <input type="checkbox"/> 2 Pit latrine <input type="checkbox"/> 3 Pit ventilated improved (VIP) biogas latrine <input type="checkbox"/> 4 Pit latrine with slab <input type="checkbox"/> 5 Pit latrine without slab/Open pit <input type="checkbox"/> 6 Twin pit/composite toilet <input type="checkbox"/> 7 Dry toilet <input type="checkbox"/> 8 No facility, use open space <input type="checkbox"/> 96 Other (Specify)
HH027	What type of fuel does your household use for cooking?	<input type="checkbox"/> 1 Liquefied petroleum gas (LPG) <input type="checkbox"/> 2 Compressed Natural gas (CNG) <input type="checkbox"/> 3 Kerosene/ Electric <input type="checkbox"/> 4 Biogas/ Solar energy <input type="checkbox"/> 5 Coal/lignite/ Charcoal/ Crop residue/ burning wood/ dung cake <input type="checkbox"/> 9 Other (Specify) <input type="checkbox"/> 6

HH028	Does your household have the following:	<b>Assets</b>	<b>Yes</b>	<b>No</b>
		Refrigerator	1	0
		Washing Machine	1	0
		Sewing Machine	1	0
		Television	1	0
		Mixer	1	0
		Pressure Cooker	1	0
		Dishwasher	1	0
		Telephone	1	0
		Mobile Phone	1	0
		Radio/Transistor/ Stereo System/ CD Player	1	0
		Computer	1	0
		Air Conditioner	1	0
		Cot or bed/ Mattress	1	0
		Electric Fan	1	0
		Cooler	1	0
		Car/ any four wheeler	1	0
Motorcycles/ Scooter/ Mopeds	1	0		
Bicycles	1	0		

*Thank you for your cooperation and giving your precious time.*

## Individual questionnaire

Variables	Questions and Filters	Coding Categories	Skip/Go to										
D001	Note down the sex of the respondent	<table border="1"> <tr><td>1</td><td>Male</td></tr> <tr><td>2</td><td>Female</td></tr> </table>	1	Male	2	Female							
1	Male												
2	Female												
D002	What is your current marital status?	<table border="1"> <tr><td>1</td><td>Never Married</td></tr> <tr><td>2</td><td>Married</td></tr> <tr><td>3</td><td>Separated/ Deserted</td></tr> <tr><td>4</td><td>Divorced</td></tr> <tr><td>5</td><td>Widowed</td></tr> </table>	1	Never Married	2	Married	3	Separated/ Deserted	4	Divorced	5	Widowed	
1	Never Married												
2	Married												
3	Separated/ Deserted												
4	Divorced												
5	Widowed												
D003	Tell me the living arrangement of your house	<table border="1"> <tr><td>1</td><td>Living Alone</td></tr> <tr><td>2</td><td>Living with spouse only</td></tr> <tr><td>3</td><td>Living with spouse and children or others</td></tr> <tr><td>4</td><td>Living without spouse but with children or others</td></tr> <tr><td>5</td><td>Living with others</td></tr> </table>	1	Living Alone	2	Living with spouse only	3	Living with spouse and children or others	4	Living without spouse but with children or others	5	Living with others	→D005A
1	Living Alone												
2	Living with spouse only												
3	Living with spouse and children or others												
4	Living without spouse but with children or others												
5	Living with others												
D004	Can you please tell me why are you staying alone?												
D005	What is your date of birth? In which year and month were you born?	<table border="1"> <tr><td>Don't know</td></tr> <tr><td>98</td></tr> <tr><td>98</td></tr> <tr><td>98</td></tr> </table> <table border="1"> <tr><td>D005A</td><td>Day of birth</td></tr> <tr><td>D005B</td><td>Month of birth</td></tr> <tr><td>D005C</td><td>Year of birth</td></tr> </table>	Don't know	98	98	98	D005A	Day of birth	D005B	Month of birth	D005C	Year of birth	→ D007
Don't know													
98													
98													
98													
D005A	Day of birth												
D005B	Month of birth												
D005C	Year of birth												
D006	How old were you on your last birthday? Compare and correct D005 and D006 if inconsistent												
D007	Can you read and write?	<table border="1"> <tr><td>1</td><td>Able to read only</td></tr> <tr><td>2</td><td>Able to write only</td></tr> <tr><td>3</td><td>Able to read and write</td></tr> <tr><td>4</td><td>Cannot read or write</td></tr> </table>	1	Able to read only	2	Able to write only	3	Able to read and write	4	Cannot read or write			
1	Able to read only												
2	Able to write only												
3	Able to read and write												
4	Cannot read or write												

D008	What is the highest level of education that you have completed?	<table border="1"> <tr><td>0</td><td>No education</td></tr> <tr><td>1</td><td>Primary</td></tr> <tr><td>2</td><td>Secondary</td></tr> <tr><td>3</td><td>Higher secondary</td></tr> <tr><td>4</td><td>Diploma/ Certificate course</td></tr> <tr><td>5</td><td>Graduation</td></tr> <tr><td>6</td><td>Post graduation or above</td></tr> </table>	0	No education	1	Primary	2	Secondary	3	Higher secondary	4	Diploma/ Certificate course	5	Graduation	6	Post graduation or above	
0	No education																
1	Primary																
2	Secondary																
3	Higher secondary																
4	Diploma/ Certificate course																
5	Graduation																
6	Post graduation or above																
D008A	Years of schooling	0 to 40 years															
D009	What is your current working status?	<table border="1"> <tr><td>1</td><td>Currently working</td></tr> <tr><td>2</td><td>Re-employed after retirement</td></tr> <tr><td>3</td><td>Retired</td></tr> <tr><td>4</td><td>Home-maker</td></tr> <tr><td>5</td><td>Unable to work</td></tr> <tr><td>6</td><td>Not working</td></tr> </table>	1	Currently working	2	Re-employed after retirement	3	Retired	4	Home-maker	5	Unable to work	6	Not working	} → D016		
1	Currently working																
2	Re-employed after retirement																
3	Retired																
4	Home-maker																
5	Unable to work																
6	Not working																
D010	Where are/were you working before retirement?	<table border="1"> <tr><td>1</td><td>Government sector</td></tr> <tr><td>2</td><td>Institution</td></tr> <tr><td>3</td><td>Cooperative society/ cooperation/ NGO/ Trust</td></tr> <tr><td>4</td><td>Private sector</td></tr> <tr><td>5</td><td>Business</td></tr> <tr><td>6</td><td>Self employed/</td></tr> <tr><td>96</td><td>Others</td></tr> </table>	1	Government sector	2	Institution	3	Cooperative society/ cooperation/ NGO/ Trust	4	Private sector	5	Business	6	Self employed/	96	Others	
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Health care utilization

HS001	How do you rate your current health status?	<table border="1"> <tbody> <tr><td>1</td><td>Excellent</td></tr> <tr><td>2</td><td>Fairly Good</td></tr> <tr><td>3</td><td>Normal</td></tr> <tr><td>4</td><td>Poor (Sick)</td></tr> <tr><td>5</td><td>Bad (Bed Ridden)</td></tr> <tr><td>98</td><td>Don't know/ Can't say</td></tr> <tr><td>99</td><td>Refuse to answer</td></tr> </tbody> </table>	1	Excellent	2	Fairly Good	3	Normal	4	Poor (Sick)	5	Bad (Bed Ridden)	98	Don't know/ Can't say	99	Refuse to answer			
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4	Poor (Sick)																		
5	Bad (Bed Ridden)																		
98	Don't know/ Can't say																		
99	Refuse to answer																		
HS002	What is your current health status as compared to last month?	<table border="1"> <tbody> <tr><td>1</td><td>Improved</td></tr> <tr><td>2</td><td>Same/ no change</td></tr> <tr><td>3</td><td>Worsened</td></tr> <tr><td>98</td><td>Don't know/ Can't say</td></tr> <tr><td>99</td><td>Refuse to answer</td></tr> </tbody> </table>	1	Improved	2	Same/ no change	3	Worsened	98	Don't know/ Can't say	99	Refuse to answer							
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2	Same/ no change																		
3	Worsened																		
98	Don't know/ Can't say																		
99	Refuse to answer																		
HS003	What is your current health status as compared to last one year?	<table border="1"> <tbody> <tr><td>1</td><td>Improved</td></tr> <tr><td>2</td><td>Same/ no change</td></tr> <tr><td>3</td><td>Worsened</td></tr> <tr><td>98</td><td>Don't know/ Can't say</td></tr> <tr><td>99</td><td>Refuse to answer</td></tr> </tbody> </table>	1	Improved	2	Same/ no change	3	Worsened	98	Don't know/ Can't say	99	Refuse to answer							
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HS004	Which health facility do you prefer for health care and treatment seeking in case of any minor illness?	<table border="1"> <tbody> <tr><td>1</td><td>Government clinics</td></tr> <tr><td>2</td><td>Community/ charity centers</td></tr> <tr><td>3</td><td>Private Practitioners</td></tr> <tr><td>4</td><td>AYUSH (Ayurvedic, Siddha, Homeopathy, Unani)</td></tr> <tr><td>5</td><td>Pharmacy/ Drug store</td></tr> <tr><td>6</td><td>Home remedies</td></tr> <tr><td>7</td><td>No specific preference</td></tr> <tr><td>99</td><td>Refuse to answer</td></tr> </tbody> </table>	1	Government clinics	2	Community/ charity centers	3	Private Practitioners	4	AYUSH (Ayurvedic, Siddha, Homeopathy, Unani)	5	Pharmacy/ Drug store	6	Home remedies	7	No specific preference	99	Refuse to answer	
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HS005	Which health facility do you prefer for health care and treatment seeking in case of any major illness?	<table border="1"> <tbody> <tr><td>1</td><td>Government hospitals</td></tr> <tr><td>2</td><td>Community centers</td></tr> <tr><td>3</td><td>NGO/Charity hospital</td></tr> <tr><td>4</td><td>Private hospitals</td></tr> <tr><td>5</td><td>No specific preference</td></tr> <tr><td>99</td><td>Refuse to answer</td></tr> </tbody> </table>	1	Government hospitals	2	Community centers	3	NGO/Charity hospital	4	Private hospitals	5	No specific preference	99	Refuse to answer					
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HS006	What are the factors that govern your preference?	<table border="1"> <tr><td>1</td><td>Affordable facilities</td></tr> <tr><td>2</td><td>Better facilities</td></tr> <tr><td>3</td><td>Less corruption</td></tr> <tr><td>4</td><td>Best doctors wherever available</td></tr> <tr><td>5</td><td>CGHS authorized hospitals</td></tr> <tr><td>6</td><td>Reimbursement facilities</td></tr> <tr><td>7</td><td>Better look after and interaction</td></tr> <tr><td>8</td><td>Availability of facilities</td></tr> <tr><td>9</td><td>Service motive</td></tr> <tr><td>10</td><td>Familiar doctor or known people</td></tr> <tr><td>96</td><td>Other</td></tr> </table>	1	Affordable facilities	2	Better facilities	3	Less corruption	4	Best doctors wherever available	5	CGHS authorized hospitals	6	Reimbursement facilities	7	Better look after and interaction	8	Availability of facilities	9	Service motive	10	Familiar doctor or known people	96	Other																					
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HS007	Are you going for health check up?	<table border="1"> <tr><td>1</td><td>Yes, regular</td></tr> <tr><td>2</td><td>Often</td></tr> <tr><td>3</td><td>Rarely/occasionally</td></tr> <tr><td>0</td><td>No</td></tr> </table>	1	Yes, regular	2	Often	3	Rarely/occasionally	0	No																																			
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HS008	Have you been diagnosed by any health professional from any of the following ailment in last 30 days:	<table border="1"> <thead> <tr> <th>Disease</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr><td>a Cough</td><td>1</td><td>0</td></tr> <tr><td>b Fatigue</td><td>1</td><td>0</td></tr> <tr><td>c Hearing problems</td><td>1</td><td>0</td></tr> <tr><td>d Problem in vision (cataract etc)</td><td>1</td><td>0</td></tr> <tr><td>e Dental/tooth problem</td><td>1</td><td>0</td></tr> <tr><td>f Skin problem</td><td>1</td><td>0</td></tr> <tr><td>g Trouble breathing</td><td>1</td><td>0</td></tr> <tr><td>h Memory loss</td><td>1</td><td>0</td></tr> <tr><td>i Swollen ankles or feet</td><td>1</td><td>0</td></tr> </tbody> </table>	Disease	Yes	No	a Cough	1	0	b Fatigue	1	0	c Hearing problems	1	0	d Problem in vision (cataract etc)	1	0	e Dental/tooth problem	1	0	f Skin problem	1	0	g Trouble breathing	1	0	h Memory loss	1	0	i Swollen ankles or feet	1	0													
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HS009	Has any of the health professional diagnosed you with:	<table border="1"> <thead> <tr> <th>Disease</th> <th>Y</th> <th>N</th> </tr> </thead> <tbody> <tr><td>a Hypertension</td><td>1</td><td>0</td></tr> <tr><td>b Diabetes</td><td>1</td><td>0</td></tr> <tr><td>c Angina</td><td>1</td><td>0</td></tr> <tr><td>d Arthritis</td><td>1</td><td>0</td></tr> <tr><td>e Lung disorder (eg. asthma)</td><td>1</td><td>0</td></tr> <tr><td>f Heart disease (eg. cholesterol)</td><td>1</td><td>0</td></tr> <tr><td>g Thyroid</td><td>1</td><td>0</td></tr> <tr><td>h Spondylitis</td><td>1</td><td>0</td></tr> <tr><td>i Genital ulcers /Painful urination</td><td>1</td><td>0</td></tr> <tr><td>j Slip Disc</td><td>1</td><td>0</td></tr> <tr><td>k Cervical</td><td>1</td><td>0</td></tr> <tr><td>l Polio/ Paralysis</td><td>1</td><td>0</td></tr> <tr><td>m Any other (Specify)</td><td>1</td><td>0</td></tr> </tbody> </table>	Disease	Y	N	a Hypertension	1	0	b Diabetes	1	0	c Angina	1	0	d Arthritis	1	0	e Lung disorder (eg. asthma)	1	0	f Heart disease (eg. cholesterol)	1	0	g Thyroid	1	0	h Spondylitis	1	0	i Genital ulcers /Painful urination	1	0	j Slip Disc	1	0	k Cervical	1	0	l Polio/ Paralysis	1	0	m Any other (Specify)	1	0	<p>If no, HS012</p>
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HS010	Are you taking any treatment for your disease?	<table border="1"> <tr><td>1</td><td>Yes, on regular basis</td></tr> <tr><td>0</td><td>No</td></tr> </table>	1	Yes, on regular basis	0	No	HS012												
1	Yes, on regular basis																		
0	No																		
HS011	Why are you not seeking treatment or go to the hospital?	<table border="1"> <tr><td>1</td><td>Monetary issues</td></tr> <tr><td>2</td><td>Illness was not serious</td></tr> <tr><td>3</td><td>Disease can't be cured so no use of treatment</td></tr> <tr><td>4</td><td>No willingness to go</td></tr> <tr><td>5</td><td>Have faith on almighty</td></tr> <tr><td>6</td><td>Have medicines at home/ self treatment</td></tr> <tr><td>96</td><td>Any other reason (specify)</td></tr> <tr><td>99</td><td>Refuse to answer</td></tr> </table>	1	Monetary issues	2	Illness was not serious	3	Disease can't be cured so no use of treatment	4	No willingness to go	5	Have faith on almighty	6	Have medicines at home/ self treatment	96	Any other reason (specify)	99	Refuse to answer	
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96	Any other reason (specify)																		
99	Refuse to answer																		
<b>Now I would like to ask questions about your most recent visit to a medical facility (in the past thirty days), pharmacist or healthcare provider (HS012 to HS021)</b>																			
HS012	Within the past thirty days have you visited any medical facilities, pharmacist or healthcare provider?	<table border="1"> <tr><td>1</td><td>Yes</td></tr> <tr><td>0</td><td>No</td></tr> </table>	1	Yes	0	No	HS018A												
1	Yes																		
0	No																		
HS013	Which health care facility did you visit the last time you went?	<table border="1"> <tr><td>1</td><td>Government hospitals/ clinics</td></tr> <tr><td>2</td><td>Community centers</td></tr> <tr><td>3</td><td>NGO/Charity hospital</td></tr> <tr><td>4</td><td>Private hospitals/clinics</td></tr> <tr><td>5</td><td>AYUSH (Ayurvedic, Siddha, Homeopathy, Unani)</td></tr> <tr><td>6</td><td>Pharmacy/ Drug store</td></tr> </table>	1	Government hospitals/ clinics	2	Community centers	3	NGO/Charity hospital	4	Private hospitals/clinics	5	AYUSH (Ayurvedic, Siddha, Homeopathy, Unani)	6	Pharmacy/ Drug store					
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HS014	Who accompanied you?	<table border="1"> <tr><td>1</td><td>Family member</td></tr> <tr><td>2</td><td>Friend</td></tr> <tr><td>3</td><td>Relative</td></tr> <tr><td>4</td><td>Someone else</td></tr> <tr><td>5</td><td>No one</td></tr> </table>	1	Family member	2	Friend	3	Relative	4	Someone else	5	No one							
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4	Someone else																		
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HS015	Did your provider prescribe medicines at the visit?	<table border="1"> <tr><td>1</td><td>Yes</td></tr> <tr><td>0</td><td>No</td></tr> </table>	1	Yes	0	No	HS018A												
1	Yes																		
0	No																		
HS016	Did you obtain the medicine?	<table border="1"> <tr><td>1</td><td>Yes</td></tr> <tr><td>0</td><td>No</td></tr> </table>	1	Yes	0	No	HS018A												
1	Yes																		
0	No																		

HS017	Why you did not obtain the medicine?	<table border="1"> <tr><td>1</td><td>Did not have money</td></tr> <tr><td>2</td><td>Unable to find medicine</td></tr> <tr><td>3</td><td>Medicine was at home</td></tr> <tr><td>4</td><td>Did not think medicine was effective</td></tr> <tr><td>96</td><td>Any Other (specify)</td></tr> </table>	1	Did not have money	2	Unable to find medicine	3	Medicine was at home	4	Did not think medicine was effective	96	Any Other (specify)							
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96	Any Other (specify)																		
HS018	Overall, in general how are you largely meeting your medical expenditure?	<table border="1"> <tr><td>A</td><td>By own savings YES 1 NO 0</td></tr> <tr><td>B</td><td>By pension/ income</td></tr> <tr><td>C</td><td>Borrowing</td></tr> <tr><td>D</td><td>Met by commercial insurance</td></tr> <tr><td>E</td><td>Met by family insurance</td></tr> <tr><td>F</td><td>Availing government facilities or employer facilities</td></tr> <tr><td>G</td><td>Dependant on family</td></tr> <tr><td>H</td><td>Any other</td></tr> </table>	A	By own savings YES 1 NO 0	B	By pension/ income	C	Borrowing	D	Met by commercial insurance	E	Met by family insurance	F	Availing government facilities or employer facilities	G	Dependant on family	H	Any other	
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HS019	Overall, how is the quality of medical care that you receive?	<table border="1"> <tr><td>1</td><td>Excellent</td></tr> <tr><td>2</td><td>Very good</td></tr> <tr><td>3</td><td>Average</td></tr> <tr><td>4</td><td>Poor</td></tr> <tr><td>5</td><td>Pathetic/ very poor</td></tr> </table>	1	Excellent	2	Very good	3	Average	4	Poor	5	Pathetic/ very poor							
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*Thank you for your cooperation and giving your precious time.*

Demographic and economic information of sample population  
(Urban Jaipur, 2013)

	Percent	N		Percent	N
<b>Age</b>			<b>Insurance coverage</b>		
50-54	31.83	127	CGHS	18.73	47
55-59	18.05	72	State Government	23.51	59
60-64	16.04	64	Medi-claim Policy	22.31	56
65-69	13.28	53	Employer Reimbursement	7.57	19
70-75	11.03	44	Private Health Insurance	3.98	10
76 and above	10.00	40	Private Life Insurance	14.34	36
<b>Gender</b>			Govt life insurance	21.91	55
Male	61.75	247	Family Insurance	3.98	10
Female	38.25	153	No cover	37.25	149
<b>Education level</b>					
<i>Male</i>				<b>Mean</b>	
No education	4.05	10	<b>Average Household size</b>	4.75	
Up to primary	6.88	17	<b>Average Household income</b>	52689.57	
Up to secondary	3.24	8	<b>Average Household expenditure</b>	21913.12	
Up to higher secondary	7.29	18			
Graduation	44.94	111	<b>Mean age (Standard deviation)</b>	61.16 (± 9.2370)	
Post graduation or above	33.60	83			
<i>Female</i>					
No education	29.41	45			
Up to primary	16.34	25			
Up to secondary	15.03	23			
Up to higher secondary	7.84	12			
Graduation	17.65	27			
Post graduation or above	13.73	21			
<b>Social group</b>					
SC/ST	13.50	54			
OBC	17.50	70			
General	69.00	276			
<b>Religion</b>					
Hindu	68.25	273			
Muslim	11.50	46			
Jain	14.50	58			
Others	5.75	23			
<b>Total</b>	<b>100</b>	<b>400</b>			

## DIFFERENT COURTYARDS – DIFFERENT INFLUENCE ON THE QUALITY OF LIFE OF THE LOCAL RESIDENTS? ANALYSIS IN THE POST-SOCIALIST CITY OF BRNO, CZECH REPUBLIC

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**Abstract:** Can different courtyards influence the quality of life of the local residents in different ways? This study focuses on the comparison of the courtyards in closed urban blocks from the 19<sup>th</sup> century, the courtyards in the socialist open prefab housing estates and the courtyards in the post-socialist housing development. The analysed courtyards are located in the Central European city of Brno, Czech Republic. The study analyses the satisfaction of the residents living around the courtyards with the social and environmental qualities of the courtyards. The satisfaction which subjectively reflects the quality of life was expressed by the residents in a questionnaire survey. The social parameters of the residents' communities were verified by the demographic data to identify the different demographic conditions. The results imply that a considerable impact on the quality of life should be ascribed to the courtyards in closed urban blocks. The research generated a secondary result too: the analysed buildings and courtyards in the socialist housing estates don't belong to the socially declining areas.

**Key Words:** *courtyard, local residents, closed urban block, open housing estate, the post-socialist city.*

### Introduction

The courtyards represent a significant value in cities. These spaces represent a place where the residents living around the courtyard are in contact with the nature and other people. The courtyards also provide a certain level of privacy, different from the streets outside the residential buildings. This article analyses the influence of the courtyards on the quality of life of the residents in the post-socialist Central European city of Brno, in the Czech Republic. The study presents the outputs of a basic research.

The article focuses on the courtyards which are part of different urban planning conceptions. Each urban planning conception was typical for a different time period. The article compares the closed urban blocks from the 19<sup>th</sup> century (the pre-socialist era), the open prefab housing estates development from the second half of the 20<sup>th</sup> century (the socialist era), where the open spaces between the residential buildings fulfill the function of a courtyard (a courtyard is defined as a space that is predominantly, clearly bordered by structures – but there are often different situations in the prefab housing estates), and the closed or partially closed courtyards in the residential complexes built at the end of the 20<sup>th</sup> century (the post-socialist era). These types of residential complexes occupy a prominent place in the spatial arrangement of the city of Brno and they are typical for the spatial development of the city during the mentioned time periods.

For the reason of methodological uniformity and brevity, this study understands the term courtyard more generally – it can cover the real courtyard and also the open space between the residential buildings. The character of a courtyard may have, as we suppose, an influence

on the quality of life of the residents living around the courtyards. This quality may be monitored via the analysis of the residents' satisfaction with their courtyards. This satisfaction subjectively reflects the quality of life in the neighbourhood. The related aspects of the topic were explored by many authors as Sirgy and Cornwell (2002), Comstock et al. (2010), Zhang (2013), Abass and Tucker (2018). None of the mentioned studies investigates the different courtyards as a part of a different urban planning conception in a post-socialist city. The most similar methodological approach is used by Lovejoy et al. (2010), who examine the traditional environment and suburbs. Iñigo and Mace (2018) explore the perimeter block in the suburbs, while Douglas et al. (2018) analyse the inner city neighbourhood, the suburb and the peri-urban settlement. Many authors understand the residents' satisfaction as indicator of the quality of life (Ala-Mantila et al. 2018, Perucca 2018). Also, many authors study the quality of life using a questionnaire survey among the residents in the monitored locality (Alam and Amin 2018, Grinde et al. 2018, Low et al. 2018).

This study analyses the satisfaction of the residents via the results of the questionnaire survey in the social and hygienic field. Some authors studied the quality of life in a similar way (Zulaica and Oriolani 2018). In this study, the questions are used as partial indicators of the quality of life. Each partial indicator is evaluated according to the specific answer on the scale of 1-10 points. The sum of the points obtained for each answer represents the overall satisfaction.

The aim of this study is to analyse the quality of life expressed by the residents' satisfaction and to compare the results in correlation with the type of courtyard. But, can we really find some results influenced only by the character of the courtyards, not by the period in which they were built-up? It must be stated here that the results may be affected by the following fact. The period of socialism differs from the other periods; at that time, the prefabricated housing estates provided the only new possibility of living in cities for a large part of the population. Moving into the prefabricated housing estates was realized in one wave and it was not entirely a matter of free choice. But in the last 30 years (after the regime change in 1989), people can freely choose the type of housing and move away, so the social structure of the inhabitants in the prefabricated housing estates can be specific, mostly declining. The study explores this phenomenon with the analysis of the demographic parameters of the residents' community. These issues were studied by many authors (Martinez 2018, Sánchez et al. 2018). The study explores the following issues: the change in the number of residents, their level of employment and education and the ratio of children and seniors. The unfavourable findings may indicate a declining society, which may reduce the comparability of the results. Overall summarized, the demographic analysis of the residents' community can bring a secondary result and it may confirm or disprove the former assumption that many socialist prefabricated housing estates may become socially excluded localities. The demographic data were explored and compared for all the analysed communities of residents, while the data were obtained from the census in the year 2001 and 2011 (Czech Statistical Office 2016).

The results can have importance for the city management of Brno which is concerned with the indicators of satisfaction on the scope of the whole city (Brno 2017). The indicators evaluate, for example, the safety of streets and squares on the scale of 4 to 1 points. In contrast to the analysis performed by the city, this study examines in detail the indicators referring to the courtyards. The courtyards, as well as the streets and squares, are mostly maintained and owned by the city. On a European scale, the quality of life was dealt with by EUROSTAT (2013), whose research principles were the inspiration for the city of Brno and our study. Some authors follow up directly on the European research (Senlier et al. 2009, Slavuj 2012, Štreimikienė 2014).

The explored communities of residents are, in this study, understood from the sociological point of view as neighbourhoods. Such communities are characterized by specific relationships to the environment and specific internal social relationships. The neighbourhood represents a

specific phenomenon whose demonstrations and needs are the wider basis for the questionnaire survey. That's why the phenomenon of the neighbourhood requires special theoretical explanation.

## **Methodology**

### *Theoretical basis of the questionnaire survey*

The neighbourhood is a geographically localized community within a city. Within the organism of a city, the neighbourhood can be defined in various ways. Our approach understands the neighbourhood as the courtyard with surrounding buildings used by the locally defined group of residents. This corresponds to Fowler's approach (2016) that, in his research in Seattle, identified the neighbourhood with a block of buildings. Benkó (2015), in his research of prefab housing estates in Budapest, considers a neighbourhood to be the link between the town and the individual buildings. Some authors (Barton and Grant 2015) consider the neighbourhood to be a suitable element of urban planning.

The neighbourhood includes social interaction, symbolic interaction, and the connection of the individuals with the people and the place (Foster-Fishman et al. 2007). It becomes a socializing space. From the social point of view, the research of courtyards represents a shift from the scale of the whole city, or quarter, to the microstructure of the city. Chapin (2011) calls the inner courtyards "pocket neighbourhoods": small communities in a big world. The community related to the courtyards resembles, to a certain level, a village community with all its advantages and drawbacks. In this way, the social advantages of the city might combine with the social advantages of the rural environment. If this is true, the spaces are very significant, especially within the densely inhabited areas of inner cities (Vasilevska 2012).

The impact of social contacts in a city is substantial. It contributes to the stabilization of the relationships in a community, to the integration of individuals into a society, and to a mutual understanding of people from various social groups. Apart from a simple information exchange, people may also discuss particular issues of neighbourhood life, mutual help, etc. In such a community, there arises a certain level of social control which may be used as a factor of increasing safety, for example, in terms of childcare and later protection from drug abuse (Ager 2008). On the other hand, this factor means the loss of anonymity which is negatively perceived by the young people.

The existence of useable courtyards may, under certain circumstances, prevent social exclusion as it theoretically enables social contacts among people who know themselves personally; so it may be supposed that they will have a better understanding of the individuals' problems, and they may help each other. Required are the physical characteristics of courtyards (the presence of equipment and greenery), and also the creation of an adequate social climate. An important issue is also the stability of the residents' community, in other words, if the community mainly consists of people who have been its members for a relatively long time, or if there is a frequent migration, and so on.

It is obvious that the courtyards may have a different meaning for each group of residents. They are significant for the senior residents for whom these spaces represent a significant opportunity for physical activity and social contacts (Sugiyama et al. 2009). For them, the immediate vicinity of their residence becomes of major importance (Vidovičová et al. 2014). Another group that very significantly uses the courtyards is represented by the children (Valentine and McKendrick 1997). The extent of using the spaces by children is to a certain level dependent on the character of the spaces. In their study of using these inner-city spaces, Taylor et al. (1998) showed that green spaces are used by children significantly more intensively. The use of outdoor spaces generally depends on the life style and social

interaction. For those residents who use the spaces regularly, a high quality environment means a higher quality of life (Da Silva et al. 2012).

Courtyards might be places with lower safety. The cause might be the occurrence of alcoholism, homelessness, vandalism, or even criminality (Jayne et al. 2006). Cities intend to drive some social groups from the publicly accessible courtyards. Moreover, this tactic does not solve the problem, but it only drives the given social groups to another place where they may concentrate (ghettoization). Some groups may feel excluded from participation in public spaces (Madge 1997, Foster et al. 2010, Mak and Jim 2018). The usage of outdoor space is thus conditioned by the feeling of safety. The work of Francis (1989) was followed by other authors (Andrews and Gatersleben 2010, Vidovičová et al. 2014, Baran et al. 2018). Generally, the residents consider the urban environment to be safer in the case of small spaces, with greenery, trees and buildings in the background, than in the case of large densely planted areas (Jiang et al. 2014, Li et al. 2015, Chiang et al. 2017). As ambivalent, it is frequently considered the using of outdoor spaces by young people who, in order to feel safe, tend to gather into groups, which causes the feeling of lower safety for the rest of the users (Crawford and Flint 2009). So, the interests and needs of various social groups using the outdoor spaces might be under certain conditions contradictory. Nevertheless, this fact does not reduce the general importance of courtyards which may create a significant potential for the development of social relationships in the residents' community.

As it is obvious from the previous text, the safety of the courtyards may represent a risk for their social exclusion. The way and frequency of using the courtyards may also influence the development of social relationships in the neighbourhood (residents' community). And therefore this study uses the elimination of the risk of social exclusion while using the courtyards with two important framework indicators of the quality of life in the neighbourhood. The framework indicator called "relation to the place" illustrates the importance of internal links mentioned by some authors (Chapin 2011, Vasilevska 2012). The framework indicator "perception of hygienic parameters" is used in the study primarily to complement the objectively founded data. The framework indicators are divided into partial indicators – the questions evaluated by the specific answers in the questionnaire.

Additional notice: the residents' satisfaction can be influenced also by the environmental and economic characteristics of the courtyards. According to the existing research, some characteristics of the courtyards can influence their hygienic qualities. Urban greenery reduces the air temperature in the urban area (Bowler et al. 2010). Different forms of buildings help to mitigate the level of traffic-induced noise in the open space (Weber et al. 2014). There are other environmental factors as air pollution that have a strong influence on the health of the local communities and their social development (Coyle 2011). The very existence of the courtyards might also influence the prices of real estates in the locality. The basic environmental and economic data were verified in this study.

#### *Selection of locations and methods of data obtaining*

The study analyses the courtyards in the selected residential areas in Brno. The city of Brno, reaching almost 400 000 inhabitants, is the second largest city in the Czech Republic and it represents a typical post-industrial, post-socialist city in Central Europe. In the case studies, thirteen courtyards were analysed. The courtyards as part of the following groups of buildings were analysed:

- closed urban blocks from the 19th century – the pre-socialist era;
- prefab housing estates built by a unified concrete panel technology in the socialist era;
- they typically consist of high-rise blocks, with an open urban planning conception;

residential complexes built in the post-socialist era (after the year 1989).

All of the analysed places are well connected to the car and public transport and they have a standard technical infrastructure. But, none of the analysed courtyards is used for parking. The overall satisfaction of the residents' community was investigated via the partial indicators represented by the questions in the questionnaire. The partial indicators are grouped in the framework indicators defined in the previous section. The survey was focused on the four above-mentioned groups of framework phenomena: risk of social exclusion; way and frequency of using the courtyards; perception of the hygienic qualities of the courtyards in comparison with the close street; and relation to the place and the neighbours.

The partial, individual, indicators reflect the performed questionnaire survey among the residents – in the buildings around the courtyards. A responsible (adult) person, representing the household, provided (filled in) the answers in the questionnaires. The questionnaire survey was performed in autumn 2016. In total, there were distributed almost 1800 questionnaires, and, out of these, 30-40% were completed for each building, within 2-3 weeks. Each case study included an average of 150 questionnaires distributed in the blocks where the residents allowed the survey. The exceptions were the smaller case studies BS6 (78 questionnaires) and BZ (50 questionnaires) where the questionnaires were distributed to almost every household in the block. The particular topics of the individual questions which are at the same time the indicators of sustainability are included in Table 2 in the Results section. The respondents selected from the precisely defined answers the one which corresponded to the reality the most. Each answer had a number of points on the scale 1-10. The 10 points in the questionnaire expressed the total absence of a negative phenomenon (e.g. manifestation of vandalism) or the total presence of a positive phenomenon (e.g. feeling safe) and the 1 point in the questionnaire expressed the opposite principle. The 5 points expressed the almost standard rating, the 6 points expressed the slightly above-standard rating (the people have to express a slightly negative or positive opinion). The 10 point scale also reflects the methodology of the city of Brno, which also uses a point scale with an even number of rating levels. The city uses the scale of 4-1 points, where the 4 points express the worst rating and the 1 point expresses the best rating. This study uses a more detailed point scale where the higher points level express the higher rating – the higher satisfaction.

The questions concerned with the frequency of the phenomena had the following answers: 10 points referred to the more than 10 minutes everyday occurrence of the phenomenon, 5 points referred to an occurrence of two days in a week, and 1 point referred to the total absence of the phenomenon (the answers also specified the frequency of the phenomena between the given limits). The question on the diversity of activities offered 10 types of activities and each one was awarded 1 point (going home, going for a walk, parking of a car, relaxing, walking the dog, going shopping, meeting the neighbours, meeting strange people, working in the garden, other activity). The questions on using the space according to gender was awarded 10 points if the respondent assumed that the courtyard was used by the same number of men and women, 5 points corresponded to the almost 50 percent deviation and 1 point corresponded to the exclusive using by men or by women (the answers specified also the character of the phenomenon between the given limits). The "longtime residency" was awarded 10 points in the case when the respondent lived in the same house for 10 or more years. The point evaluation which surveys the development in and after the year 2011 (the year when the census was performed) declined in a linear manner to number 1. The question on the participation in the maintenance of the courtyards was awarded 10 points when the respondent was, without doubt, ready to pay for the maintenance of the courtyard apart from the common fee to the city which owns and maintains the courtyard. The amount of additional fee was estimated at 5% of the housing costs. The point evaluation declined linearly through the neutral feeling of 5 points to the total unwillingness awarded 1 point.

The potential of the social development of the residents' community (neighbourhood) was verified by its demographic parameters which were obtained from the census. This analysis is based particularly on the census performed in 2011, or as a comparison of the census in 2001 and 2011 (Czech Statistical Office 2016). The census provides demographic data about particular buildings. The Czech database does not provide the statistics of the income structure which is usually substituted by the data on the unemployment and education structure of the residents being older than 15 years. The potential of the social sustainability of the residents' community is summarised in Table 1. The table presents percent data on: the change in the number of the residents between the year 2001 and 2011; the ratio of the number of residents older than 65 years and younger than 15 years in the year 2011; the number of residents with higher education than primary school (at the same and higher level than the so-called ISCED 3) in the year 2011; and the ratio of the unemployed persons among the economically active residents in the year 2011.

The point evaluation and its commentary are part of the Results section. The average values for each case study and for each question are summarized in Table 2. The total number of points for the framework indicators is shown in Fig. 8. The total of points for all questions and the percent ratio of the awarded points to their maximum are shown in Fig. 9.

Additional notice: the analysis of the residents' community described in the previous text was added by the verification of the basic parameters in the environmental and economic field. Certified instruments (Minikin RTHi/QTHi) were used to measure the levels of temperature and noise; the measurements were performed simultaneously in the courtyards and in the streets. The level of air pollution for each locality was taken from the website (Brno 2010). The real estate agency Real Spektrum (2016) provided the real estate prices.

#### *Surveyed courtyards*

The surveyed courtyards (spaces between the residential buildings) presented in this study are situated in the following localities of Brno (Fig. 1):

- in the closed urban blocks in the north of the city centre of Brno (locality BS);
- in the prefab housing estate in Brno-Vinohrady (BV);
- in the prefab housing estate in Brno-Lesná (BL);
- in the residential complex in Brno-Majdalenky (BM);
- in the residential complex in Brno-Žebětín (BZ).

In the "BS" and "BV" localities, more than one courtyard was analysed (six and four, respectively).

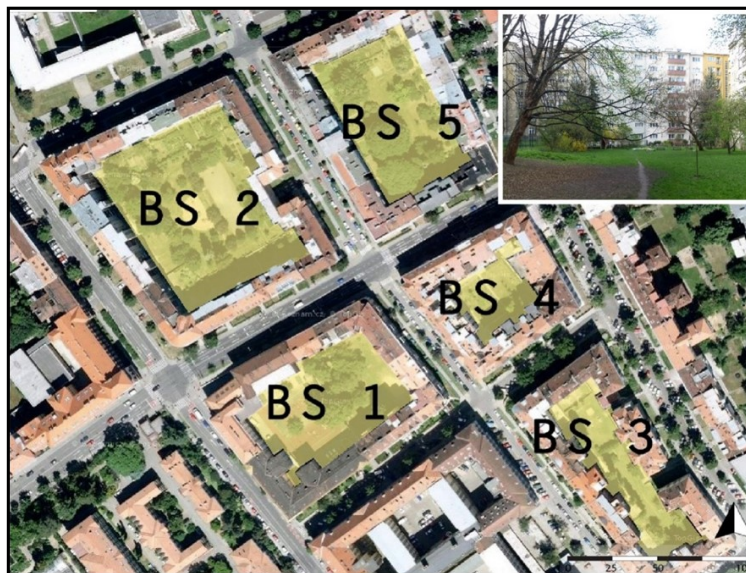
#### *Courtyards in the closed urban blocks near the city centre of Brno (BS1 – BS6 spaces)*

The courtyards inside the closed urban blocks of the four- to six-floor residential buildings from the second half of the 19<sup>th</sup> century are located in the north of the city centre of Brno. The research focused on six case studies in total which are labelled BS1 – BS6 (Fig. 2, Fig. 3). The courtyards with a significant proportion of well-maintained trees, grass and other greenery are not, with the exception of BS3, accessible to the public. The BS1 – BS6 courtyards lie in the plane, and they are partly covered with small gardens at the houses used by some of the residents and partly with large recreational places accessible to all the residents. The recreational places consist of quality greenery and playgrounds, and they are mainly equipped with benches. There is no night lighting in the courtyards. The B6 consists of two very small courtyards located approximately 300 m southeast of B1 – B5; they are very small and they are predominantly used as storing space of the restaurants and shops situated on the ground floor. All courtyards are located on the plots owned by the city which maintains them. The adjoining buildings are predominately owned by the associations of flat owners. The locality represents

an attractive place of housing which is undergoing continuous renovations. The sale and rent prices of housing and commercial space in the locality are above the average within the city of Brno. The BS6 space is an exception as the prices of housing are below the prices of BS1 – BS5 and the prices of commercial spaces are at the same or at a higher level than BS1 – BS5 spaces.



**Fig. 1 – Selected localities of Brno**  
Source: OpenStreetMap 2016



**Fig. 2 – The geographical borders of case studies BS1 – BS5**  
Source: OpenStreetMap 2016; Photograph of the BS5 courtyard by the authors



**Fig. 3 – The geographical borders of the BS6 case study**  
Source: OpenStreetMap 2016; Photograph of larger BS6 courtyard by the authors

*The courtyards in the prefab housing estate in Brno-Vinohrady (BV1 – BV4)*

The survey was performed on the four spaces accessible for public in the prefab housing estate in Brno-Vinohrady. The surveyed spaces labelled BV1 – BV4 are located on the plots owned by the city which maintains them (Fig. 4). BV1 labels Pálavské náměstí [Pálava square] which is actually a park with a significant proportion of well-maintained trees, grass and other greenery. The park is located in front of a four-floor apartment building with an underground parking. On the north side of the park (behind the road), there is a one-floor commercial building. BV2 labels a space where greenery consists of only two trees. It is the space between the above-mentioned residential building and a commercial building with shops. BV3 labels a space with a significant amount of well-maintained trees, grass and other greenery. It surrounds a twelve-floor residential building owned by an association of flat owners. The BV4 labels the courtyard with a significant amount of well-maintained trees, grass and other greenery. The space is surrounded by two residential buildings owned by the associations of flat owners; in the south, it is a four-floor building, and, in the north, it is an eight-floor building. The BV1 – BV4 courtyards lie in the plane. They are mostly used as recreational places with the function of pedestrian corridors accessible to the public. The places consist of quality greenery, and they are equipped mainly with quality benches and trash cans. The night lighting is located in the BV1 and BV2 courtyards only. The prefab housing estate was completed in the socialist era in the second half of the 1980s. The housing in this locality is popular thanks to its vast services as well as affordable prices (average city-level prices). The locality is undergoing continuous renovations.



**Fig. 4 – The geographical borders of case studies BV1 – BV4**

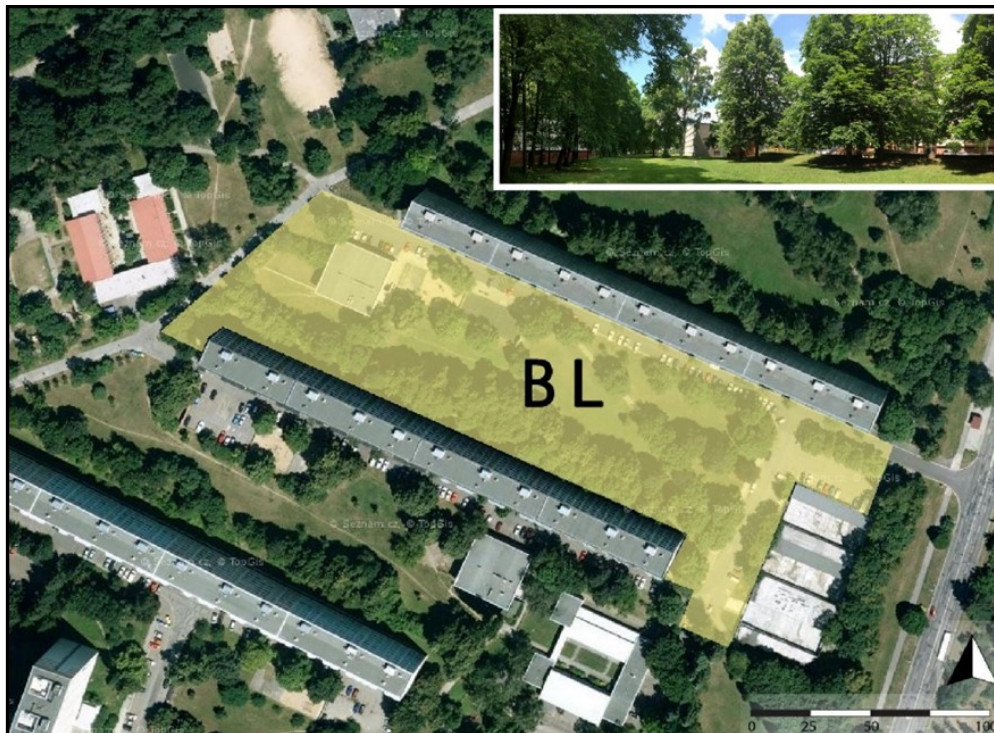
Source: OpenStreetMap 2016; Photograph of the BV4 courtyard (BV3 in the background) by the authors

#### *The courtyard in the prefab housing estate in Brno-Lesná (BL)*

The survey was focused on the BL public space between two eight-floor apartment buildings in the prefab housing estate in Brno-Lesná (Fig. 5). This vast space with a maximum proportion of well-maintained trees, grass and other greenery is located on the plots owned by the city which maintains them. The courtyard lies in the plane. It is used as recreational place accessible to the public. The place is equipped mainly with quality benches and trash cans. The night lighting is located in the BL courtyard. The surrounding buildings are owned by an association of flat owners. The housing estate, which was conceived as a complex of buildings in the greenery, was completed in the socialist era, during the second half of the 1960s. Housing in Brno-Lesná estate is popular thanks to the natural environment and extensive greenery. The professionals evaluate it as the best prefab housing estate in Brno. It is inspired by the Tapiola housing estate in Helsinki, Finland. There is a live discussion about its potential to become a protected monument (Brněnský Deník [Brno Daily] 2009).

#### *The courtyard in the residential complex in Brno-Majdalenky (BM)*

The surveyed space accessible for public adjoins to eight-floor buildings and it is located to the north of the prefab housing estate Brno-Lesná, in a residential complex Majdalenky, at the edge of the city of Brno. The surveyed BM space, with a low proportion of greenery, is located on the plots owned by the city which maintains it (Fig. 6). The courtyard lies in the plane. It could be used more intensively as recreational or meeting place for the residents. The place



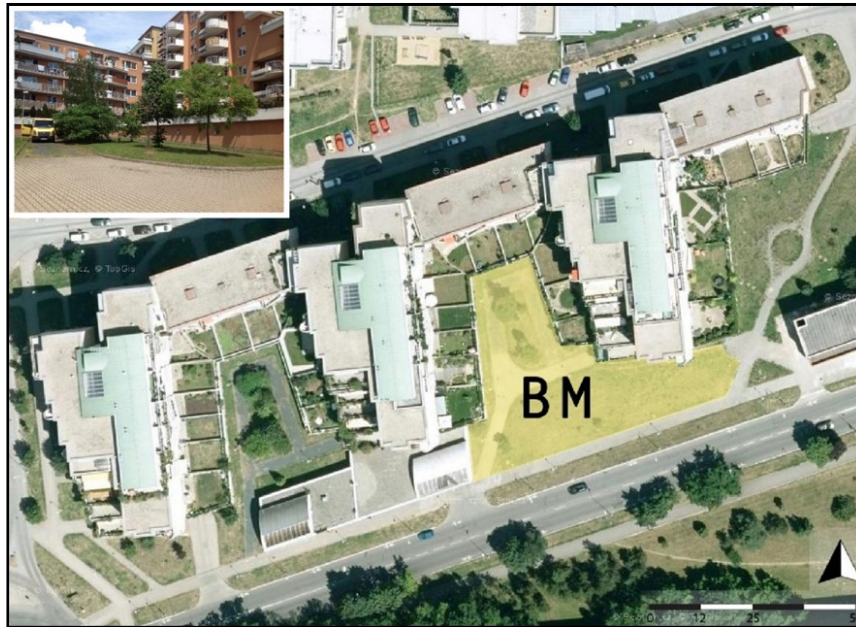
**Fig. 5 – The geographical borders of BL case study**

*Source: OpenStreetMap 2016; Photograph of the BL courtyard by the authors*

has no equipment (like benches), the greenery is represented by the grass and some trees. There is no night lighting located in the BM courtyard. The Majdalenky residential complex mostly consists of cooperative buildings with built-in parking. The complex was completed at the end of the 1990s.

*The courtyard in the residential complex in Brno-Žebětín (BZ)*

The BZ courtyard is operationally accessible to the public, but its closed space form indicates more of a private character of the courtyard (Fig. 7). The courtyard is part of a new residential complex called Pod Kněžským hájkem which is located in the suburbs of Brno, in the city part called Brno-Žebětín. The BZ courtyard has a large proportion of well-maintained greenery (grass and trees). It is owned by the city which maintains it. The courtyard lies on a mild slope. It is used as recreational place especially for the residents. The place is equipped with children playground and quality benches. There is no night lighting located in the BZ courtyard. A small part of the area adjoining the ground floor flats is fenced and it is used as private gardens of the flats owners. The courtyard is surrounded by three-floor cooperative buildings. Two buildings contain an underground parking garage. The residential complex was completed around the year 1999.



**Fig. 6 – The geographical borders of BM case study**  
*Source: OpenStreetMap 2016; Photograph of the BM courtyard by the authors*



**Fig. 7 – The geographical borders of BZ case study**  
*Source: OpenStreetMap 2016; Photograph of BZ courtyard by the authors*

## Results

All the results of the analysis are presented in the Tables 1, 2, Fig. 8, Fig. 9 and in the commentaries following the tables. The tables reflect the methodology described in the appropriate section.

Table 1

**Demographic data of the analysed case studies according to the census in 2001 and 2011**

Demographic data (%)	Case study												
	BS1	BS2	BS3	BS4	BS5	BS6	BV1	BV2	BV3	BV4	BL	BM	BZ
Change in the number of residents (between 2001 and 2011)	+2.0	-3.5	-4.6	-4.0	-2.2	-27.0	-1.0	-5.2	-4.1	-3.1	-0.5	+2.5	+1.8
The ratio of residents older than 65 and younger than 15 years (2011)	59/41	62/38	58/42	56/44	59/41	66/33	35/65	32/68	29/71	32/68	53/47	26/74	32/68
Education higher than ISCED 3 (2011)	92.7	86.3	88.0	82.7	86.4	87.4	83.5	97.3	85.9	84.3	83.2	88.1	91.8
Unemployment (2011)	5.3	4.6	5.6	5.4	6.7	3.6	7.2	4.4	8.1	8.9	4.9	3.8	3.2
Complementary data – total number of residents (2011)	229	638	431	313	546	134	356	148	425	397	1074	263	125

Source: Czech Statistical Office 2016

Table 1 presents the following findings based on the census data in 2001 and 2011. Above all, it is necessary to state that none of the surveyed areas is immediately endangered by demographic decline. The exception is represented by the BS6 case-study where, between 2001 and 2011, the number of residents decreased by 27%. The average decrease of the residents in the city, as a result of the suburbanization process, was of 3.8%. In all cases, the surveyed level of residents' education corresponds more or less with the average in the Czech Republic (88.1% higher level than ISCED3). The unemployment among the economically active residents corresponds more or less with the average of the Czech Republic in 2011 (5.7%). A remarkable fact is the ratio of the residents older than 65 and younger than 15 years. In the prefab housing estate of Brno Vinohrady (BV1 – BV4), as well as in the new blocks in the locality BM and BZ, there is a considerable predominance of children in contrast to the BS1 – BS6 localities (Czech Statistical Office 2016), which disproves the hypothesis of a distinctive danger of depopulation for the prefab housing estates in the Czech Republic.

Table 2 shows that the BS1 – BS5 courtyards are considered as highly safe during day and night, with the exception of dark for the BS6 small courtyards. In comparison to the other surveyed courtyards, the BS1 – BS5 are closed and clearly arranged. According to the respondents, the BZ small courtyard is also safe. In this context, it is interesting to compare the

Table 2

**The results of the questionnaire survey: the framework indicators and the average point values of the partial indicators for each question and the case study on the 1-10 points scale**

Framework indicator	Partial indicator – a question in the questionnaire	Case study												
		BS1	BS 2	BS 3	BS 4	BS 5	BS 6	BV 1	BV 2	BV 3	BV 4	BL	BM	BZ
Elimination of risk of social exclusion	feeling of safety in the courtyard by day	8.1	8.7	7.7	9.6	8.5	5.3	5.3	3.4	5.7	6.0	7.7	4.6	7.8
	feeling of safety in the courtyard by night	7.6	7.8	6.2	8.1	7.9	3.9	5.3	2.8	4.8	5.3	5.7	3.6	6.3
	display of vandalism	8.5	8.8	7.8	8.5	8.9	6.0	7.1	5.3	5.0	6.2	6.0	5.1	7.0
	traces of using drugs	8.9	9.0	8.5	8.9	9.0	8.0	7.2	7.1	8.0	6.5	6.1	7.5	8.9
	groups drinking alcohol	8.1	7.5	8.1	7.8	9.5	7.5	5.0	3.0	7.1	5.5	8.2	9.5	9.0
	untrustworthy strange persons	9.0	8.2	6.1	8.4	9.2	7.0	6.8	3.6	6.2	5.5	6.6	6.1	9.6
Using of courtyard	diversity of activities	5.7	4.7	4.7	4.3	4.5	1.5	6.8	3.9	5.4	4.9	5.8	3.6	4.5
	frequency of use	5.8	5.1	6.7	5.3	6.0	8.6	7.2	8.7	7.7	5.6	8.4	3.9	5.2
	frequency of meetings with the neighbours	7.0	7.9	6.5	7.1	8.2	1.1	6.1	3.8	4.1	6.5	3.5	2.9	7.8
	gender diversity of the courtyard users	9.1	7.5	7.8	7.5	9.0	2.5	7.5	5.0	5.0	5.5	9.5	5.0	7.5
	courtyard covers the needs	6.7	7.5	5.4	7.1	7.2	2.6	5.9	1.5	4.7	4.7	8.0	3.4	5.7
Perception of hygienic parameters	high temperature	6.8	6.2	6.7	6.0	7.2	7.6	5.8	5.2	5.9	6.3	8.5	5.6	7.7
	noise	6.0	7.9	8.0	7.5	7.0	8.1	6.1	4.1	5.9	6.8	8.0	4.5	7.2
	smell	6.5	5.8	5.9	7.3	6.0	7.0	5.9	5.1	6.0	6.2	8.3	4.1	6.5
	dust	8.5	7.5	5.8	6.2	7.8	8.1	5.7	4.2	5.8	6.7	7.2	4.0	6.8
Relation to the place	feeling of home	8.7	7.1	6.3	6.9	7.8	5.4	5.5	5.5	5.4	5.2	8.0	5.9	7.3
	'good address'	7.7	8.0	7.7	7.4	8.5	6.5	6.2	5.5	6.4	5.0	8.7	7.5	7.5
	'longtime residency'	7.4	6.7	7.8	7.7	7.1	4.0	8.1	6.2	5.8	7.7	8.5	8.3	7.4
	relationship with the neighbours	7.9	6.8	6.3	6.9	6.2	6.4	6.5	6.5	5.4	5.2	7.8	6.9	7.2
	financial participation in the courtyard maintenance	6.6	5.8	3.7	7.2	5.8	3.2	4.2	4.5	4.2	5.3	7.3	4.8	5.1

Source: Czech Statistical Office 2016

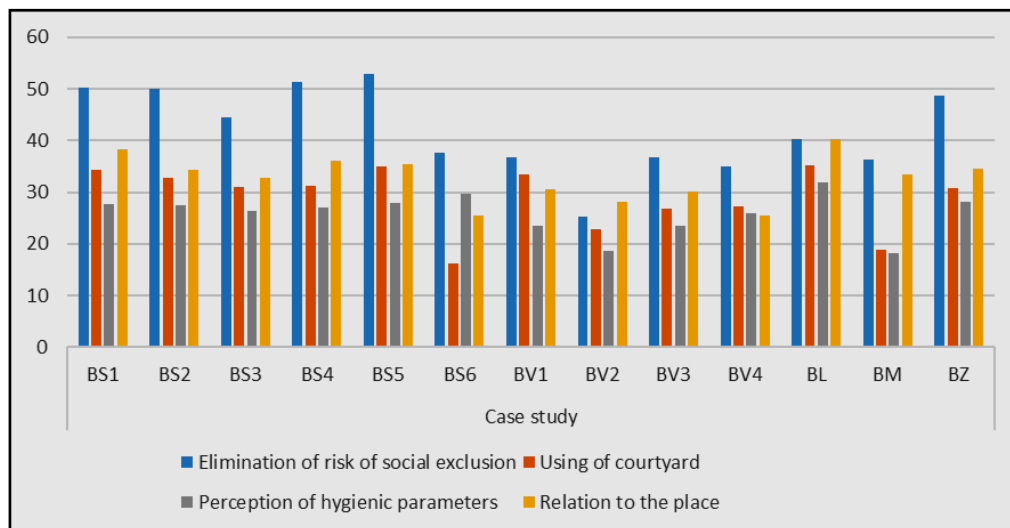


Fig. 8 – The sum of points in the framework indicators

results with the data about safety in public spaces in the city of Brno which are mostly evaluated as negative: 2.27 points. The city uses the scale 1-4 points where 4 points express the lowest satisfaction (Brno 2017). This study evaluates the safety in the courtyards mostly positively.

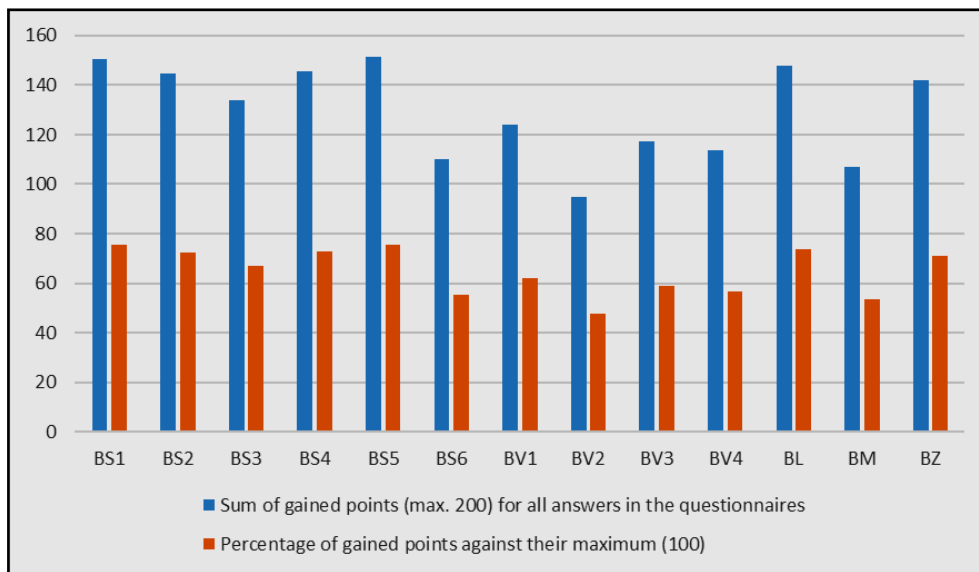
None of the surveyed spaces revealed significant problems with vandalism, drug users or similar pathological phenomena. Only the BV2 space seems to be problematic which is related to the large frequency of people in the vicinity of commercial spaces. Especially in the BS1 – BS5 and BZ courtyards, the resulting framework indicator – the elimination of the risk of social exclusion is higher, as Fig. 8 shows (44.4 and more points).

Table 2 shows that some courtyards are characterized by a low diversity of activities as well as the low frequency of longer meetings with the neighbours, especially in BS6, BV2 and BM spaces. The BS6 and BV2 spaces show a high frequency of general use, which might be explained by the fact that BV2 serves as an entrance to the shops and BS6 serves for collecting the communal waste. The BM courtyard which is open to the street and does not provide privacy is used very rarely. The higher frequency of the meetings with the neighbours occurs among the residents in the BS1 – BS5, BV1, BV4 and BZ case studies. The questioned residents assume that the most balanced gender use is in the BS1, BS5 and BL spaces. The spaces that correspond the most to the residents needs are BL (8.0 points) and BS2 (7.5 points); on the contrary, the least 'corresponding spaces' are BV2 and BM (1.5 and 3.4 points). The BS1 – BS5, BV1, BL and BZ spaces are very well used overall as it is shown by the relevant framework indicator in Fig. 8 (30.7 and more points). It is worth mentioning the very good use of the BV1 space which departs from the line of similar, plain courtyards in the prefab housing estate. The BV1 space fulfils the function of the square in this housing estate.

Although the measurements of temperature and noise proved very similar hygienic parameters in all courtyards, it seems that in some cases the residents have a tendency to overestimate these qualities. An extreme example is highlighted by the questioned residents in Brno-Lesná housing estate (BL). They assume that the vast, green space between the buildings strongly

eliminates the high temperature, noise, smell and dust. It may be assumed that it is a psychological feeling from the residence in a space which is appointed as unique in the public discussions (Brněnský Deník [Brno Daily] 2009). The resulting framework indicator – the perception of the hygienic parameters in the BL courtyard – is above all others (32.0 points, Fig. 8). This result cannot be compared with the small isolated BS6 with no contact to the surroundings.

A good indicator of the quality of life is the residents' feeling that they live at a 'good address' (Table 2). This feeling is slightly stronger in the BS1 – BS5, BL, BM and BZ cases studies. The strongest feeling was indicated at BL (8.7 points) then in BS5 (8.5 points). The least 'good address' feeling was indicated in the housing estate Brno-Vinohrady (BV1 – BV4) where the values range from 5.0 to 6.4 points. The BS1 – BS5 and BL case studies exceed the other cases studies in other aspects. Here occurs the "longtime residency", and the good relation with the neighbours, while the residents (with the exception of BS3) are willing to pay extra for the maintenance of the courtyards. The highest sum of points in the framework indicator "relation to the place" (Fig. 8) was attained by the BL case study (40.3 points). Generally, it may be stated that the respondents of the BS1 – BS5 case studies have shown a considerable unity in their positive opinions. The respondents in Brno-Vinohrady housing estate (BV1 – BV4) have shown surprisingly frequent positive stance contrary to expectations.



**Fig. 9 – The overall satisfaction – the sum of gained points in all answers (in partial indicators, respectively framework indicators) – and the percentage of gained points against their maximum**

Fig. 9 presents the sum of points gained in all the answers to the questions (partial, subsequent framework indicators) in the questionnaire survey, and it expresses the overall satisfaction of the residents living around the courtyards. The resulting satisfaction subjectively reflects the quality of life.

When comparing the results for each case study, it is obvious that the positive evaluation of the

residents of the closed urban blocks (BS1, BS2, BS4, BS5) has a similar level, and more than 72 percent of the maximum points were obtained here (more than 144 points in the sum). The somehow lower evaluation was attained in the public accessible BS3 courtyard and also in the BS6 which is due to the small dimensions which cannot fulfil the function of courtyards (BS3: 66.9 percent of the maximum points / 133.7 points in the sum, BS6: 55.2 percent of the maximum points / 110.3 points in the sum).

A lower satisfaction was indicated especially by the residents of Brno-Vinohrady housing estate (BV1 – BV4), where less than 62.2 percent of the maximum points were obtained (less than 124.3 in the sum). The residents evaluated the open spaces as less significant with the exception of the central space BV1. The reason might be the fact that this attractive space has become a meeting place for the residents of the whole housing estate and thus it has become different from the other spatially and functionally similar spaces. The lowest satisfaction was expressed by the surveyed residents in the BV2 space which in fact serves as a pedestrian corridor connecting the stop of public transport and shops (BV2: 47.5 percent of the maximum points / 94.9 points in the sum).

A very high satisfaction with the courtyard was indicated by the residents of the building in Brno-Lesná housing estate (BL: 73.9 percent of the maximum points / 147.8 points in the sum). It can be observed that the main reason is an exceptionally strong subjective feeling that the space contributes to the qualities of the environment.

Also, the residents in Brno-Žebětín (BZ) appreciate the qualities of the courtyard. Its semi-private character and partial closure enables a needed social control. The BZ courtyard is the smallest of the surveyed spaces (except the unusable BS6). The courtyard obtained 71 percent of the maximum points (142 points in the sum).

A less significant satisfaction was indicated by the residents of Brno-Majdalenky (BM: 53.4 percent of the maximum points / 106.8 points in the sum). The space without quality equipment and greenery is open to the street and thus it does not provide any barrier; in comparison with the other courtyards, it is on the margin of the residents' interest.

Additional notice: the basic parameters in the environmental and economic field confirmed good conditions for the development of the residents' community. The results are not shown in the tables but they are part of the following list. The following facts were indicated:

- in all the courtyards, the level of noise in the time of traffic peaks complies with the hygienic standards. The equivalent level of noise is in all cases less than 50 dB, even in the courtyards BS1 – BS6 that are surrounded by intensive traffic. All courtyards slightly eliminate the summer maximum temperature attained in the surrounding streets. In all cases, the decrease of the temperature during the 4 hours afternoon period (sunny summer day) was between 0.7-1.8°C. The largest difference was attained in BS1 – BS5 case studies, further BV3 and BV4. The BL case study showed the difference of 1.2°C. The quality of air in the surveyed localities complied with the standards.

- the property prices of the buildings in BV1 – BV4, BL and BM localities reach the average price of the prices in the city. The prices of the real estate in BS1 – BS6 and BZ are slightly above the average, with the deviation up to 7% above the average prices in the city. In autumn 2016, the average city price of 1 m<sup>2</sup> of flat was 45 000 CZK.

## Discussion

The article presents the results of a basic research that analyses the principal relationships between the residents' satisfaction and the courtyards in the post-socialist city of Brno. The research results are pilot data indicating relationships that should be verified on multiple case

studies. Overall, the current results indicate the following principles:

- a) The character of the courtyards influences the satisfaction of the residents and the quality of their life. A higher satisfaction is expressed by the residents living around the closed courtyards from the 19<sup>th</sup> century (BS1 – BS5) and also from the post-socialist period (BZ); the differences in preferences are noticeable, compared especially to the typical socialist open prefabricated housing estate (BV1 – BV4) and the partially open courtyard from the post-socialist period (BM).
- b) The spatial character of the courtyards, their closed or open form, generates the basic potential of the residential outdoor environment that influences the quality of life. This potential can be enhanced or reduced by the specific physical characteristics of the courtyards monitored in this study: equipment and greenery.
- c) The demographic structure of the residents in the analysed areas in Brno is stable, balanced, so it can only minimally affect the results of the questionnaire survey of residents' satisfaction. The time period of the construction of the buildings and courtyards plays a minimal role in this sense. The unexpected result is that the demographic structure is stabilized in the analysed socialist prefabricated housing estates.

The results mentioned in the point a) imply in detail that the courtyards closed to the public, located in the structure of closed urban blocks, have the largest positive influence on the residents' community as they provide the qualities that the residents miss: quiet green space (BS1 – BS5). The buildings screen the courtyards with plenty of greenery from the street and its traffic. The quality of the environment in the courtyards is at the roughly same level as in the localities further from the city centre. The residents can meet their neighbours here frequently for a longer time. Similar effects can be described at the post-socialist courtyard BZ. The BS1 – BS5 and BZ courtyards are considered as highly safe. There is no problem with vandalism, drug users or similar pathological phenomena, so the framework indicator – elimination of the risk of social exclusion – is high. There is a high social control in these courtyards. The small, underused courtyard in the same locality (as BS1 – BS5), the BS6, may cause that the adjoining buildings lose their residential value and people move away.

A slightly different situation is in the socialistic prefabricated housing estates whose basic idea was an open urban planning conception. The courtyards (open spaces between the residential buildings) are less screened, more public and moreover featureless. The residents tend to choose one of the uniform spaces as a place with a social function, and they use it as a square (BV1). The general impact of the courtyards on the residents' community development might be overall lower in the prefabricated housing estates. The vast, green spaces between the buildings in Brno-Lesná housing estate might be considered as a certain exception which in this study has been supported by only one case study (BL) and it needs further verification. The extraordinary positive impact of the large space (BL) with plenty of quality and varied greenery can be psychologically comparable with a stay in the nature environment (Koramaz and Türkoğlu 2018). But it must be also stated that the residents do not perceive the arguable economic requests of the area stemming from the maintenance costs of the space. The residents have some subjective 'knowledge of quality' which is possibly enhanced by the long-time public discussions about becoming a listed monument (Brněnský Deník [Brno Daily] 2009). The residents in the BL case study (as in the other case studies with good image and environmental qualities: BS1 – BS5) expressed a very good "relation to the place". This result may lead to another interesting finding significant to the government of the city: a positively discussed image of the locality may raise its value among the public.

All the courtyards were analysed from the perspective of the character and quality of the greenery, and the recreational equipment. These aspects are important and they can affect the results as secondary factor which is mentioned in point b). It is obvious that the lack of greenery and recreational equipment in the BM courtyard along with its open spatial form negatively affects the monitored framework indicators when compared to other courtyards in

the using of the courtyard and the hygienic parameters. An extremely large amount of untreated greenery could theoretically cause the feeling of danger, but none of the analysed courtyards has the potential to generate such effect. The courtyards were also described from the perspective of terrain morphology, but all the analysed courtyards lie in the plain or on a mild slope as in BZ, so they show no principal differences.

Also, the demographic structure of the surrounding buildings could influence the results. As mentioned in point c) – an important unexpected result of the study is connected with the demographic data obtained from the census in the prefab housing estates: the parameters of the analysed buildings (BV1 – BV4; and BL) are not significantly deviating from the average values recorded for the city or the state; none of these case studies represents a socially declining locality. On the contrary, in the Brno-Vinohrady housing estate (case studies BV1 – BV4), the number of children significantly exceeds the seniors and there is a good assumption for further social development. Other results of the demographic analysis are here also unexpectedly good. Apart from the fact that there were significant investments to the open spaces (and buildings), the other reasons for good results are based on the facts lying out of our research area. The housing estate Brno-Vinohrady is equipped with quality greenery, numerous shops, schools and other service buildings and it offers good living conditions for the young families and seniors. This locality is undergoing continuous renovations. All these aspects create a quality city environment which provides good conditions for a high quality of life.

The results of this study may be of concern for the city of Brno which performs an analysis of satisfaction of the residents with the public spaces – streets and squares (Brno 2017). The results of this study which, on the contrary, analyses the spaces providing a certain level of privacy, are mostly opposing and positive. For the city, it may be interesting to enrich the existing own results with the results of this study (it is necessary to unify the method of points determination). Thus, the city can support the construction of specific residential areas which will provide a good quality of life within the complex area of the city – in the streets, squares and courtyards. The quality of life of the city's population is a very important instrument (argument) that can eliminate the intensive process of suburbanization in the Czech Republic. Before the potential application of the results, it is important to research more residential areas in Brno. Varied types of demographic structure and residential areas can appear in the city. A larger amount of data can also allow the theoretical generalization of the findings on the scale of the city, or even of the state or more states. This study builds on previous theoretical works mentioned in the references. However, this study is quite different and specific – it analyses the courtyards as a specific urban element in a post-socialist city.

Finally, it must be stated that the results of this research were limited by the following facts: the duration of the project was three years from the definition of the procedures till the evaluation of the results; it was difficult to organize the access to some of the buildings for the realization of the questionnaire survey; and the capacity of the team that realized the questionnaire survey consisted of only five persons. In order to get a wider database, future surveys should be organized by an agency. There is one more limitation of the existing research and one more reason for making the next research of multiple courtyards: the existing research analyses the statistical data from the national census performed in 2001 and 2011, but in 2021 the new census data for the demographic analysis will be accessible.

### **Conclusions**

The results of this research indicate that we can identify a different influence of the different courtyards on the quality of life of the residents. The residents expressed their satisfaction with the courtyards in a questionnaire survey. This satisfaction subjectively reflects the quality of life.

The results of this study need to be supported by further analyses. This study verifies whether there are some principles and relations between the character of the courtyards and the quality of life in the post-socialist city of Brno where the specific demographic structure in the prefab housing estates can play a role. The results indicate that the city of Brno can cope successfully with the heritage of the socialist past, and the prefab housing estates can become a standard housing for the new generation with standard or even above-standard demographic features.

Some general results can be summarized at this time. It is obvious that the courtyards are more valuable in the case they are part of closed urban blocks. The conception of closed urban blocks with usable courtyards creates quality conditions for housing and it can positively determine the quality of life of the residents. From the social point of view, the studied courtyards have a more or less semi-private character which enables the social communication of the residents of the adjoining buildings. The closed courtyards, if they are clearly delimited, might give to the residents' community and to the local neighbourhood a higher level of privacy in comparison to the open spaces in the prefab housing estates.

As supposed, in addition to the character of the courtyards, other factors can also play a role in the development, planning and designing of the courtyards as part of the residential development: the costs of buildings, the transport connection to the surroundings, the aesthetic rules and the other architectural and urban planning requirements.

Regardless of these aspects, this study should show how just the character of the courtyards can influence the quality of life and how important the courtyards can be for the residents. With a slight exaggeration, the study may indicate that while the front façade of the residential building represents its display window, the courtyard might be seen as an outdoor living room used by the residents and by the neighbours.

#### **Acknowledgements**

This article was supported by the research project entitled 'The Importance of Open Space for Sustainable Urban Development', GAČR 15-05237S. The project was funded by the Czech Science Foundation (GAČR). The article presents an important outcome of the project.

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Initial submission: 16.05.2018

Revised submission: 12.10.2018

Final acceptance: 01.11.2018

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## INFLUENCING FACTORS ON PERFORMANCE OF SOCIAL BEHAVIOR SETTINGS AT PARKS AND GREEN SPACES OF TABRIZ

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**Abstract:** Parks and green spaces are significant areas that are necessary to reduce citizens' mental and moral pressures more than ever. So, as for the importance of parks and urban green spaces, consideration of influencing factors on performance of these areas as citizen's social behavior setting is basically significant. This research seeks to answer the question of how citizens' behaviors are distinctly the same in terms of gender, age and social and economic characteristics in urban parks. The population of this research is represented by those who go to the parks and green spaces of Tabriz metropolis. The Cochran's formula was used to select a sample of 400 subjects who were specified by a simple random method. The reliability of the questionnaire was calculated at 0.902 using the Cronbach's alpha formula while the research data was analyzed via the descriptive-inferential approach. The implementation of factor analysis model reduced the 62 variables of citizens' social behavior to 23 variables and 4 factors. In considering the effects on citizen's behavior in parks, these factors in order of preference are: social-psychological, physical-structural, economic and environmental. These four factors can explain 85.272% of the citizen's social behavior. The stepwise regression test results showed that all the analyzed variables, referring to the performance of citizen's social behavioral setting in parks and urban green spaces, are positively and meaningfully correlated. The independent t-test results showed that the urban park performances as behavior setting register significant differences between men and women. In this sense, the conclusions of the paper highlight the need to consider the complex needs of the residents in the designing and execution process of urban parks and green spaces.

**Key Words:** *performance, social behavior setting, park, green space, gender*

### Introduction

The need to establish social relations in urban settings contributes to the engagement with social and city-made spaces with respect to cognitive interactions, behavior and emotional formats, and one of its results is the belonging to location (Dobbs et al. 2014, Filipan et al. 2017). The successful design of green spaces and urban parks is effective in increasing the citizen satisfaction together with the quality of the living environment (Xu et al. 2017, Ngesan et al. 2018). In the absence of the required standards, patterns and citizens' behavior setting will be disrupted (Douglas et al. 2017). Urban spaces, especially residential districts, have evolved during the last half-century due to globalization; they have undergone dramatic changes (Middel et al. 2015, Shin et al. 2017). Urban development has happened in risky and vulnerable conditions for the developing communities and it has disrupted the people's connection to the life environment (Chiesura 2004, Nordh et al. 2011, Du et al. 2013). Citizens are exposed to the polluted and industrialized space of cities, and this situation has caused citizens' stress (Jennings et al. 2016). These spaces are places and settings for recreation and rest for the benefit of the citizens, in order for them to escape from the problems of urban life (Loukaitou-Sideris 1995, Stefansdottir 2018).

We may recognize the importance of urban parks, especially in metropolitan areas, when we

conclude that urban citizens are functionally separated from the natural environment. Such separation has made them both morally and mentally sick, conducting to increased crime and villainy in the urban environment, in such a way that we may understand better the formation of the life machine (Thompson 2002, Potestio et al. 2009). In other words, parks and urban green spaces have constructive socioeconomic and ecological roles (Ignatieva et al. 2011). These spaces are advantageous for the treatment of mental illnesses, they represent a desirable environment to nurture children, and for social integration, to maintain comfort and to generally contribute to improving the quality of urban life (Galea et al. 2005, Colding and Barthel 2013).

Additionally, urban parks are settings for the residents' spiritual, mental and behavioral recovery (Balram and Dragičević 2005, You 2016). Therefore, the citizens' needs and requirements are basically important and they must be studied in the designing process of parks and green spaces (Borer 2006, Coombes et al. 2010, Kong et al. 2010). In other words, the social, cultural, psychological, economic, and natural dimensions of urban areas, especially within large metropolitan centers, must be considered in constructing parks and green spaces as the most effective urban setting for the citizens (Chiesura 2004). Accordingly, parks and urban green spaces have a mutual influence and effect while people impact the environment through their behavior due to cultural, social, economic, and personal dimensions; people change and organize the environment to satisfy their physiologic and social needs (Zube 1995, Saldivar-Tanaka and Krasny 2004, Harnik 2006).

On the reciprocal relationship between the environment and people, Barker (1968), co-founder of the theory of ecological psychology, observes that when we are in different behavioral settings we undertake specific social roles then we match our future behavior; meanwhile, we try to organize the environment to be compatible with our behavioral needs (Blanchard 2004). Referring to the human behavior consistent with the environmental conditions, it was the first time that Barker (1968) used the term behavioral setting in developmental psychology when analyzing the social environment in the issue of children's physical psychology; then, other scientists and theoreticians in different disciplines, such as architects, urban designers, sociologists, criminologists, lawyers and so on, focused on this research problem and developed it (Baranowski et al. 2002, Malheiros and Vala 2004, Bresnahan et al. 2007, Noar et al. 2008, DiClemente et al. 2013, Toutakhane and Mofareh 2016). According to Barker (1968), for public spaces such as parks, green spaces and children's playgrounds, there are some constructive elements of behavioral setting for persistent activities in a place, and the pattern of individual behavior correlates with the structure of the place in a third-dimension arrangement of place-behavior, so that social behavior represents the outcome of symbiosis between the first and the second element. The highlight is that physical and behavioral dimensions of behavioral settings have a specific relationship (Barker 1968, Cosco et al. 2010). Moreover, Pearson (2012) and Bertram and Rehdanz (2015) observed that the behavioral setting is a small social unit formed by the sustainable incorporation of an activity and a place so that to meet the essential performances of the behavioral environment (Sanchez et al. 2017).

Also on the dimensions of the social behavioral setting in public environments, there is a relationship between the utilization of these spaces, the sense of ownership and the fixation to the space which is created through visual and mental connection (Wendel et al. 2012, Honold et al. 2016). In general, the behavioral setting is a physical space with practical and organizational objectives. The human behaviors in a behavioral setting are dependent upon the physical dimensions of the environment but also upon the collective behavior (Cosco et al. 2010, Guéguen and Stefan 2016). Tappert et al. (2018) observed that isolationism and reduced social interactions are the most important issues that threaten urban citizens' social life, therefore, people need these spaces to strengthen social interactions while complying with the social needs of the urban residents is an undeniable principle for cities.

In this regard, urban parks are both developed for recreation and for eliminating the fatigue of

citizens. Furthermore, urban parks are directly related to the usage pattern and type of users' behavior in a space; they are both places for social interactions and areas where the citizens' organize their behavioral patterns (Carrus et al. 2015, Whitburn et al. 2018). On the effect of parks on the citizens' behavioral patterns, in an investigation, Liu (2012) demonstrated that citizen's behavioral patterns, including personal, social, space, and environmental behaviors, are influenced by their presence at park. Also, Balram and Dragičević (2005) concluded that citizens simultaneously play two vital roles within parks, as they respond to received signs and messages from the environment and they send additional signs and messages to the other people who are in such spaces as social elements and as main formation components of the behavioral environment (Barthel et al. 2015).

Referring to the lack of similar research on the influencing factors of the performance of parks and green spaces in relation to citizens' social behavioral settings in the Tabriz metropolis, the general objective of this research is to answer the following questions: which are the influencing factors on the performance of behavioral settings in urban parks and green spaces? How much is gender impacting the behavior setting variance of performance in urban parks and green spaces?

## **Methodology**

### *Study area*

Tabriz metropolis is located in the north-west of Iran, more exactly in the west of east-Azərbayjan province and at the end of the east-south plain. The city's altitude above sea level is 1348 m. Its weather is dry steppe with warm and dry summers and cold winters. Based on the last census report, its population is of 1 741 655 people and it is the fifth most populous Iranian city. More than 96.5% of citizens are Azari speakers. Also, the main religion of the people of this city is Shia-Islam (98.64%). Tabriz metropolis is the administrative, communicational, political, cultural and military center of west-north of Iran and there are some several national universities located there. Tabriz is also the largest economic hub of west-north and Azari regions. Widespread heavy industry is centralized in Tabriz. Because Tabriz is developed in industry, many people from other cities migrate to Tabriz to find job opportunities.

There are 138 parks of different sizes located in Tabriz. Among them, 46 are neighborhood parks, 53 are district parks, 27 represent area parks, 7 zone parks, and 5 others are urban parks. In 2011, there was an average of 14.8 m<sup>2</sup> of park per capita in Tabriz. Across Iran, the mean is of 9 m<sup>2</sup> per capita. But, according to the global standard of 20 to 25 m<sup>2</sup>/capita, the situation in Tabriz is not better enough (Toutakhane and Mofareh 2016). And, it is estimated that an average of 180 000 citizens and passengers of Tabriz metropolis spend around 3 hours of their daily time in different parks of various scales.

### *Social assessment of parks and green spaces*

This research is both descriptive and inferential in its approach, using correlation methodologies. In fact, the main objective of this research is investigating the presence or absence of correlation between the elements of Tabriz metropolis parks in regulating the citizens' social behavior, together with recognizing the importance level of each variable and with surveying the effects of these elements according to population gender. Data is drawn from the surveyed visitors of parks and green areas in Tabriz. The surveys were conducted in Elgoli, Mashrooteh, Azerbaijan, Baghmisheh, Einali, Eram, Khaghani, Shams Tabrizi, Shamim Paidary, and Valiasr parks. The number of people that visited the parks mentioned above within a month is: N=214535. Given the large number of parks and green spaces in Tabriz (a total of 617 parks and green spaces of small and large scales) and the impossibility to distribute the questionnaire in all of these places, we have chosen these 10 parks and green

spaces as random sample. The criteria for the selection of the case studies was simple random until the chance to be chosen was equal and all of the parks in Tabriz of small and large scales were included (Fig. 1, Fig. 2).



**Fig. 1 – Parks in Tabriz**

*Source: Author (2018)*

Also, the 400 subjects of the study survey were selected based on the Cochran formula via the simple random sampling method (Bartlett et al. 2001). Survey results were classified in two types of documentary (secondary data) and survey (primary data). The questionnaire and the oral interview were used for survey. The total number of variables that were used in this research was 64 variables. A five-choice (Likert 5 Option) questionnaire was used to measure the variables. In the scoring stage, because a group of questions were designed in a negative aspect by the SPSS software, we coded questions again. So the questions' answers are: 5=completely agree, 4=agree, 3=no idea, 2=disagree and 1=completely disagree. Variables used in this study followed from the variables used in previous research (Table 1).

A panel of experts supported the face validity of the questionnaire. A pilot study was conducted in the same area with 50 questionnaires, then the reliability of the research questionnaire was obtained, and it was 0.902 by using the specific Cronbach's alpha formula (Helms et al. 2006) and the SPSS software. Finally, according to the theoretical foundations of the research, the data were collected through the questionnaire, for studying the influencing factors on citizens' satisfaction of performances of parks and urban green spaces as behavioral settings, and we

Table 1

**Independent variables used in this research**

Sex(A <sub>1</sub> ), Age(A <sub>2</sub> ), Education(A <sub>3</sub> ), Family(A <sub>4</sub> ), Trust in others(A <sub>5</sub> ), Sense of place(A <sub>6</sub> ), Social interaction(A <sub>7</sub> ), Feeling of security(A <sub>8</sub> ), Motivation (A <sub>9</sub> ), Sense of need(A <sub>10</sub> ) Intimacy(A <sub>11</sub> ), Compatibility(A <sub>12</sub> ), Sense of jolly and happiness(A <sub>13</sub> ), Satisfaction of the park(A <sub>14</sub> ), Conflicts resolution (A <sub>15</sub> ), Addicted peoples' footwork(A <sub>16</sub> ), Presence of the police agents (A <sub>17</sub> ), Rape(A <sub>18</sub> ), Memories retrieve(A <sub>19</sub> ), Satisfaction of management and behaviors of park personnel(A <sub>20</sub> ), Saving(A <sub>21</sub> ), Income, The diversity of sources of income(A <sub>22</sub> ), Consent of adequacy(A <sub>23</sub> ), Revenue and expenses(A <sub>24</sub> ), Job satisfaction(A <sub>25</sub> ), Costs of entrance utilization of park facilities(A <sub>26</sub> ), Entrance cost to the park(A <sub>27</sub> ), Finding a suitable place in the park, Finding a playground for children(A <sub>28</sub> ), Diversity(A <sub>29</sub> ), Diversity of access points to the park(A <sub>30</sub> ), Satisfaction of park facilities (A <sub>31</sub> ), Satisfaction of recreation facilities in the park (A <sub>32</sub> ), Access to parking(A <sub>33</sub> ), Quality of streets in the park(A <sub>35</sub> ), Access to parking (A <sub>36</sub> ), Removal of blind spots in the park(A <sub>37</sub> ), Comprehensiveness of Park services(A <sub>38</sub> ), Arrangement of furniture(A <sub>39</sub> ), Proper view(A <sub>40</sub> ), Visual quality of vegetation(A <sub>42</sub> ), Appearance quality of roads in the park(A <sub>43</sub> ), Proper location of canopies(A <sub>44</sub> ), Signs and signboards(A <sub>45</sub> ), Proper coloring(A <sub>46</sub> ), Facades of shops, Entertainment centers and trade centers(A <sub>47</sub> ), Landscape of fountains and waterfalls(A <sub>48</sub> ), Views of lighting(A <sub>49</sub> ), Reflection of sunlight by tools in the park(A <sub>50</sub> ), Environment pollution(A <sub>51</sub> ), Environmental health(A <sub>52</sub> ), Wind directions(A <sub>53</sub> ), Rain(A <sub>54</sub> ), Freezing in cold seasons(A <sub>55</sub> ), Vernacular materials(A <sub>56</sub> ), Sewage disposal(A <sub>57</sub> ), Climate comfort(A <sub>58</sub> ), Plant diversity(A <sub>59</sub> ), The quality of drinking water(A <sub>60</sub> ), The quality of lawn and flower planting (A <sub>61</sub> ), Noise pollution(A <sub>62</sub> )	(Potestio et al. 2009, Coombes et al. 2010, Thompson et al. 2012, Wendel et al. 2012, Lachowycz and Jones 2013, Wolch et al. 2014) (De Sousa 2003, Barbosa et al. 2007, Coutts et al. 2010, Bertram and Rehdanz 2015) (Jokimäki 1999, Li and Wang 2004, Caspersen et al. 2006, Sandström et al. 2006, Chen et al. 2009, Kong et al. 2010, Rutt and Gulsrud 2016) (Heynen et al. 2006, Sister et al. 2010, Veitch et al. 2012, Barthel et al. 2015, Rupprecht et al. 2015)
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Source: Author, based on various sources (2018)

analyzed the variables by computing the factor analysis test and the stepwise multivariate regression. Therefore, the factor analysis test was used to summarize data and information, while the stepwise linear regression was used to anticipate the behavior of the dependent variables.

In this study, we used several statistical methods to analyze the data of the questionnaire as follows: 1. The factor analysis model was used to categorize the variables of the research as well as to identify the factors that had the most impact; 2. A multivariate regression test has been used to prove or reject the research hypotheses; 3. The T test was used to examine the differences between the two groups of the studied population (men and women) about the type of behavior in the park environment.

The objective of the factor analysis is to reduce the numerous variables to components for the improved analysis (Tobias and Carlson 1969, McDonald 2014). In general, the factor analysis includes the following steps: formation of data matrix, calculation of correlation matrix, extraction of factors, factors time, naming the factors (Williams et al. 2010). Mostly KMO or Kaiser-Meyer-Olkin (Williams et al. 2010) was used for the statistics calculation and its value is fluctuating between 0 and 1. It has been used to eliminate the differences of concerning indices. Whenever KMO is lower than 0.5, the data are not suitable for the factor analysis. If the value is between 0.5 and 0.69, the data are average, but when the index is greater than 0.7, the correlations between the data are suitable for the factor analysis (Williams et al. 2010).

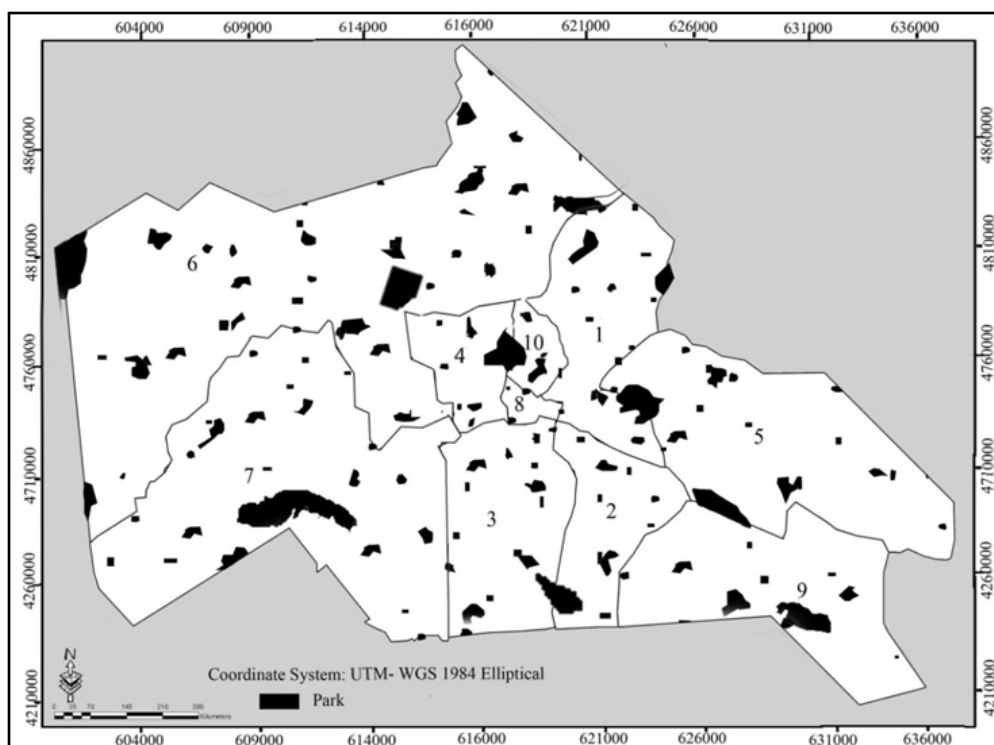


Fig. 2 – Geographical location of parks and green spaces in the Tabriz metropolis  
Source: Author (2018)

The statistical results were obtained by enforcing the factor analysis model based on the studied indices which showed that the KMO standard is equal to 0.837 and it supports the factor analysis model and it expresses its suitability for research (Table 2).

Table 2

**The result of Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.837
Bartlett's Test of Sphericity	Approx. Chi-Square	3425.210
	df	400
	Sig	0.000

Source: Author's calculation (2018)

Finally, the standards were classified through the factor analysis test and the multivariate regression test. The following hypotheses were tested:

- It seems that there is a correlation between the social, psychological, structural, environmental and economic factors with the type of citizenship behavior in parks and green spaces.
- It seems that there is a difference between gender and the behavior type of the citizens in urban parks and green spaces.

### Results

The surveying results on the characteristics of the 10 parks investigated in this study are presented in Table 3.

*Table 3*

**Characteristics of the 10 parks studied in Tabriz**

Park	Area Size (Meters)	Design type	Elements in the park	Type of Use
Elgoli	54675	Artificial	Tree, flowers and bushes, playground, recreational facilities, shopping malls, 5 star hotel, historical spaces and museums	Recreation, exercise, tourists
Azerbaijan	32254	Artificial	Tree, flowers and bushes, children's play space, family rest, morning exercise, 3D cinema, multi-purpose hall of crisis management	Recreation, morning exercise, tourists
Baghmisheh	42568	Artificial	Green area, restaurant and coffee shop, shopping complex, chapel, toilet, waterfront	Recreation, morning exercise, tourists, shopping
Einali	45696	Artificial & Natural	Mountaineering, nature riding, sleigh rides, cable car	Recreation, exercise, tourists, shopping
Eram	25478	Artificial	Hotel, campgrounds, car parking, day market, vegetation, coffee shop, theater & cinema, waterfront	Recreation, exercise, tourists, shopping
Khaghani	32102	Artificial	Green area, restaurant and coffee shop, shopping complex, chapel, toilet	Recreation, exercise, tourists
Shams Tabrizi	33521	Artificial	Green area, waterfront restaurant and coffee shop, shopping complex, chapel, toilet, multi-purpose hall of crisis management	Recreation, exercise, tourists, shopping
Shamim Paidary	45202	Artificial	Statue of the celebrities, tree, flowers and bushes, playground, recreational facilities,	Recreation, exercise, tourists
Valiasr	39620	Artificial	Carousel, bird garden, exhibition, shopping centers, children's playgrounds, wellness equipment, vegetation, flower show, coffee shop	Recreation, exercise, tourists
Mashrooteh	17425	Artificial	Exhibits, shopping malls, libraries, children's play equipment, fitness equipment, vegetation, flower show, coffee shop, bike rental	Recreation, exercise

Based on the survey findings, 53% of the respondents were men and 47% of them were women. In terms of respondents' age distribution, the most frequency rate was of 41.50% for the 30 to 40 years old people. 25.50%, 18.50% and 12.75% of the respondents had the bachelor's degree, diploma and the guidance school degree, respectively, and the park frequency rate was of 24.50%, 18.50%, and 12.75%, respectively. Also, the number of the weekly visits to the park – 3 times per week – had the highest frequency distribution rate and it was of 49.50%. The results about the traveled distance for getting to the park is represented by the average traveled distance according to the park type, and it is of 448 m for district parks, 985 m for neighborhood parks and 1.56 km for zone parks. In addition, according to the results, 34.33% of people use cars, 17.25% use bicycles and 48.42% walk the distance from

home to get to the park.

Finally, in conjunction with the visit motivation to the park and urban green spaces, the highest frequency distribution rate was of 28%, followed by 21.75% and 17.50%, for refreshment, children's park and contact with the green space, respectively.

As mentioned, at the first step of the factor analysis model implementation, 62 variables were identified in relation to the performance of behavioral settings at parks and metropolis green spaces. The obtained calculation results are shown in Table 4 while some variables were omitted from the cycle of the model.

**Eigenvalues and variance of the dependent variable**

Table 4

Model	Total	Value (r)	Variance	% Variance
A <sub>10</sub>	4.554	0.856	0.711	7.54
A <sub>16</sub>	4.520	0.842	0.768	7.362
A <sub>6</sub>	4.463	0.730	0.846	7.399
B <sub>6</sub>	3.155	0.743	0.890	6.109
B <sub>7</sub>	3.321	0.699	0.872	6.102
A <sub>18</sub>	3.222	0.687	0.870	5.778
A <sub>13</sub>	3.144	0.665	0.726	5.706
A <sub>14</sub>	2.443	0.644	0.917	5.693
C <sub>1</sub>	2.524	0.634	0.905	4.459
C <sub>3</sub>	2.365	0.628	0.871	4.243
C <sub>5</sub>	2.249	0.619	0.884	3.240
C <sub>10</sub>	2.201	0.617	0.804	2.707
C <sub>7</sub>	1.952	0.612	0.953	2.685
C <sub>14</sub>	1.754	0.581	0.954	2.543
C <sub>18</sub>	1.621	0.578	0.915	2.372
C <sub>6</sub>	1.428	0.575	0.865	2.235
A <sub>1</sub>	1.360	0.556	0.687	2.188
A <sub>2</sub>	1.275	0.549	0.986	2.175
A <sub>3</sub>	1.189	0.539	0.745	2.171
D <sub>13</sub>	1.124	0.533	0.675	2.164
D <sub>11</sub>	1.109	0.527	0.963	2.017
D <sub>12</sub>	1.085	0.525	0.753	2.010
D <sub>8</sub>	1.052	0.520	0.761	2.006

Source: Author's calculation (2018)

Based on the obtained results, among the 23 entered variables to the men's group model and the 24 entered variables to the women group, 9 of them were social-psychological variables, 2 of them were economic variables and 4 of them were environmental variables. In the next step, we calculated the specific vectors of all non-zero eigenvalues. Indeed, the specific vectors are among the loading corresponding to every index of the concerning factor which is named load factor. In the factor analysis, indices are connected together, and we use the indices with a correlation coefficient higher than 0.520. Using the varimax rotation, the 62 variable were reduced to 23 for men and 24 for women; the four factors obtained can explain 86.15% of the

Variance changes for men and 89.63% of the Variance changes for women.

This result indicates that the factor analysis and the studied factors in both of the groups are satisfactory. In this analysis, the percent of variance for the first factor, the second factor, the third factor and the fourth factor is: 86.09, 5.46, 2.26 and 0.93, respectively. And for the women's group, it is: 77.27, 6.14, 3.21 and 3.01, for the first, the second, the third and the fourth factors, respectively.

As identified variables in the research method, naming the four factors extracted from the analysis model was done for the social-psychological, economic, physical-structural, and environmental indices that are the same for both the men's and the women's group. Among social-psychological indices, the sense of need, the footwork of addicted people, and the sense of belonging to a place had the highest rate of significance, while the level of education, the sex and the age had the lowest significance rate. Also, the economic factor had two indices of loading including: the entrance cost to the park and the cost of utilization of park facilities. For the loading indices of the physical-structural factor, we can also say that the indices of finding a suitable place, the variation of access areas, and the consent of recreation facilities had the highest rate of meaningfulness, but the indices of waterfronts, and quality of the roads inside the park had the lowest significance rate. Finally, for the environmental factor, the variables of climate comfort, environmental health, freezing of parks and environment pollution had the first and the fourth priority rates, respectively (Table 5).

*Table 5*

**Final factors extracted from the factor analysis model**

Factor	Used Indicators	Specific value	Cumulative variance- (%)	Factor name	Factor Rating
1	A <sub>10</sub> , A <sub>16</sub> , A <sub>6</sub> , A <sub>18</sub> , A <sub>13</sub> , A <sub>14</sub> , A <sub>1</sub> , A <sub>2</sub> , A <sub>3</sub>	24.692	40.380	Socio-psychological	1
2	B <sub>6</sub> , B <sub>7</sub>	7.628	12.211	Economical	3
3	C <sub>1</sub> , C <sub>3</sub> , C <sub>5</sub> , C <sub>10</sub> , C <sub>7</sub> , C <sub>14</sub> , C <sub>18</sub> , C <sub>6</sub>	15.309	24.484	Physical -structure	2
4	D <sub>13</sub> , D <sub>11</sub> , D <sub>12</sub> , D <sub>8</sub>	3.638	8.197	Environmental	4

*Source: Author (2018)*

The first factor explains 39.380% of the variance for the men's group and 41.63% for the women's group, and it is introduced as the most important factor, because, by considering the nature of the loaded indices and with the 24.692 eigenvalue for men and 23.84 for the women's group, it has the highest impact among the four factors. And it is named as a social-psychological factor and it indicates that the concerning indices of the factor are meaningfully correlated. The eigenvalue of the next factor is 7.365 for men and 6.368 for women which calculates and explains 12.652% of the variance for the men's group and 12.32% of the variance changes for the women's group. The factor has two loaded indices, thus, it is named as economic factor based on the loaded indices on the second factor. The eigenvalue of the third factor is 13.328 for men and 11.524 for women which calculates and interprets 25.147% of the variance changes for the men's group and 22.653% for the women's group. Therefore,

based on the indices, we can name it physical-structural factor. The last loaded factor in the analysis model with 4 loaded indices and with a 6.365 eigenvalue explains about 8.542% of the men's group variance. With a 7.685 eigenvalue, it also explains 10.987% of the women's group variance and it enters the environmental indices. In total, the four above mentioned factors are loaded with 23 loaded indices for men and 24 for women which cover 85.272% of the variance variations of the men's group and 87.63% of the variance variations for the women behavior in urban parks and green spaces. Therefore, we can say that the social-psychological indices, physical-structural indices, economic and environmental indices significantly impact the performance of social behavior settings in parks and green spaces of metropolises. According to the analysis results, economic factors are very important, and only with two loaded indices they are very capable and effective on the performance of social behavior setting at parks and green spaces of metropolises.

Using the method of the stepwise linear regression test, the obtained variables, based on the beta standard including social-psychological, economic, physical-structural, and environmental variables, had the highest shares in the variations of the named dependent variable (performance of social behavioral settings).

The results show that the predictor variables predict 87% ( $R^2=0.87$ ) of the variance of the dependent variable. The coefficient of determination suggests that there have been other affecting variables on the performance rate of social behavioral settings that have not been studied. They have been excluded from the factor analysis model and, also, at the final step, the results of the unilateral variance analysis show that the regression and the linear relationship of the variables are meaningful (Table 6, Table 7). Referring to the obtained calculation data of the estimation equation, the final model of multivariate regression is meaningful.

Table 6

**Regression coefficients for explaining the relationships of four variables and the performance of social behavioral settings**

Step	Variable name	Regression coefficient	Coefficient of determination $R^2$	Coefficient of determination justified	Value (f)	Value (p)
1	Socio-psychological	0.874	0.798	0.605	174.74	0.000
2	Economical	0.796	0.676	0.551	161.43	0.000
3	Physical - structure	0.667	0.511	0.463	154.69	0.000
4	Environmental	0.583	0.473	0.389	121.65	0.000

Source: Author (2018)

The obtained results of the data analysis on the explanatory power of the concerning variables to the social-psychological, economic, physical-structural and environmental dimensions explain their effect on the performance rate of behavioral settings (Table 7).

Table 7

**Coefficients of entered variables to the final regression equation for explaining the influencing factors on the performance of social behavioral settings**

Predicted variables	Not Standardized coefficients		Standardized coefficients	Calculated t	Value (p)
	Standard error	Logit factor	(β)		
Constant number (Intercept)	3.01	32.8	-	8.65	0.000
Socio-psychological	0.531	8.65	0.669	7.80	0.000
Physical-structure	0.663	6.32	0.573	5.64	0.000
Economical	0.799	3.43	0.499	3.65	0.000
Environmental	0.698	4.51	0.389	3.83	0.000

Source: Author (2018)

Table 8

**Independent t test results in relation with the performance of parks and green spaces as women and men behavior setting**

	Leneva test for Equal of Variances		t-test for Equal of Mean				
	f	sig	t	df	Sig (2-tailed)	Mean difference	Std Error difference
Equal Variances assumed	8.652	0.003	0.875	24	0.257	-48.0000	0.58724
Equal Variances not assumed			0.745		0.262	-48.0000	0.56573

Source: Author (2018)

The stepwise results (Table 8) entered to the final regression model in terms of the importance of the concerning variables to the four research hypotheses showed that the concerning variables to the social-psychological factors, physical-structural factors, economic and environmental factors had the greatest correlation and effect on the performance of behavioral settings at parks and green spaces of metropolises.

At the end, the independent t test was used for surveying the related variables differences of citizen's social behavior setting in the use of parks and green spaces. The results showed that there are significant differences between sex and behavior setting in parks and green spaces at a 0.262 level with 0.745 amounts.

### Discussion

As discussed on the current research, urban spaces, especially metropolis spaces, are too overcrowded and they are confronting with polluted air, noise pollution and social malformations, while often becoming boring for the citizens. Thus, the urban residents choose

urban parks and urban green areas as resorts and revitalization places for spiritual and mental peace. As mentioned before, the people and the environment have mutual effects for their interactions, therefore parks and urban green areas must be designed so that to provide peace and serenity for the citizens more than ever.

The objective of this paper was to analyze the influencing factors on the performance of social behavioral settings at parks and green spaces of Tabriz metropolis. The descriptive results showed that men's and women's visits to parks and green spaces are approximately equal. In terms of education, the majority of subjects had a bachelor's degree. Also, the mean age group of 30 to 40 included the most motivated people who went three times a week to the parks for peace and revitalization.

The results of the factor analysis showed that the social-psychological factor had the greatest percentage in explaining the performance of social behavioral settings at parks and urban green spaces. Then, the physical-structural factor, the economic factor, and the environmental factor were the next priorities, respectively. The obtained research results are compatible with those of Lee and Park (2013) for the relative importance of the four factors. In this regard, we can say that citizen social and psychological features and men's and women's psychological features must be focused in the designing process and park management, by considering this to improve the performance of such spaces. For example, this is important in the case of considering the official religion of Iran that is Shi Islam and the emphasis on no mixing men and women because of women's mandatory hijab in public places. Taking into account the psychological features of men and women will improve the performance level of urban parks and green spaces as citizens' behavior setting. The results of the research analysis and the stepwise linear regression test showed that the concerning variables of the social psychological factor had the greatest rate of correlation with the dependent variable. Finally, the results of the independent t-test showed that there are significant differences between the women's and men's understanding of urban parks and green spaces.

The physical-structural, economic and environmental variables have the next priority by following the results of the factor analysis model. These findings are compatible with those of Parker and Nilon (2008), Maas et al. (2009). Accordingly, we can say that parks are places where people with different cultural, social and economic features are gathered, so that every citizen has different needs and requirements depending on his or her personal traits while they interact with society and environmental spaces differently.

However, despite the existing differences of citizens' needs and requirements, there is a consensus and unity on which we can focus in the planning process in order to satisfy the majority of the citizens and to increase the success rate of urban plans and projects. Parks and urban green spaces are social behavioral settings for the residents which should be considered by the urban managers. We can increase the attraction of parks by focusing more on the sociocultural and psychological traits of people such as their beliefs, their sense of place, their identity, and on their anthropological features such as age, gender, level of education, family status, financial status, economic situation, the amount of income, the variations of income resources; but also on environmental and physical aesthetic factors, such as furniture arrangements in the parks, proper utilization of environmental elements, quality of vegetation and green space. Moreover, the research findings of Rosol (2010) on the involvement of citizens' needs and requirements in the designing process of parks and urban green spaces have been limelight for planners and managers. Also, the citizens' participation is increased at the same rate in the maintenance and protection process of such spaces. Furthermore, according to the results of this survey, the needs and behavior patterns of space users must be considered.

Improving the environmental quality of urban public spaces such as urban parks and green

spaces is not a mono-dimensional issue, so all economic, social, environmental, and psychological components should be considered. So we can conclude that improving the environmental quality effect of its elements on spaces and behavior patterns in urban parks is not only conceptual and of technical quality, but it is associated with qualitative concepts like the physical environment quality, and the verity of social spaces and interactions through social activities, spatial dependence and urban environment quality.

Effective elements on the environmental quality of public places such as urban parks have a bilateral relation with their users' behavior patterns. On the other hand, behavior settings are more determinist than the physical environment patterns. As a result, the compatibility of behavior and environment is to present the user's merit in spaces and their imparted features. Analyzing urban parks as behavior setting gives rich recognition of the human behavior. Such analysis provides information about individual and group differences and about behavior patterns that can make designers free from the stereotype of people and their activities. So, planning and urban designing must not clash directly with public places presents and urban park users' behavior patterns or want to change or correct behaviors. But it must try to improve urban parks quality by using the existing tools and the effective techniques in order to design urban park spaces in a way that provide the necessary conditions for an increased environmental quality of parks in the future.

### **Conclusions**

Regarding the research findings, the following practical suggestions are important for the performance improvement of behavioral settings at parks and green spaces of metropolises.

Sociocultural, economic, anthropological needs of the residents must be comprehensively and completely analyzed in the designing and execution process of parks and green spaces of metropolises, including serious consideration to the psychological features of women and men in the context of their religious beliefs.

Environmental elements such as climate, humidity, gradient, rain, light and radiation, and the reflection of sunlight should be considered in the design and implementation of the processes of parks and green spaces of the city, so that these components can be used to increase the exhilaration of citizens in the used parks.

Technical and physical rules and regulations must be observed in the designing process of parks and urban green spaces, including: locating, access areas, furniture arrangement, visual quality, environmental health and so forth. Therefore, we must try to promote urban park design standards in the metropolitan Tabriz. Some areas must be provided for the citizens' active and constructive participation before, during and after the execution of designs and we must continually attract citizens and motivate them for their physical, financial and intellectual participation within urban areas. Generally, a systemic approach must be adopted for the immersive and horizontal prevention of manner-oriented conflicts in the designing process of parks and green spaces of metropolises.

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Initial submission: 05.07.2018

Revised submission: 30.10.2018

Final acceptance: 19.11.2018

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## SPATIAL DISTRIBUTION OF ECONOMIC ACTIVITIES AND INTERNAL ECONOMIC INTEGRATION IN ROMANIA

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**Abstract:** This paper aims to consider two tendencies in economy simultaneously: internal integration within the country and localization of economic activities. Firstly, we examine the quantitative measurement of internal economic integration in Romania. Different methods of economic integration measuring have been developed over time, so we have defined and discussed three approaches. To estimate a level of internal integration the link between the region's share in the total output and production factors was estimated and the pattern of distribution of these shares among the regions of Romania was assessed. The calculations have underlined an increasing tendency to deepen the internal economic integration of the Romanian economy. Secondly, the analysis of spatial distribution of economic activity has demonstrated that the capital region Bucharest-Ifov concentrates the biggest share of employment and production. This indicates that initially there were higher economic activities and a labor deficit has been created, which was later covered by moving employees from other regions. As a result, the capital region concentrates 14.35% of the civil economically active population and 26.78% of the regional gross domestic product in 2014. By computing the location coefficient, we have observed that the counties with the biggest shares in the total GDP are characterized by a higher level of specialization simultaneously in many sectors.

**Key Words:** *production factor distribution, Kullback-Leibler divergence, internal economic integration, spatial distribution of economic activities, specialization, location quotient.*

### Introduction

The acceleration of globalization and geopolitical changes have recently given more attention to the role of market mechanisms in the allocation of resources within the economic landscape. Until the global financial crisis of 2008/09, the free market and globalization were associated with a relatively high level of economic growth and the expansion of the new middle class in the emerging economies, accompanied by a "new, complex and uneven geography of inequality" (Pike et al. 2016). Many thoughts have emerged recently that the era of globalization is fundamentally changing, even ending. To confirm this, data on world trade are given which is characterized by slow growth. Since 2010, world trade has grown only 2% annually, combined with the fact that the world-wide production of goods and services is growing by more than 3%. This means that the ratio of trade to GDP is decreasing (Eichengreen 2016). Such trajectory indicates a revival of protectionism. Also, the globalization process enhances the importance of the location of economic activities. The changes in regional performance, associated with the last decades of globalization, have also altered the way in which we view the economic development of regions. This explains the research intensification of the spatial development of economic activity – economy of localization.

The growing attention to localization can be explained by the need to respond to the changes generated by the global economy, job losses and uneven distribution of consumer demand. In general, localization is interpreted as a process that changes global tendencies in the favor of a local one. At the same time, depending on the context, the term "local" predominantly means a

part of the country, although in some cases it is associated with the country itself (sometimes even with a group of countries) (Hines 2000). In general, the localization policy is directed for increasing control over the economy by communities and regions. Increased community cohesion, reduction of poverty and inequality, greater access to livelihoods, better social infrastructure and environmental protection, and, consequently, the improvement of all aspects of security should be the result. The purpose of the localization process is to promote the emergence of a business owned by the local owners who use the local resources on a sustainability basis, who hire local employees with decent pay and serve mostly the local consumers (Shuman 1998). This means growing self-sufficiency in the local economy and a lower dependence on imports and the central government or institutions.

At the same time, in the process of transformations and reforms in the transition economy, the question of strengthening the interaction between regions as the main factor of sustainable economic growth attracts more and more attention according to the unanimous opinion of scientists and practitioners. The integrated development of the regions in the country can provide an increase in the efficiency of using the advantages of territorial labor division, realization of regional natural resource and scientific and production potential, and, therefore, contribute to the economic development of the country as a whole. The effectiveness of these processes depends directly on the coordinated interaction of market structures and the development of integration links at different territorial levels. Broadly defined, spatial interaction refers to a wide array of flows subject to various types of spatial frictions, such as traded goods, migrations, capital movements, interregional grants, remittances, and the interregional transmission of knowledge and the business cycle effects (Behrens and Thisse 2007). This is directly connected with the problem of economic security of the state and the processes of competitiveness formation. Therefore, the studying of the integration processes between regions within the country is extremely relevant today.

Globalization has also drawn attention to the often neglected role of space. It has made localities and their interactions more important for economic growth and prosperity (Rodriguez-Pose 2011). The location (i.e. regions, the regional environment) becomes the epicenter of competitiveness. The region concentrates natural resources, human capital, scientific and industrial potential, it creates and strengthens competitive advantages which are the core of economic development and success.

Based on the mentioned above, we can talk about the relationship between the spatial distribution of economic activity and the integration between the regions of a particular country. In our opinion, interregional integration within the country intensifies the territorial division of labor and specialization, and the growth of specialization and, in turn, it strengthens the concentration of activities in certain places. And as a result of integration processes, cooperation intensifies, which enhances the development of integration processes. The tendency of economic activity to concentrate in space has always been an important topic for research both for economists and economic geographers. Awareness of what factors shape the economic landscape can better understand regional and national differences and the influence to these processes with the appropriately selected tools.

Many scientists investigate the integration processes and there is a wide literature devoted to economic localization. But in contrast to the existing research, this paper aims to consider two tendencies in economy simultaneously: the internal integration within the country and the localization of economic activities. The article is organized as follows. The next section contains a brief theoretical background of analyzed issues. After that we discuss the results gained from calculations and analysis and the last section concludes.

## **Methodology**

### *Economic integration*

At a time when national borders are gradually eliminated, it is especially important to investigate the level of interactions between the regions of one country to enable the government to respond adequately to the changing economic environment. Otherwise, there are increasing threats of economic separatism and the disintegration of the state itself. Of course, the separatist tendencies lay more often in the political, cultural, linguistic and religious area, but the economic background is not completely excluded. This problem is typical for many countries. Ghosh examines the long-run growth performance and the regional divergence in per capita income across 15 major Indian states during the pre- and post-reform periods. The evidence shows that the divergence has increased in the post-reform period, mainly due to inter-state variations in the production structures, human capital and infrastructure (Ghosh 2008). Frey and Wieselhuber (2011) conducted an empirical analysis of the growth process on the regional level using the annual gross regional product (GRP) data for the period 1998-2008, on the 16 Kazakh regions and they stressed out that there was no evidence for regional convergence in Kazakhstan. Turganbayev (2016) explored regional convergence in Kazakhstan by income data and showed that incomes across the regions of Kazakhstan diverged over the whole period of 1993-2014 and the period of 1993-2006, and converged during the period of 2006-2014. After controlling for the rate of investment and population growth, it is evident that regional convergence occurred over the whole period of 1993-2014 (Turganbayev 2016).

This issue is investigated also in other countries: China (Herrmann-Pillath et al. 2014), Germany (Zuiddam 2016), Ukraine (Yaskal 2013) and ASEAN-members (Sethapramote 2015).

### *Different methods of economic integration measuring*

Because a single indicator to measure economic integration does not exist, several techniques and instruments have been developed over time. We have indicated three main approaches.

**Approach #1** (Bowen et al. 2010, 2011 Method). Authors derive three theoretical propositions regarding the distribution of output and the stocks of productive factors expected to arise among the members of a fully integrated economic area (IEA) in which goods and factors are freely mobile and policies are harmonized. The first proposition states that each member's share of the total area output will equal its share of the total area stock of each productive factor. Since this equal-share property applies to each IEA member, it does not directly address the important question of the distribution of output and factor shares across members. This question is addressed instead by the second theoretical proposition: the distribution of output and factor shares across IEA members will conform to a rank-share distribution that exhibits the Zipf's law. Zipf's law specifies a particular relationship among the member shares, namely, that the share of, for example, the output of the largest member is twice that of the second largest member; three times that of the third largest member, etc. The explanation for the emergence of Zipf's law for the distribution of member shares derives from the expected randomness of these shares when policies are fully harmonized across area members. The third theoretical proposition is that, given the Zipf's law, the long-run distribution of output and factors across area members is unique and it depends only on the number of IEA members. This latter result is significant, since it means that the relative position of each IEA member only depends on the total number of members. This methodology was proposed by Bowen et al. (2010, 2011). They assess the level of economic integration between the U.S. states and EU members, based on Regional Trade Agreements. Noteworthy, this approach is used for estimating the level of integration within a country (i.e. USA), and between countries within a particular group (i.e. EU, NAFTA, etc.).

**Approach #2.** It is based on the most general measure of integration, concentrating on

spillovers in economic growth: if a geographical area is integrated economically, there should be spatial interdependencies between the levels of economic growth in the different regions. This co-movement can be caused not only by market forces, but also by other forms of linkages, established, for example, through large-scale government projects or centralized redistribution. This method was used by Herrmann-Pillath et al. (2014). Their objective is to understand how growth rates in Chinese prefectures are correlated across and within provincial and cultural borders. For this purpose, they look specifically at neighbouring prefectures, that is, prefectures with common borders. The idea is that, if economy is integrated, neighbors should exhibit particularly strong links to each other and thus exhibit stronger co-movement of growth rates, as opposed to prefectures distant from each other. If administrative or cultural differences create obstacles for the emergence of economic ties, these links should be absent and the co-movement of growth among neighbouring prefectures should be the same as among a random pair of distant prefectures. To identify the effect, two main approaches are used: regressions for dyads of prefectures and spatial econometrics.

As for the authors, the using of this methodology is driven by two considerations. First, it is the data availability. A possible alternative to studying intra-provincial integration if prefectural data are available would be to estimate provincial border effects from the gravity equations; yet the data on the inter-prefectural trade is not available (this is not a deficit of Chinese data: in many countries in the world, because there are no internal customs controlling goods and factor flows, there are no reliable statistics on the inter-regional trade). Furthermore, the border effect in gravity equations shows just that there is some disruption of trade and factor flows at the border, but it does not allow any clear statement regarding the significance of the intra-provincial integration in terms of its economic effect on the performance of the local economies. Second, an advantage of the measures we use is that it does not rely on particular channels of economic integration (i.e. trade or migration). There are different channels through which spillovers can happen, among others, linkages via trade and investment, imitation of technologies and knowledge diffusion, migration, or demand pull.

**Approach #3.** A number of papers investigate the correlation of growth rates and the coincidence of business cycles as a measure of economic integration and on spatial spillovers (Xu 2002, Xu and Voon 2003, Ying 2003, Sandberg 2004, Golley and Groenewold 2007, Poncet and Barthélemy 2008, Huang et al. 2015).

Sure, this list is not completed. There are several other methods and indicators of economic integration. But they combine the existing models. For example, Storonyanska (2009) used some parameters based models of convergence and got important conclusions after the factor analysis. At the same time, Yevdokymenko and Yaskal (2012) proposed a method for detecting the approximate directions of interregional production and resource integration in industry and the manufacturing industry using the Euclidean distance, the fuzzy clustering and the gravity model.

Zuiddam (2016) gives a short description of three groups of measurement indicators: institution-based indicators, outcome-based indicators, and factor-based indicators. Most popular measures are outcome-based indicators and they are some sort of cross-country flow variable. Institution-based indicators reflect the level of institutional convergence or the policy harmonization across countries. Therefore, the institutional convergence alone is an incomplete indicator. Outcome-based indicators are the most common methods for measuring the economic integration between countries. These indicators combine foreign trade or investment flows between countries with gravity equations to evaluate these flows. One particular popular factor-based is the income convergence. The mechanism behind income convergence through economic integration is the equation of the marginal products of labor, when production factors are completely mobile.

*Evaluation of localization review*

There are a wide range of methodological frameworks and techniques for the evaluation of localization. The measures developed are either in the form of indexes (Ellison and Glaeser 1997, Maurel and Sédillot 1999, Devereux et al. 2004, Mori et al. 2005) or in the form of numerical methods (Feser and Sweeney 2002, Duranton and Overman 2005, Marcon and Puech 2010). A more detailed review of the methodological contributions to the accurate measurement of localization is presented in Fratesi (2008), Strotebeck (2010), Billings and Johnson (2016).

In order to evaluate the spatial concentration of each economic activity, we compute the location quotient (LQ) for regions. Of course, this indicator has a number of shortcomings, as it was indicated by Fratesi 2008, but despite this, it still remains one of the most popular (Liao 2012, Mota and Brandão 2013, Morrissey 2016).

In this paper, we have employed the Bowen et al. 2010, 2011 method, in order to examine the quantitative measurement of the internal economic integration in Romania. Most papers limit their attention to NUTS 2 level data (development regions and macro regions). However, the highly aggregate nature of statistics at macro regional level masks important tendencies in regional integration. Nevertheless, this literature has paid very limited attention to the inter-counties (NUTS 3) links. This paper tries to fill this gap.

The chapter is organized as follows. Section one offers a short theoretical explanation of distribution of output, labor and capital across the integrated economic space (within a country) and it discusses the data used for estimating the factor and output distribution among Romanian regions. Section two presents the empirical results of the economic integration evaluation and the spatial distribution of economic activities. The third section summarizes the main findings.

*Theoretical background and data*

Bowen et al. (2010, 2011) consider the distribution of output and production factors among the members of an integrated economic space (IES), in which goods and factors of production (resources) are mobile and policies are harmonized. Thus, as an IES, we shall consider the national economy of Romania (set of regional economies), and by the members of the IES – the Romanian regions. The theoretical background for the distribution of the output and factors of production among regions – equal-share relationship and rank-share distributions and Zipf's law – are characterized and described in detail in Bowen et al. (2010, 2011).

We have started from the assumption that the long-term distribution of shares among the regions of the integrated economic space exhibits the Zipf's law. This means that the theoretical share value of each region could be calculated on the basis of the number of members. In our case, we used three groups of regions: macro regions, development regions and counties. The theoretical share values for the regions of Romania are given in Table 1.

For the Romanian regions, the output was measured by the gross domestic product (GDP) by corresponding regions. The development regions correspond to the NUTS 2 level divisions in the European Union. The factor "labor" for each macro region, development region and county was measured by the number of civil economically active population which characterizes the potential labor force and employment population rate, consisting of the civil employed population and the registered unemployed<sup>1)</sup>.

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1) Data on civil economically active population by regions are available at:  
<http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=en&ind=FOM102A>

Table 1

**Theoretical share values assuming that the distribution of share exhibits the Zipf's Law**

Group of regions	Theoretical share values (descending)
4 macroregions (NUTS 2)	0.4800; 0.2400; 0.1600; 0.1200
8 development regions (NUTS 2)	0.3679; 0.1840; 0.1226; 0.0920; 0.0736; 0.0613; 0.0526; 0.0460
42 counties (NUTS 3)	0.2311; 0.1156; 0.0770; 0.0578; 0.0462; 0.0385; 0.0330; 0.0289; 0.0257; 0.0231; 0.0210; 0.0193; 0.0178; 0.0165; 0.0154; 0.0144; 0.0136; 0.0128; 0.0122; 0.0116; 0.0110; 0.0105; 0.0100; 0.0096; 0.0092; 0.0089; 0.0086; 0.0083; 0.0080; 0.0077; 0.0075; 0.0072; 0.0070; 0.0068; 0.0066; 0.0064; 0.0062; 0.0061; 0.0059; 0.0058; 0.0056; 0.0055

Source: own calculations

The estimation of a county's physical capital stock faces some difficulties. There is no statistical data regarding the tangible assets and investments by counties in Romania. However, every enterprise possesses some amount of fixed capital. Assuming more of the enterprises in the county means a greater amount of fixed capital. So, if we operate with shares of counties and their ranks, not with numbers itself, we have decided to use the number of enterprises by counties instead of the physical capital. We can suppose that a county's share of enterprises in total partly reflects the share of the physical capital of this county in total. And a difference in the number of enterprises between counties reflects the differences in stock of the physical capital<sup>2</sup>. The procedure used by Munnell (1990), Garofalo and Yamarik (2002), as well as Bowen et al. (2010, 2011), does not offer appropriate results for the Romanian regions.

## Results and Discussion

### *The equal-share relationship*

We will further verify the validity of the equal-share relationship hypothesis by analyzing the "weak" form of this relationship, namely whether that there is conformity (pair-wise) between the rankings of the output and the factor shares across regions in Romania, as Yaskal (2013) did for Ukraine.

Table 2 offers data for the Spearman rank correlation coefficient calculus for the pair-wise rankings of shares for each county between 1995 and 2015. The fairly high correlation confirms the consistent distribution between the pair-wise ranks. The correlation coefficients are in some cases close to 1, which proves an almost perfect monotonic relationship between the GRP and the capital shares. The rank correlation with the human capital is generally lower and it is demonstrating a weaker confirmation of the relationship of equal shares. Except for some differences between counties (population, area, resources etc.), this result may indicate the smaller "contribution" of human capital in the GRP of Romanian regions compared to the "contribution" of capital. At the same time, we can mention the existence of a lower correlation with the share of human capital, which can be caused by a lower mobility of this factor, comparing to the capital.

2) Data on number of enterprises by regions are available at:

<http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=en&ind=INT101O>

Table 2

**Spearman rank correlations between share values\***

Year	Output-Physical capital	Output-Human capital	Physical capital-Human capital
1995	-	0.937	-
1996	-	0.925	-
1997	0.930	0.934	0.895
1998	0.921	0.901	0.886
1999	0.925	0.879	0.873
2000	0.930	0.881	0.874
2001	0.927	0.896	0.892
2002	0.947	0.917	0.904
2003	0.939	0.912	0.894
2004	0.952	0.922	0.905
2005	0.950	0.911	0.900
2006	0.944	0.910	0.914
2007	0.951	0.917	0.915
2008	0.955	0.933	0.922
2009	0.955	0.922	0.914
2010	0.954	0.911	0.910
2011	0.952	0.905	0.909
2012	0.951	0.909	0.907
2013	0.953	0.924	0.916
2014	0.962	0.932	0.917
2015	-	-	0.920
*Correlation coefficients are significant from the null-hypothesis at the level 0.01.			
"-": data are not available			
Source: own calculations			

There is an evident general increasing tendency for all Spearman correlation coefficients within the analyzed period. This means that the proportion of the investigated regions is characterized by smaller differences. These results confirm the “weaker” form of the equal-share relationship. The increase of the correlation coefficients may indicate that the equalization of marginal returns between regions becomes more perfect.

*Spatial distribution of economic activity*

The Appendix (tables from A1 to A4) describes the evolution of output and employment shares distribution and their rankings for the NUTS 3 and NUTS 2 Romanian regions. In particular, Tables A1 and A2 show the ranking and output share value for the 42 counties and 8 development regions in 1995, 2001, 2006, 2010 and 2014, along with the changes in rank and share values between these years. Tables A3 and A4 show the ranking and employment share value for the similar regions and years.

Table A1 shows that Bucharest has constantly increased its share of production during 1995-2010. This share has increased by 10.61% between 1995 and 2014. Besides Bucharest, the shares of Ilfov (1.05), Cluj (0.97), Constanta (0.93), Timis (0.92) and Prahova (0.61) have increased the most. If Cluj, Constanta, Prahova and Timis counties were earlier among the leaders in terms of output, Ilfov made an abrupt “jump” in the ranking (+21) due to its location near the capital city. The growth of county-leader’s shares of the regional GDP occurred by

reducing the shares of 30 (1995-2001), 21 (2001-2006), 29 (2006-2010) and 31 counties (2010-2014). Among the counties that have significantly reduced their position in the ranking are Vrancea (-10), Neamt (-8), Galati (-6) and Ialomita (-7), Teleorman (-6). At the same time, there was also a reduction of the share output of these counties: Vrancea (-0.78), Neamt (-0.9), Galati (-1.18), Ialomita (-0.72), Teleorman (-0.71).

Table A2 also shows a steady increase of the capital region: the output share of Bucharest-Ifov increased by 11.67 and this is only one positive change for the analyzed period. The other development regions decreased their shares of production. It is interesting that during 2010-2014, the shares of the four regions have increased, but during the whole period (1995-2014) only one maintained the ascending path.

If we consider the distribution of employment ranking and shares (Tables A3 and A4), the leading positions are occupied by the same counties, plus Bihor. The growth of the county-leaders by employment was due to the reduction of the shares of 19 counties between 1995 and 2001, 32 counties between 2001 and 2006, 27 counties between 2006 and 2010 and 26 counties between 2010 and 2014. The counties which reduced their position in the ranking were Galati (rank: -6; share value: -0.65), Hunedoara (rank: -6; share value: -0.6), Gorj (rank: -6; share value: -0.38). For example, Hunedoara and Gorj lost some important economic activities, being specialized in mining, and it became the main reason of such reduction. Table 4 shows a much more uniform distribution of employment shares between regions, but also one can see a growth of concentration of employment in the Bucharest-Ifov region. The dramatic growth of the capital region's share occurred during the 2001-2006 period, while the production share had increased before, namely between 1995 and 2001. This indicates that initially there were higher economic activities and a labor deficit has been created, which was later covered by the moving employees from other regions (for the same period, 32 counties decreased their share, and only 10 increased it). Another reason of huge concentration of economic activities in the Romanian capital is that the public sector in this country is important and almost all government agencies are located in the capital city. So, it is more appropriate to run business in the capital. As a result, the capital region concentrates 14.35% of the civil economically active population and 26.78% of the regional gross domestic product in 2014.

We can note that the trend towards the concentration of economic activity in the capital is a common feature for the transition countries (and not only). According to Eurostat, in a majority of the multi-regional EU Member States, capital city regions were generally those with the highest average GDP per capita; the only exceptions to this rule were Germany, Italy and the Netherlands. The capital city regions of Bulgaria, the Czech Republic, Denmark, Ireland, France, Croatia, Portugal, Slovenia, Slovakia and Sweden were the only regions from each of these EU Member States where GDP per capita was higher than the national average in 2014. Also, Romania is characterized by considerable differences in the levels of GDP per capita between the regions of the same country (with the United Kingdom, France and Slovakia) (Eurostat 2016).

The capital agglomeration grows significantly faster than the other regions. One can assume that the capital in a transition economy plays the role of "region-gate" through which the country gets new knowledge, technologies and investments. Bucharest-Ifov is the most development region, with a labor force predominantly specialized in services and constructions, the highest employment rate and a significant contribution of the younger and higher educated persons (Dachin and Popa 2011). This is a positive effect from the growth of capital. The negative side is the abrupt growth of the capital region, which causes the deepening of regional disparities (Antonescu 2012).

It is worth noting the growth of regional disparities within the development regions. The Western region takes the 7<sup>th</sup> position by the output share during the study period (Table A2). At

the same time, the counties' shares which are included in this region vary in opposite directions. Only Timis increased by 0.92 (rank -1), but other counties reduced their share: Caras-Severin by 0.24 (rank +6), Arad by 0.13 (rank +3) and Hunedoara by 0.65 (rank -5). The same trajectory is observed in the South-Muntenia region: Prahova increased by 0.61 (rank -1) and Giurgiu by 0.01 (rank +6), while other counties reduced their share: Arges by 0.55 (rank did not change), Dambovita by 0.44 (rank did not change), Teleorman by 0.71 (rank -6), Ialomita by 0.72 (rank -7) and Calarasi by 0.41 (rank -3). The South-Muntenia region takes the 2<sup>nd</sup> position during the analyzed period (Table A2).

Tables A1 to A4 allow making some considerations about the direction of spatial distribution of economic activity in Romania. The data indicate the growth of output and employment shares of the capital and the counties from the Western and Central regions. In return, counties from Eastern regions (North-East and South-East) have decreased their share values. Constanta is the exception because its employment share value has increased over the period. This county has a competitive advantage due to the main Romanian seaport which is located here. The situation of Constanta proves the correctness of McCord and Sachs's argumentation (2013: 6): "an economy's physical access to sea-based ports is crucial for economic development".

These trends allow ascertain about evidence of forming clear leading counties within the Romanian development regions. This conclusion can be confirmed by the share of the county in the regional gross product of the region (Table 3).

Table 3 shows that there are a few counties in each development region with a GDP share much larger than others. Moreover, each region has several leaders, except of the capital region. The capital is the indisputable leader, as it was emphasized in the separate development region. Noteworthy trends are being observed in the changing of shares. Counties-leaders' share in each development region are changing in different directions. For example, in the Nord-Western region, the share of Cluj has increased, but Bihor's share has decreased; in the Centre region the shares of Brasov and Sibiu have increased, but the share of Mures has decreased etc. The South-Western Oltenia is the exception because both leaders' shares have increased.

This means that the economic activity in the first, second and fourth macro regions grows slower (the macro region's GDP share value in total GDP has decreased from 24.2% in 1995 to 22.4% in 2014, for the first; from 26.8% in 1995 to 21.3% in 2014, for the second, and from 18.4% in 1995 to 16.4% in 2014, for the fourth). At the same time, the GDP share value of macro region 3 (including the capital) has increased from 30.3% (1995) to 39.8 (2014).

In order to confirm these tendencies, we have grouped the counties with the biggest share, and we have calculated their regional product and some ratios (Fig. 1). The Ialomita and Calarasi counties were included in the Eastern group due to their geographical proximity to the South-East development region.

Figure 1 shows that the Western and Central counties' GDP has increased faster than the Eastern one. The growing role of the regional economy in Western and Central districts is shown from the ratios between the corresponding groups. In 1995, the Eastern and Western groups' GDP was almost equal, but in 2007 the ratio was 1.44. Moreover, after this year this disparity has been decreased. So, the economy of Western Romania makes a greater impact on the national economy than the Eastern part of the country. We can see the same situation with Western-Central / Eastern Ratio which increased even faster. This phenomenon was predicted by Resmini (2003), who tried to understand what type of regions would gain and what type of regions would lose from the EU enlargement processes. She claimed that "proximity to the EU has stimulated a catching up process which has contributed to overcome the disadvantage of being located in a peripheral position with respect to capital cities" (Resmini 2003: 219).

Table 3

## Counties with the biggest GDP shares

Development region	County-leader (s)	Share in development region's GDP, %										
		1995	2000	2004	2006	2007	2008	2010	2011	2012	2013	2014
North-West	Cluj	29.3	33.3	33.1	33.5	35.8	35.2	36	37.4	38.1	38.7	38.9
	Bihor	23.6	23.2	24.3	24	23.1	22.7	22.3	20.8	19.5	19.5	19.9
Center	Brasov	27.5	27.9	27.3	27.4	28.2	28.3	30.1	29.6	29.9	30.1	30.1
	Mures	21.5	21.8	21.7	20.7	19.5	19.5	18.4	18.5	19.5	19.3	19.7
	Sibiu	16	16.7	18	19.4	18.9	19.8	19.6	19.7	19.5	19.4	19
North-East	Iasi	24.3	25.6	25.4	26.4	27	27.6	29	28.9	28.6	30.1	30.7
	Bacau	22.4	22	22.8	22.1	21.4	21.8	21.7	20.5	20.5	19.1	19.1
South-East	Constanta	31.3	36.5	35.6	38.4	36.7	35.7	37.4	37.3	41.2	42.8	45.1
	Galati	23.2	20.6	20.3	18.5	19.2	19.6	19.5	19.1	17.5	17	16.8
South-Muntenia	Prahova	28.1	30.2	28.2	30.8	30.6	30.6	27.6	29.8	30.2	33.6	37.6
	Arges	21.2	23.4	24.8	27.1	26.9	26.1	25	23.9	22.2	21.7	20.6
Bucharest-Ilfov	Bucharest	90	92.6	90.1	89.1	90.2	90.4	90.5	90.4	88.8	90	90.4
South-West Oltenia	Dolj	28.8	28.9	30.6	31	31.3	33.3	32.1	32.1	32.1	32.6	34.3
	Gorj	19.2	21.2	21.3	21	21.8	20	23	23	22.7	22.6	20.6
West	Timis	38.1	39.2	40.7	43.8	44.1	47.7	48.3	49	46.5	49	48.5
	Arad	23.7	24.6	24.2	23.6	22.2	21.5	21.7	22.3	22.4	22.7	22.5

Source: own calculations based on data from the National Institute of Statistics

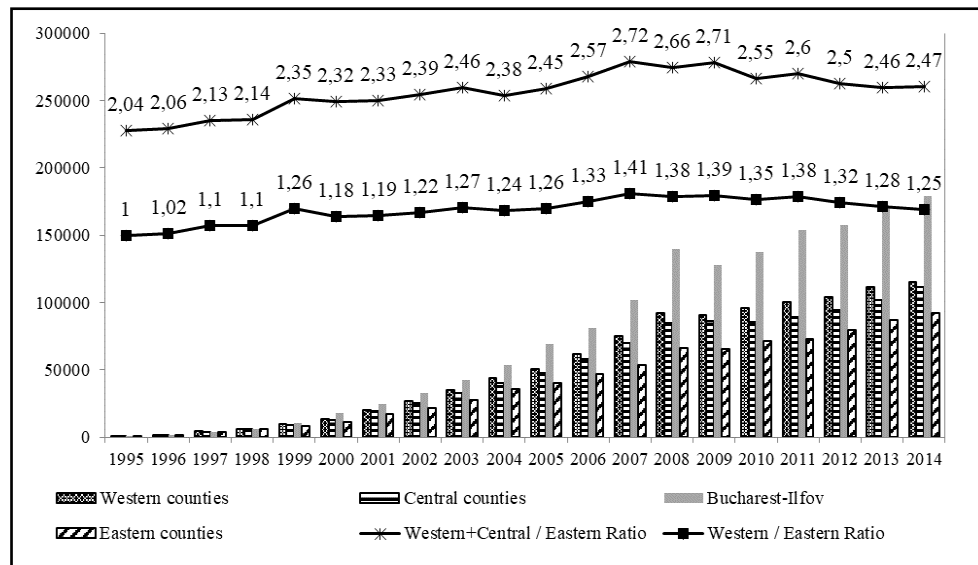


Fig. 1 – Regional GDP of different groups of counties

Source: own calculations based on data from National Institute of Statistics

The previous material can be summarized as follows. The economic activity in Romania has a clear tendency to concentrate in several leading counties. They attract production factors from other counties, so leaders' share increases and other counties' share reduces in the meantime. The proof of this statement is that the number of districts which have increased their share in the total GDP and employment is smaller than the number of districts which have reduced their share. This concentration leads to the fact that some counties are growing at the expense of others, thereby increasing regional disparities. In addition, the economic activity "shifts" from East to the West (Cluj,

Timis, Arad, Dolj, Gorj), the Centre (Brasov, Sibiu) and the capital region (Bucharest-Ilfov). Among the Eastern counties, only Constanta and Iasi occupy a dominant position.

*Measures of internal economic integration*

For estimating the level of economic integration between the Romanian regions, we further need an index for measuring the distance between the distribution of the actual and theoretical specific weights. Since the Kullback-Leibler divergence (KLD) is used to measure the difference between two probability distributions (Kullback and Leibler 1951), we can similarly use KLD to measure the distance between the actual and the theoretical share distributions:

$$KLD(\bar{S} : S_t) = \frac{1}{3} \sum_{j=Y,K,L} \left( \sum_{m=1}^M \bar{S}_{mj} \ln \left( \frac{\bar{S}_{mj}}{S_{mjt}} \right) \right) \quad (1)$$

where  $S_{mjt}$  – observed proportion at the time, and  $\bar{S}_{mj}$  – independent of time the theoretical part.

The values of KLD range between zero and infinity. It is equal to zero (which is interpreted as the full integration) when the proportions are pair-wise equal, i.e.  $\bar{S}_{mj} = S_{mjt}$  as of the date  $t$  and for all  $m$  and  $j$ . Otherwise, the detected deviations indicate how far the group of investigated regions is from the complete integration. According to Bowen et al. (2010: 403), the formalization of equation (1) has one drawback: "...it is not symmetric, in the sense that a deviation between an actual and theoretical share can be negative or positive". Therefore, you cannot tell if a zero value of KLD arise due to equidistant shares around a common mean or due to a zero distance between shares. Thus, as in Bowen et al. (2010), the symmetrical version of Kullback-Leibler divergence (SKLD) is preferred:

$$SKLD(\bar{S} : S_t) = \frac{1}{3} \sum_{j=Y,K,L} \left( \sum_{m=1}^M (\bar{S}_{mj} - S_{mjt}) \ln \left( \frac{\bar{S}_{mj}}{S_{mjt}} \right) \right) \quad (2)$$

The SKLD values are usually higher for the respective KLD, since all deviations between the actual and the theoretical shares in the index SKLD are positive (Bowen et al. 2010). Since the parameters (1) and (2) show the extent of divergence, we consider appropriate to calculate the inverse indicators to obtain the integration level, the inverse of the KLD and SKLD being marked as I-KLD and I-SKLD respectively. To better compare the dynamics and the level of integration between the different types of regions for the period, we have graphically represented the value of the I-SKLD in Figure 2.

The results show that the level of economic integration between the regions in Romania has gradually increased since 1997, despite some changes in the direction of reduction. The deterioration of the economic environment in 2009-2010 obviously led to unequal changes in the specific weights of output and production factors of the regions in total, and thus they increased the discrepancy between the theoretical and the actual distribution of shares.

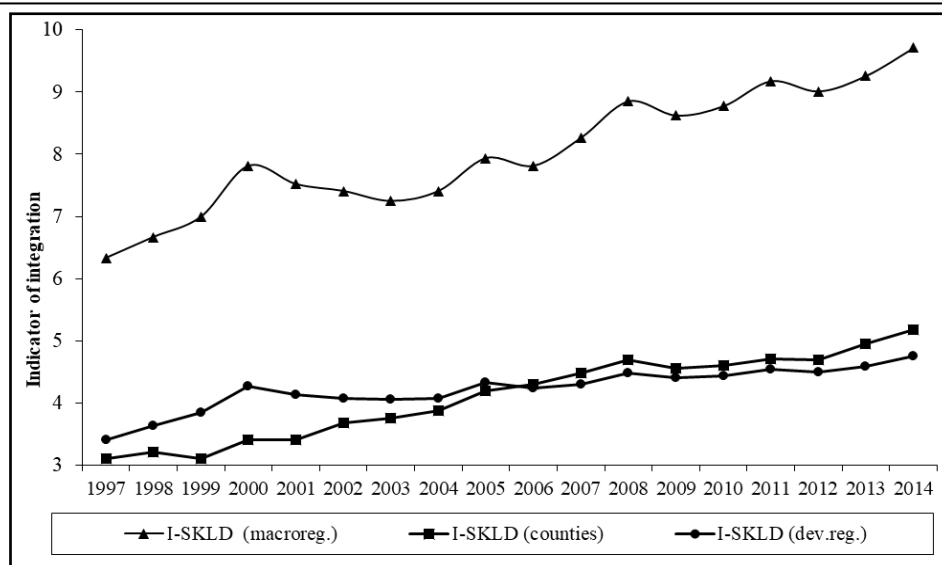


Fig. 2 – Level of interregional integration in Romania  
Source: own calculations

We have obtained interesting results regarding the level of integration between the NUTS 3 regions. From the start of the period, the differences between the indicators of integration for the counties and the development regions were higher, but, from 2000, they have decreased. During 2004-2012, the level of integration for the counties and the development regions was almost the same. And then, the differences also became higher. This finding means that the development regions in Romania respect correct economic tendencies. So, a big difference between I-SKLD for NUTS 2 and NUTS 3 shows that carrying out regional research only for macro regions is not enough. It is necessary to pay attention to the lower level of regions in order to avoid the impact of aggregation data.

#### Internal integration and localization of economic activities

From Tables A1-A4, we can see that only a few counties' shares are growing constantly, while the share of the absolute majority reduced. We have compared the share of county-leaders (Table 3) with the level of specialization of these counties. In order to evaluate the spatial specialization of each sector by NUTS 3, we computed the location coefficient. The location quotient (LQ) is the most commonly used measure of specialization (Billings and Johnson 2012). The conventional LQ is a measure of an industry's presence in a particular location compared to the general spatial distribution of the economic activity. For a given industry, the LQ is calculated as the ratio of its share of total employment in a sub-region relative to that industry's share of total employment in the broader region. The results of the calculations are presented in Table 4 (2008) and Table 5 (2014). The coefficients greater than one are bold selected, and this indicates the specialization of the region in a particular sector.

Based on the data from Tables 4 and 5, we observe that the counties with the biggest shares in the total GDP are characterized by a higher level of specialization simultaneously in many sectors. For instance, Constanta (the share increased from 3.68 in 2008 to 5.07 in 2014) has a strong level of specialization in such sectors: Electricity, gas, steam and air conditioning production and supply; Water supply; sewerage, waste management and decontamination

activities; Construction; Transport and storage; Hotels and restaurants. At the same time, Timis concentrates a higher level of employment in the sectors: Manufacturing; Information and communication; Real estate activities; Other activities of the national economy. One needs to pay attention to the capital, Bucharest, which concentrates nearly a quarter of the total national GDP.

Tables 4 and 5 show the increase of the capital position, Bucharest, which has the biggest GRP share and is the clear leader of ranking during the analyzed period. The capital metropolis specializes almost in all sectors, except Agriculture, forestry and fishing and Industry. That means a high level of diversification of the city economy. The location quotients with a value greater than 2 indicate that Bucharest concentrates almost all the activity in these sectors: Information and communication; Financial intermediation and insurance; Professional, scientific and technical activities; Activities of administrative services and of support services; Shows, culture and recreation activities. In this case, it is possible to use further methods for determining the future dynamics of the economic activities (Vykylyuk et al. 2016).

In 2014, compared with 2008, there are the following trends. In 2008, Bucharest had the highest coefficients of localization (more than 3) in such areas as: Information and communication (4.36); Financial intermediation and insurance (3.2); Shows, culture and recreation activities (3.54); Activities of administrative services and of support services (3.01). The level of localization has significantly decreased in three areas from the four mentioned above: Information and communication (3.36); Financial Shows, culture and recreation activities (2.01); Activities of administrative services and of support services (2.5). At the same time, the coefficients of localization in some counties increased. This fact may be an indication of the economic activities diversification in the regions as well as an evidence of the establishment of other business centers in the country, specialized in certain types of economic activity. However, the capital city has not lost its position in the share of GDP, even though some regions have also increased. This was due to a slight increase in the coefficients of localization by other types of economic activity. The domination of the capital is peculiar not only for Romania but also for other post-Soviet countries. This is explained by the fact that the capital city is the largest city in the country and it represents the national industrial, scientific and cultural center. It also attracts the localization of central offices of large companies. Another reason is that most companies registered in Bucharest have subsidiaries in the other regions, and they report and pay taxes at the place of registration, i.e. in the capital city.

Also we point out that the sector 'Agriculture, forestry and fishing' has almost the same localization level in both years compared, while the sector 'Industry' is characterized by essential changes. Industry became more localized in: Bihor, Brasov, Arges, Timis and Arad (Manufacturing); Mures, Sibiu and Gorj (Mining and quarrying). The last one has huge LQ values in the areas: 'Mining and quarrying' (12.23), 'Electricity, gas, steam and air conditioning production and supply' (5.12) and 'Water supply; sewerage, waste management and decontamination activities' (1.35), in 2014. Counties which are specialized in Construction are the same although the value of the localization quotient has changed.

The sector 'Wholesale and retail; repair of motor vehicles and motorcycles' has also become more concentrated in 2014 (6 counties) than in 2008 (9 counties). It means that large entities are more common in this type of business and more efficient. And such structures, as usual, are located in particular places. As we can see, the number of these places has declined.

Some changes have occurred also in the localization of service activities. For instance, 'Information and communication', in 2008, was very localized: it was located in Bucharest (LQ = 4,36), Timis (LQ = 1,81) and Cluj (LQ = 1,13) only. During the analyzed period, this activity disseminated from certain centers to other counties: Brasov (LQ = 1,27) and Iasi (LQ = 1,11), in 2014. We think that the main

Table 4

## Counties and their LQ in 2008

Source: own calculations

Development region	County-leader(s)	Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning production and supply	Water supply; sewerage, waste management and decontamination activities	Construction	Wholesale and retail trade; repair of motor vehicles and motorcycles	Hotels and restaurants	Information and communication	Financial and insurance activities	Real estate activities	Professional, scientific and technical activities	Activities of administrative and support services	Public administration and defence; social insurance of public sector	Education	Health and social assistance	Shows, culture and recreation activities	Other activities in the national economy	County output share in the total GDP (%)
North-West	Cluj	0.79	1.00	0.42	1.04	0.80	1.12	1.17	1.08	1.13	1.30	1.00	1.17	0.81	0.63	1.25	1.22	1.26	1.17	3.98
	Bihor	1.12	1.12	0.90	1.18	0.93	0.76	1.02	0.99	0.51	0.65	0.81	0.92	0.41	0.74	1.00	1.10	0.41	0.47	2.57
Center	Brasov	0.47	1.20	0.40	1.25	1.07	1.12	1.28	1.21	0.89	0.91	1.32	1.06	0.98	0.88	1.17	0.90	0.76	0.94	3.14
	Mures	1.05	1.14	1.36	1.16	1.04	0.87	0.94	1.09	1.42	0.82	0.47	0.60	0.48	0.77	1.08	1.17	1.01	1.07	2.16
North-East	Sibiu	0.55	1.45	1.31	1.52	0.83	0.94	1.09	1.21	0.70	1.16	0.72	0.61	1.21	0.73	1.09	1.00	0.70	1.25	2.19
	Iasi	1.14	0.81	0.04	0.81	1.01	1.10	0.90	0.80	0.68	0.79	1.20	0.84	0.84	0.83	1.44	1.43	0.80	0.86	2.92
South-East	Bacau	1.07	0.99	1.92	0.93	1.20	1.34	0.96	0.79	0.45	0.70	0.83	0.47	0.72	0.89	1.18	1.10	0.66	1.04	2.31
	Constanta	0.74	0.86	0.70	0.77	1.49	1.46	1.11	1.96	0.56	0.87	1.03	0.67	1.36	0.90	0.84	0.89	1.09	1.43	3.68
South-Muntenia	Galati	1.04	1.01	0.31	1.01	1.50	1.13	0.91	1.12	0.61	0.80	0.81	0.79	0.98	1.00	1.06	0.97	0.61	1.06	2.02
	Prahova	0.77	1.33	2.35	1.33	0.92	1.19	0.95	1.16	0.62	0.64	1.11	1.10	0.83	0.84	0.81	0.97	0.60	0.74	3.78
Bucharest-Ifov	Arges	0.98	1.34	1.05	1.40	1.17	1.06	0.84	0.81	0.29	0.76	0.73	0.99	0.72	0.90	0.97	0.75	0.55	0.79	3.23
	Bucharest	0.01	0.66	0.24	0.63	1.18	1.75	1.43	1.25	4.36	3.20	2.24	2.95	3.01	1.41	1.03	1.03	3.54	1.86	24.1
South-West Oltenia	Dolj	1.41	0.79	0.66	0.77	1.35	0.83	1.01	0.77	0.50	0.65	0.61	0.55	0.64	0.99	1.03	1.02	0.46	0.63	2.59
	Gorj	1.01	1.23	12.03	0.61	3.38	1.08	1.25	0.70	0.79	0.81	0.29	0.59	1.50	1.14	1.03	1.00	0.40	0.42	1.55
West	Timis	0.78	1.24	0.42	1.33	0.80	0.86	1.05	0.99	1.81	0.76	1.17	0.93	0.77	0.65	1.04	1.10	1.09	1.46	4.74
	Arad	0.81	1.41	0.62	1.52	0.77	0.86	1.11	1.13	0.48	0.75	1.16	0.79	0.52	0.88	0.87	0.87	0.54	1.29	2.13

Table 5

Counties and their LQ in 2014

Source: own calculations

Development region	County-leader (s)	Agriculture and forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning production and supply	Water supply; sewerage, waste management and construction	Wholesale and retail trade; repair of motor vehicles and motorcycles	Transport and storage	Information and communication	Financial intermediation and insurance	Professional, scientific and technical activities	Activities of administrative services and support services	Public administration and defense; social security and public services	Health and social assistance	Shows culture and recreation activities	Other activities of national economy	County output share in the total GDP (%)
North-West	Cluj	0.72	0.97	0.99	0.83	1.05	1.09	1.21	1.11	1.21	0.98	1.17	0.69	1.24	1.22	0.98	4.46
	Bihor	1.13	1.22	1.27	0.98	0.78	0.94	1.06	1.07	0.56	0.54	0.63	0.74	1.03	0.87	0.82	2.29
	Brasov	0.44	1.27	1.32	0.99	1.08	1.30	1.11	1.14	1.99	1.39	1.03	0.90	0.97	1.24	0.76	3.30
Center	Mures	1.05	1.13	1.13	0.94	0.85	1.02	1.04	1.06	0.58	0.81	0.72	0.80	1.10	1.13	1.05	2.16
	Sibiu	0.52	1.56	1.64	0.65	0.96	0.93	1.19	1.26	0.96	0.64	0.99	0.74	1.02	1.08	1.24	2.08
	Iasi	1.14	0.75	0.75	0.55	1.12	1.11	0.90	0.76	0.91	1.11	1.32	0.88	1.49	1.54	0.97	3.08
North-East	Bacau	1.13	0.90	0.88	0.68	1.02	1.00	0.72	0.62	0.33	0.89	0.73	0.94	1.27	1.09	1.02	1.92
	Constanta	0.77	0.80	0.71	1.94	1.44	1.15	1.82	1.57	0.83	0.76	1.19	0.92	0.85	1.01	1.28	5.07
	Galati	1.14	0.85	0.82	1.51	1.21	1.16	0.92	0.93	1.01	0.72	1.09	1.05	1.20	1.01	1.14	1.89
South-East	Prahova	0.76	1.29	1.29	1.12	1.09	0.99	1.12	0.93	0.68	0.58	1.01	0.92	0.80	0.98	0.78	4.88
	Arges	0.97	1.41	1.47	0.93	0.98	1.00	0.81	0.96	0.67	0.86	0.67	0.83	0.91	0.92	0.91	2.68
	Bucharest-Ilfov	0.01	0.59	0.54	1.39	0.96	1.64	1.29	1.08	1.45	3.38	2.50	1.53	0.92	2.01	1.75	24.21
South-West Oltenia	Dolj	1.48	0.72	0.68	1.70	0.90	0.98	0.81	0.77	0.59	0.62	0.71	1.00	1.12	1.11	0.68	2.48
	Gorj	1.03	1.09	0.54	5.12	1.35	1.54	0.85	0.89	0.21	0.58	0.86	1.22	1.18	0.98	0.41	1.49
	Timis	0.73	1.34	1.44	0.75	0.81	0.67	0.99	1.00	0.94	1.51	1.04	0.75	1.00	1.13	1.42	4.46
West	Arad	0.78	1.55	1.68	0.72	0.85	1.02	1.15	0.86	0.36	0.86	0.77	0.80	0.81	0.77	1.18	2.07

reason of this fact is the high level of competitiveness between the information and communication firms in Bucharest, Timis and Cluj. As well, we should take attention to the 'Education' activity. It has become more localized in 2014 (LQ > 1 have 9 counties) than in 2008 (LQ > 1 have 11 counties). It is noteworthy that almost all certain county-leaders in the education sector (Cluj, Mures, Sibiu, Iasi, Bacau, Galati, Dolj and Gorj) have increased their specialization.

### Conclusions

This paper aims to consider two tendencies in the economy: the internal integration within the country and the localization of economic activities. We discuss the relationship between the spatial distribution of the economic activity and the integration between the regions of a particular country. In our opinion, the interregional integration within the country intensifies the territorial division of labor and specialization, and the growth of specialization, and, in turn, it strengthens the concentration of activities in certain places. And, as a result of the integration processes, cooperation intensifies, which enhances the development of integration processes. We investigated the spatial interactions within a particular country. In our case, the integrated economic space is the national economy of Romania and its units – macro regions, developed regions and counties. We have discussed the connection between the international and interregional (internal) integration. The reorientation of economic relations from the regions of the country to the foreign trade is an additional factor of reduction for the intra-regional interaction, which hinders the development of territorial labor division, as a result space as if "shrinking". The smaller the size of the necessary for economic activity space, the slower the economic development is being realized, which is further slowing the economic growth.

We have empirically tested three theoretical propositions as regards to the distribution of output and factors of the Romanian economy. The results strongly support the theoretical predictions of an equal-share relationship for the Romanian counties. The calculation of the Spearman rank correlation showed a significant connection between the presence of specific weights of regions in the total output and production factors.

The prediction that the distribution of output and factor shares across counties conforms to a rank-share distribution exhibits the Zipf's law. Also, for the most recent data, the measure of the extent of integration indicated that the level of economic integration between the regions in Romania is gradually increasing. We find a big difference between the NUTS 2 and NUTS 3 interregional integration; therefore it is necessary to investigate regional development on the lower regional level. Also, the small differences between the indicators of integration for the counties and development regions mean that the development regions in Romania represent a correct economic activity. The increase of the integration indicator between the Romanian NUTS 2 and NUTS 3 regions suggests that the effectiveness in the reallocation of resources within the country also increases.

The spatial distribution of the economic activity shows a big concentration of activity in the capital region (Bucharest-Ilfov), but this is a common tendency for the transition countries. The capital metropolis specializes in almost all sectors, except for Agriculture, forestry and fishing and Industry. That means a high level of diversification for the city economy. There are several county-leaders also. These counties attract production factors from other counties, so the leader's share increases, while the other counties' share reduces in the meantime. The analysis of output and factor shares of the Romanian counties during 1995-2014 concludes that the economic activity in Romania grew faster in the Western and Central regions and slower in the Eastern regions.

We can point out that, for the analyzed period, the level of integration of the national economy of Romania has increased, and, at the same time, the specialization level of the leading

counties by the share in the total GRP has also increased. However, these trends have caused a rising inequality in the distribution of the economic activity.

Appendix

Table A1

Distribution and rank of Romanian counties' output shares during 1995-2014

County*	Share Rank (1 =largest share)					Change***				
	1995	2001	2006	2010	2014	1995-2001	2001-2006	2006-2010	2010-2014	1995-2014
	Bucharest	1	1	1	1	1	0	0	0	0
Prahova	2	5	5	5	3	-3	0	0	2	-1
Constanta	3	2	3	4	2	1	-1	-1	2	1
Timis	4	4	2	2	5	0	2	0	-3	-1
Cluj	5	3	4	3	4	2	-1	1	-1	1
Brasov	6	6	7	6	6	0	-1	1	0	0
Iasi	7	7	8	8	7	0	-1	0	1	0
Arges	8	8	6	7	8	0	2	-1	-1	0
Galati	9	13	16	15	16	-4	-3	1	-1	-7
Bacau	10	11	12	12	15	-1	-1	0	-3	-5
Bihor	11	10	9	10	11	1	1	-1	-1	0
Mures	12	9	14	16	12	3	-5	-2	4	0
Dolj	13	12	11	9	10	1	1	2	-1	3
Suceava	14	15	17	18	17	-1	-2	-1	1	-3
Hunedoara	15	16	18	20	20	-1	-2	-2	0	-5
Neamt	16	19	24	25	24	-3	-5	-1	1	-8
Arad	17	14	13	14	14	3	1	-1	0	3
Dambovita	18	21	19	17	18	-3	2	2	-1	0
Sibiu	19	17	15	13	13	2	2	2	0	6
Valcea	20	22	22	24	25	-2	0	-2	-1	-5
Maramures	21	25	21	22	21	-4	4	-1	1	0
Buzau	22	24	25	23	23	-2	-1	2	0	-1
Vrancea	22	32	31	31	32	-10	1	0	-1	-10
Gorj	24	18	20	19	22	6	-2	1	-3	2
Olt	25	23	26	26	26	2	-3	0	0	-1
Alba	26	26	23	21	19	0	3	2	2	7
Teleorman	27	27	33	33	33	0	-6	0	0	-6
Ialomita	28	35	36	37	35	-7	-1	-1	2	-7
Satu Mare	29	28	27	28	27	1	1	-1	1	2
Ilfov	30	20	10	11	9	10	10	-1	2	21
Braila	31	29	28	29	28	2	1	-1	1	3
Harghita	32	31	29	30	29	1	2	-1	1	3
Botosani	33	33	34	34	34	0	-1	0	0	-1
Vaslui	34	37	35	38	37	-3	2	-3	1	-3
Calarasi	35	38	41	35	38	-3	-3	6	-3	-3
Caras-Severin	36	30	30	27	30	6	0	3	-3	6
Bistrita-Nasaud	37	36	32	32	31	1	4	0	1	6
Covasna	38	39	40	42	42	-1	-1	-2	0	-4
Mehedinti	38	34	37	41	41	4	-3	-4	0	-3
Salaj	40	41	38	39	39	-1	3	-1	0	1
Tulcea	41	40	39	40	40	1	1	-1	0	1
Giurgiu	42	42	42	36	36	0	0	6	0	6

Appendix Table A1  
**Distribution and rank of Romanian counties' output shares during 1995-2014**

County <sup>a</sup>	Share Value <sup>**</sup>					Change <sup>****</sup>				
	1995	2001	2006	2010	2014	1995-2001	2001-2006	2006-2010	2010-2014	1995-2014
	Bucharest	13.60	19.41	20.84	23.28	24.21	5.81	1.43	2.45	0.93
Prahova	4.27	3.72	3.91	3.46	4.88	-0.55	0.19	-0.45	1.42	0.61
Constanta	4.14	4.17	4.33	3.98	5.07	0.03	0.16	-0.35	1.09	0.93
Timis	3.54	3.79	4.42	4.86	4.46	0.25	0.63	0.44	-0.40	0.92
Cluj	3.49	3.83	3.97	4.06	4.46	0.34	0.14	0.09	0.40	0.97
Brasov	3.39	3.46	3.16	3.38	3.30	0.07	-0.30	0.23	-0.09	-0.09
Iasi	3.30	3.13	2.90	3.05	3.08	-0.17	-0.24	0.15	0.03	-0.22
Arges	3.23	2.98	3.44	3.13	2.68	-0.25	0.46	-0.31	-0.45	-0.55
Galati	3.07	2.47	2.08	2.07	1.89	-0.61	-0.38	-0.01	-0.18	-1.18
Bacau	3.04	2.65	2.43	2.28	1.92	-0.39	-0.22	-0.15	-0.36	-1.12
Bihor	2.81	2.75	2.85	2.52	2.29	-0.06	0.10	-0.33	-0.23	-0.52
Mures	2.65	2.75	2.38	2.06	2.16	0.10	-0.37	-0.32	0.10	-0.49
Dolj	2.64	2.59	2.53	2.55	2.48	-0.05	-0.06	0.02	-0.07	-0.16
Suceava	2.35	2.20	2.03	1.88	1.83	-0.15	-0.18	-0.15	-0.04	-0.52
Hunedoara	2.29	2.10	2.02	1.77	1.63	-0.19	-0.08	-0.25	-0.14	-0.65
Neamt	2.22	1.84	1.66	1.36	1.32	-0.39	-0.17	-0.30	-0.04	-0.90
Arad	2.20	2.33	2.38	2.19	2.07	0.12	0.06	-0.20	-0.12	-0.13
Dambovita	2.18	1.75	1.83	1.94	1.74	-0.43	0.08	0.11	-0.21	-0.44
Sibiu	1.97	2.06	2.24	2.20	2.08	0.10	0.18	-0.04	-0.12	0.12
Valcea	1.90	1.70	1.67	1.41	1.29	-0.21	-0.03	-0.26	-0.12	-0.62
Maramures	1.87	1.57	1.68	1.60	1.63	-0.30	0.11	-0.08	0.03	-0.24
Buzau	1.79	1.66	1.53	1.47	1.41	-0.13	-0.13	-0.06	-0.06	-0.37
Vrancea	1.79	1.23	1.18	1.08	1.01	-0.56	-0.05	-0.10	-0.07	-0.78
Gorj	1.76	1.92	1.71	1.83	1.49	0.16	-0.21	0.12	-0.33	-0.26
Olt	1.76	1.69	1.32	1.34	1.27	-0.07	-0.37	0.03	-0.08	-0.49
Alba	1.73	1.54	1.66	1.75	1.65	-0.19	0.12	0.09	-0.10	-0.08
Teleorman	1.71	1.50	1.09	1.05	1.00	-0.21	-0.42	-0.03	-0.05	-0.71
Ialomita	1.64	1.07	0.94	0.92	0.92	-0.57	-0.13	-0.02	0.01	-0.72
Satu Mare	1.53	1.50	1.29	1.18	1.21	-0.03	-0.20	-0.11	0.04	-0.32
Ifov	1.52	1.75	2.54	2.45	2.57	0.24	0.79	-0.09	0.11	1.05
Braila	1.50	1.34	1.28	1.17	1.10	-0.16	-0.06	-0.11	-0.07	-0.40
Harghita	1.47	1.25	1.27	1.11	1.06	-0.23	0.03	-0.16	-0.05	-0.41
Botosani	1.36	1.16	1.02	1.03	0.99	-0.20	-0.14	0.00	-0.03	-0.37
Vaslui	1.30	1.06	0.95	0.91	0.90	-0.24	-0.11	-0.04	-0.01	-0.40
Calarasi	1.28	1.00	0.79	1.02	0.88	-0.28	-0.21	0.23	-0.15	-0.41
Caras-Severin	1.27	1.32	1.26	1.25	1.02	0.05	-0.06	-0.01	-0.23	-0.24
Bistrita-Nasaud	1.20	1.07	1.17	1.07	1.02	-0.14	0.11	-0.10	-0.06	-0.19
Covasna	1.10	0.98	0.80	0.73	0.71	-0.12	-0.18	-0.08	-0.02	-0.40
Mehedinti	1.10	1.10	0.93	0.81	0.71	0.00	-0.17	-0.12	-0.10	-0.39
Salaj	1.02	0.85	0.90	0.85	0.86	-0.17	0.05	-0.06	0.01	-0.15
Tulcea	0.95	0.86	0.86	0.85	0.77	-0.10	0.00	-0.01	-0.08	-0.18
Giurgiu	0.90	0.85	0.71	0.99	0.90	-0.05	-0.15	0.29	-0.09	0.01

Table A2

**Distribution and rank of Romanian development regions' output shares during 1995-2014**

Region*	Share Rank (1 =largest share)										Share Value**									
	Change***										Change****									
	1995	2001	2006	2010	2014	1995-2001	2001-2006	2006-2010	2010-2014	1995-2014	1995	2001	2006	2010	2014	1995-2001	2001-2006	2006-2010	2010-2014	1995-2014
South - Muntenia	1	2	2	2	2	-1	0	0	0	-1	15.2	12.87	12.69	12.51	12.99	-2.33	-0.18	-0.18	0.48	-2.21
Bucharest - Ilfov	2	1	1	1	1	1	0	0	0	1	15.11	21.16	23.38	25.73	26.78	6.05	2.22	2.35	1.05	11.67
North - East	3	3	6	6	6	0	-3	0	0	-3	13.58	12.04	10.98	10.5	10.05	-1.54	-1.06	-0.48	-0.45	-3.53
South - East	4	5	5	5	4	-1	0	0	1	0	13.24	11.72	11.26	10.63	11.26	-1.52	-0.46	-0.63	0.63	-1.98
Center	5	3	4	4	5	2	-1	0	-1	0	12.3	12.04	11.51	11.23	10.96	-0.26	-0.53	-0.28	-0.27	-1.34
North - West	6	6	3	3	3	0	3	0	0	3	11.91	11.56	11.87	11.28	11.47	-0.35	0.31	-0.59	0.19	-0.44
West	7	7	7	7	7	0	0	0	0	0	9.29	9.53	10.09	10.06	9.18	0.24	0.56	-0.03	-0.88	-0.11
South - West Oltenia	8	8	8	8	8	0	0	0	0	0	9.15	9	8.15	7.94	7.23	-0.15	-0.85	-0.21	-0.71	-1.92

Table A3

**Distribution and rank of Romanian counties' employment shares during 1995-2014**

Region*	Share Rank (1 =largest share)										Change***			
											2006-2010			
	1995	2001	2006	2010	2014	1995-2001	2001-2006	2006-2010	2010-2014	1995-2014				
Bucharest	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Prahova	2	5	5	4	5	-3	0	1	-1	-3	0	-1	-1	-3
Iasi	3	2	4	6	6	1	-2	-2	0	-3	1	-2	0	-3
Cluj	4	4	3	2	2	0	1	1	0	2	1	0	0	2
Constanta	5	7	6	5	4	-2	1	1	1	1	1	1	1	1
Timis	6	6	2	3	3	0	4	-1	0	3	-1	0	0	3
Arges	7	10	9	9	9	-3	1	0	0	-2	0	0	0	-2
Dolj	8	3	7	7	7	5	-4	0	0	1	0	0	0	1
Suceava	9	8	10	10	11	1	-2	0	-1	-2	0	-1	-1	-2
Bacau	10	11	13	13	13	-1	-2	0	0	-3	0	0	0	-3
Galati	11	15	14	18	17	-4	1	-4	1	-6	-4	1	-6	-6
Mures	12	14	11	11	12	-2	3	0	-1	0	0	-1	0	0
Brasov	13	12	12	12	10	1	0	0	2	3	0	2	3	3
Hunedoara	14	18	19	19	20	-4	-1	0	-1	-6	0	-1	-6	-6
Neamt	15	13	17	17	18	2	-4	0	-1	-3	0	-1	-3	-3
Bihor	16	9	8	8	8	7	1	0	0	8	0	0	0	8
Maramures	17	16	18	16	15	1	-2	2	1	2	2	1	2	2
Dambovita	18	17	16	14	16	1	1	2	-2	2	2	-2	2	2
Arad	19	21	15	14	14	-2	6	1	0	5	1	0	5	5
Valcea	20	23	24	22	25	-3	-1	2	-3	-5	2	-3	-5	-5
Dit	21	20	23	23	22	1	-3	0	1	-1	0	1	-1	-1
Buzau	22	19	20	20	20	3	-1	0	0	2	0	0	2	2
Teleorman	23	22	25	25	26	1	-3	0	-1	-3	0	-1	-3	-3
Botosani	24	24	27	28	28	0	-3	-1	0	-4	-1	0	-4	-4
Gorj	25	28	29	31	31	-3	-1	-2	0	-6	-2	0	-6	-6
Alba	26	25	21	24	24	1	4	-3	0	2	-3	0	2	2
Vaslui	27	26	26	27	28	1	0	-1	-1	-1	0	-1	-1	-1
Sibiu	28	27	22	21	19	1	5	1	2	9	1	2	9	9
Vrancea	29	30	30	30	30	-1	0	0	0	-1	0	0	-1	-1
Satu Mare	30	29	28	29	27	1	1	-1	2	3	-1	2	3	3
Caras-Severin	31	32	35	35	35	-1	-3	0	0	-4	0	0	-4	-4
Braila	32	33	33	33	34	-1	0	0	-1	-2	0	-1	-2	-2
Harghita	33	31	32	32	32	2	-1	0	0	1	0	0	1	1
Bistrita-Nasaud	34	35	34	34	33	-1	1	0	1	1	0	1	1	1
Mehedinti	35	34	36	36	36	1	-2	0	0	-1	0	0	-1	-1
Calarasi	36	36	37	37	38	0	-1	0	-1	-2	0	-1	-2	-2
Ialomitia	37	37	38	39	38	0	-1	-1	1	-1	-1	1	-1	-1
Tulcea	38	41	40	42	42	-3	1	-2	0	-4	-2	0	-4	-4
Covasna	39	42	41	41	41	-3	1	0	0	-2	0	0	-2	-2
Salaj	40	39	39	38	37	1	0	1	1	3	1	1	3	3
Giurgiu	41	40	42	40	40	1	-2	2	0	1	2	0	1	1
Ilfov	42	38	31	26	23	4	7	5	3	19	5	3	19	19

Table A3

**Distribution and rank of Romanian counties' employment shares during 1995-2014**

Region <sup>a</sup>	Share Value <sup>ab</sup>									
						Change <sup>abcd</sup>				
	1995	2001	2006	2010	2014	1995-2001	2001-2006	2006-2010	2010-2014	1995-2014
Bucharest	7.91	8.21	11.35	12.03	12.41	0.30	3.14	0.68	0.38	4.50
Prahova	4.00	3.50	3.47	3.49	3.39	-0.50	-0.03	0.01	-0.09	-0.61
Iasi	3.74	3.72	3.49	3.41	3.31	-0.02	-0.23	-0.08	-0.10	-0.43
Cluj	3.31	3.51	3.65	3.80	3.97	0.20	0.15	0.15	0.17	0.68
Constanta	3.27	3.24	3.45	3.44	3.41	-0.03	0.21	-0.01	-0.03	0.14
Timis	3.18	3.31	3.71	3.68	3.83	0.13	0.40	-0.03	0.15	0.65
Arges	3.12	3.09	2.97	2.90	2.91	-0.04	-0.12	-0.07	0.01	-0.21
Dolj	3.12	3.52	3.23	3.30	3.19	0.41	-0.30	0.07	-0.11	0.07
Suceava	3.08	3.16	2.81	2.86	2.77	0.08	-0.35	0.05	-0.09	-0.31
Bacau	3.04	2.94	2.67	2.52	2.46	-0.11	-0.27	-0.15	-0.06	-0.58
Galati	2.92	2.70	2.45	2.28	2.27	-0.23	-0.25	-0.17	-0.01	-0.65
Mures	2.84	2.72	2.79	2.76	2.74	-0.12	0.07	-0.04	-0.01	-0.10
Brasov	2.82	2.80	2.76	2.73	2.82	-0.02	-0.04	-0.02	0.09	0.00
Hunedoara	2.73	2.41	2.30	2.17	2.13	-0.33	-0.10	-0.14	-0.04	-0.60
Neamt	2.71	2.77	2.31	2.30	2.22	0.06	-0.46	-0.01	-0.08	-0.45
Bihor	2.70	3.09	3.15	3.14	3.08	0.39	0.06	0.00	-0.06	0.38
Maramures	2.35	2.42	2.31	2.31	2.32	0.07	-0.11	0.00	0.01	-0.02
Dambovita	2.21	2.41	2.37	2.35	2.30	0.20	-0.04	-0.02	-0.05	0.05
Arad	2.20	2.18	2.37	2.35	2.45	-0.02	0.19	-0.02	0.10	0.25
Valcea	2.17	2.12	1.96	2.00	1.92	-0.05	-0.16	0.04	-0.08	-0.25
Olt	2.17	2.22	2.03	1.96	1.97	0.05	-0.19	-0.07	0.01	-0.20
Buzau	2.15	2.32	2.18	2.14	2.13	0.17	-0.15	-0.04	-0.01	-0.02
Ialeorman	2.07	2.16	1.93	1.90	1.90	0.09	-0.23	-0.02	0.00	-0.17
Botosani	2.01	2.08	1.79	1.72	1.71	0.07	-0.29	-0.07	-0.01	-0.30
Gorj	1.97	1.85	1.68	1.64	1.59	-0.12	-0.17	-0.04	-0.05	-0.38
Alba	1.93	2.05	2.06	1.94	1.93	0.12	0.01	-0.12	-0.01	0.00
Vaslui	1.93	2.03	1.82	1.74	1.71	0.10	-0.22	-0.07	-0.03	-0.22
Sibiu	1.91	1.95	2.03	2.07	2.15	0.04	0.08	0.04	0.08	0.24
Vrancea	1.86	1.74	1.66	1.71	1.65	-0.12	-0.08	0.04	-0.06	-0.21
Satu Mare	1.76	1.78	1.71	1.72	1.75	0.02	-0.06	0.00	0.03	-0.01
Caras-Severin	1.75	1.62	1.41	1.39	1.32	-0.13	-0.21	-0.02	-0.07	-0.43
Braila	1.63	1.56	1.51	1.50	1.45	-0.07	-0.05	-0.02	-0.05	-0.18
Harghita	1.61	1.63	1.56	1.61	1.56	0.02	-0.07	0.05	-0.05	-0.05
Bistrita-Nasaud	1.41	1.44	1.42	1.49	1.51	0.03	-0.02	0.07	0.02	0.10
Mehedinti	1.38	1.51	1.38	1.30	1.29	0.13	-0.13	-0.08	-0.01	-0.09
Calarasi	1.33	1.30	1.22	1.22	1.17	-0.04	-0.08	0.00	-0.05	-0.16
Ialomita	1.26	1.26	1.20	1.18	1.17	0.00	-0.06	-0.02	-0.01	-0.08
Gulcea	1.20	1.09	1.03	0.97	0.98	-0.11	-0.06	-0.06	0.01	-0.22
Covasna	1.17	1.03	1.03	1.00	1.00	-0.14	0.00	-0.03	0.00	-0.17
Salaj	1.14	1.22	1.19	1.18	1.20	0.08	-0.04	-0.01	0.02	0.06
Giurgiu	1.10	1.14	1.02	1.04	1.04	0.04	-0.12	0.01	0.01	-0.06
Ifov	1.08	1.23	1.59	1.80	1.95	0.15	0.36	0.20	0.15	0.87

Table A4

**Distribution and rank of Romanian development regions' employment shares during 1995-2014**

Region*	Share Rank (1 =largest share)										Share Value**									
						Change***										Change****				
	1995	2001	2006	2010	2014	1995-2001	2001-2006	2006-2010	2010-2014	1995-2014	1995	2001	2006	2010	2014	1995-2001	2001-2006	2006-2010	2010-2014	1995-2014
North - East	1	1	1	1	2	0	0	0	-1	-1	16.52	16.7	14.88	14.55	14.18	0.18	-1.82	-0.33	-0.37	-2.34
South - Muntenia	2	2	2	2	3	0	0	0	-1	-1	15.09	14.85	14.17	14.07	13.88	-0.24	-0.68	-0.1	-0.19	-1.21
South - East	3	4	5	6	6	-1	-1	-1	0	-3	13.04	12.65	12.28	12.03	11.89	-0.39	-0.37	-0.25	-0.14	-1.15
North - West	4	3	3	4	4	1	0	-1	0	0	12.66	13.45	13.42	13.63	13.83	0.79	-0.03	0.21	0.2	1.17
Center	5	5	6	5	5	0	-1	1	0	0	12.28	12.17	12.23	12.11	12.2	-0.11	0.06	-0.12	0.09	-0.08
South - West Oltenia	6	6	7	7	7	0	-1	0	0	-1	10.81	11.22	10.27	10.2	9.95	0.41	-0.95	-0.07	-0.25	-0.86
West	7	7	8	8	8	0	-1	0	0	-1	9.86	9.52	9.8	9.59	9.73	-0.34	0.28	-0.21	0.14	-0.13
Bucharest - Ilfov	8	8	4	3	1	0	4	1	2	7	9.74	9.44	12.94	13.83	14.35	-0.3	3.5	0.89	0.52	4.61

Source: own calculations

\*Sorted by rank in 1995

\*\*Share values in percent

\*\*\*A positive change indicates a higher rank in the end year relative to the start year

\*\*\*\*A positive value indicates a higher share value in the end year relative to the start year

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Initial submission: 12.10.2017

Revised submission: 01.03.2018

Final acceptance: 05.11.2018

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## BOOK REVIEWS

### CITY SPACES – TOURIST PLACES: URBAN TOURISM PRECINCTS

BRUCE HAYLLAR, TONY GRIFFIN, DEBORAH EDWARDS, Routledge, London, 2016, 381 pp., ISBN 978-1-138-17732-1

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A short walk on the streets of the central ring of Bucharest provides the visitor with different and contrasting views. There is the old commercial city, located between Unirii and University Squares, crowded with pubs, restaurants, night clubs, souvenir shops, and tourist groups following a hurried guide and taking photos of the monuments. Then, across Magheru Blv., in the Armenian neighbourhood, a specific architecture and urban planning style are maintained, with characteristics like small streets, old buildings and a strong historical heritage, but the number of tourists and enterprises is significantly lower. As the visitor goes north, towards the Roman and Victory Squares, the streets become larger and more and more crowded. However, the number of tourists is still low, with the main activities belonging to the business sector. From here, we can deduce that only a small part of the city is actually experienced by tourists and there is a clear differentiation between the space used by them and the rest of the city. This is what Bruce Hayllar, Tony Griffin and Deborah Edwards call a “tourism precinct”, a distinctive geographic area, clearly separated from the rest of the urban space, presenting a strong concentration of activities specific to the tourism sector.

The problem that the authors of the book “City Spaces – Tourist Places: Urban Tourism Precincts” identified is that tourism precincts were never analysed in depth with regard to what they are, and why, where, and how they appear. Locals use these spaces for economic

purposes, while tourists want to experience the culture and authenticity of places, leading to land use conflicts and a need for cooperation for satisfying all needs and creating a unique identity: “the emergence of [...] precincts reflects how the culture of everyday life is not simply a demand created by capital, nor even consumer preference, but also entails active cultural practices behind the creation of people’s identities and identifications” (Su et al. 2018: 37).

This need of co-existence between tourists, locals and business enterprises has been achieved through both the capitalization of historic and cultural heritage (Su et al. 2018) and the rejuvenation of old industrial sites through strategies which improve the urban image and identity (Spirou 2018). The book “City Spaces – Tourist Places” proposes a shift of perspective from analysing why tourists visit places and what precincts look like, to investigating what visitors actually do and experience at the destination and why precincts appear. Thus, the authors share the view of Gehl (2002: 9): “a good city can be compared to a good party – people stay for much longer than really necessary, because they are enjoying themselves”, and they try to explain the mechanisms that make an urban space a qualitative and vibrant place.

The book is structured in four sections, which allow for a gradual and comprehensive understanding of the tourism precincts. Section I sets the foundations of both the book

and the concept, section II offers detailed theoretical explanations for the key characteristics of precincts, section III reviews the precincts in practice, while section IV provides the conclusions and the lessons deduced from the previous analyses.

Section I, "Foundations", comprises four chapters that provide the reader with a descriptive, analytical and theoretical framework for an initial consideration of the urban tourism precinct. The first chapter, "Urban Tourism Precincts: Engaging with the Field", plays the role of an introduction, setting out the context in which the book appeared together with its objectives and structure. Chapter 2, "The Evolution of the Tourism Precinct", focuses on three key ideas: the economic context of precinct creation, the role and function of tourism precincts within the urban environment, as well as the context of precincts development (including issues like authenticity and sustainability). Chapter 3, "Places and People: A Precinct Typology", offers a change of perspective from the classical descriptive typology of tourist spaces, to a functional one, which can provide us with an understanding of what precincts do for visitors. Chapter 4, "Theorizing Precincts: Disciplinary Perspectives", presents a range of disciplinary approaches (geographic, urban political economy, sociocultural, behavioural), which have been largely functional in their nature. The author finds those approaches limited in the examination of tourist experiences, so that he proposes a new approach in the end: the poststructuralist one. Section II, "Key Themes and Issues", is structured in seven chapters that analyse in detail some essential characteristics for a comprehensive understanding of the urban tourism precinct concept. Chapter 5, "Urban Tourism Precincts: An Overview of Key Themes and Issues", sets the conceptual framework of the urban precinct, by providing details related to the following elements and the relationship between them: urban destination context, structure and form of precinct, impacts of tourist spaces, urban precinct experience, and governance policy. Chapter 6, "Precincts Within the Urban Form: Relationships with the City", contributes to the understanding of tourism central districts by

examining the spatial elements pertaining to tourism precincts, as well as their evolutionary process, the flows and interactions that they are a part of, their impacts, variations and prospects.

A conceptual foundation for the analysis of tourism precincts, focused on the synergistic relationship between the spatial form of tourism precincts and the performances of tourists, is provided in Chapter 7, "The Structure and Form of Urban Tourism Precincts: Setting the Stage for Tourist Performances", and it is continued, from an economic point of view, in Chapter 8, "Contribution of Urban Precincts to the Urban Economy". In this chapter, the interrelationship between precinct development and its impacts on the local economy, as well as the potential costs and benefits, are highlighted using a three periods framework (before construction, short-term and long-term economic cycles). Chapter 9, "The Tourist Experience of Precincts", concluded (by focusing on the existential dialectic as well as the cultural and phenomenological studies) that experiencing the tourism precincts is a social experience rather than a solitary one. From the examination of experiences, Chapter 10, "Conflicts and Politics in Precinct Development", maintains the sociological and existential perspective and it provides details and examples on how urban tourism precincts develop in the context of conflicts associated with managing the competing interests of various stakeholders (investors, business environment, community opinion, inter-governmental agencies and so on). The last chapter of this section, "Visitor-Host Relationships: Conviviality between Visitors and Host Communities", explores how the strong links and overlaps between the host and the tourist experiences of place can lead to relations of conviviality rather than conflict, especially in the newly gentrified areas.

Section III, "Precincts in Practice", is composed of six chapters and it focuses specifically on the practice of governance by presenting a range of international case studies, which reflect either exemplary practices, or other situations from which important lessons can be drawn. Chapter 12,

“Precinct Planning and Design, Management and Marketing: An Overview”, sets the foundation for the case studies by defining the range of precinct governance activities and by discussing some of the key associated challenges (understanding the wider contexts, the importance of locals and tourists, the benefits of diversity, the necessity for a long-term perspective). The next chapters present five case studies of tourism precinct governance and they reflect a complex range of contrasting contextual circumstances, with each one focusing on one type of governance activity of the three main broad categories previously identified by the authors: planning and design (Chapter 13 on Grote Markt, Groningen – with a focus on precinct planning, Chapter 14 on Darling Harbor, Sydney – with a focus on precinct development), management (Chapter 15 on London’s “South Bank” – concerned with precinct management structures, Chapter 16 on Sheffield City Center – dealing with more day-to-day management issues), and marketing (Chapter 17 about Evora, Portugal and Hoi An, Vietnam – two case studies linked by the World Heritage listing).

Last but not least, Section IV, “Lessons from Theory and Practice”, through its only chapter, “City Spaces – Tourist Spaces: A reprise”, concludes the book by reflecting on the four central themes around which the book revolves: the tourists – locals relation, the experience of tourists, the complexities of governance activities related to precincts and the cost-benefit analysis of precinct development to different stakeholders. Also, it includes some specific research questions that emerge from the book, which can represent the starting points for future researchers: “What are the success factors for sustainable precinct enterprises?”; “How do we ensure that precincts provide opportunities for experiences that match the needs of tourists and locals?”.

Overall, the book is well written and organized in an attractive style, such that it can be easily read, even as a novel. Also, each chapter has a suggestive title and it can be read as a separate research article, without affecting its overall understanding. Also, the box of questions that follows each study makes the book useful for didactic purposes, as they provide a test for the general understanding of the concept and they provoke the reader to think outside the box and to find innovative ideas and research subjects. The photographs are complementing the text in an effective manner, by depicting both people and places, but at some point the reader may feel the need for more visual information, especially in the case study chapters.

The study of urban tourism precincts in the framework proposed by Bruce Hayllar, Tony Griffin and Deborah Edwards represents an insightful investigation into the urban tourism precincts, approaching issues related to the need to be recognized, addressed and appropriately dealt with if a precinct is to form a truly sustainable part of a city’s tourist base. This way, the book raises some concerns related to city governance and it represents a valuable scientific contribution and a useful tool for policymakers involved in the integrated analysis of urban spaces and tourist places.

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## Aims and scopes

Analysis of the urban and regional condition needs to be interdisciplinary. In reality, urban researchers usually tend to belong to a discipline reflecting their training whether as sociologists, geographers, planners or any number of subjects concerned with the study of space and place. Our training very often endorses an appreciation of how other disciplines explore the city. For the journal the acknowledgement of the many disciplines that concerned with understanding cities and regions will be indicated by the different disciplinary back-grounds reflected in the papers published. Articles will be published by geographers, sociologists, planners, economists, political scientists, to mention just few of the disciplines involved in urban and regional study.

The Journal of Urban and Regional Analysis plans to be a key outlet publishing topical articles dealing with cities and regions. In later issues we plan to include sections devoted to notes and comments as well as a policy section outlining and discussing state and non-state initiatives aimed at improving cities and regions, together with the problems confronted by their implementation.

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