

FACTORS OF URBAN SPRAWL IN BULGARIA

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Urban sprawl has become a topical urban issue first in North America and later in Western Europe. It turned into a major challenge to urban sustainability. However, sprawl in Western Europe has displayed many specific features different than that in North America and these features are related to the concrete circumstances in the two continents. The social, economic and urban situation in the new European democracies is also quite different and this inevitably has its impact on the forms of sprawl.

One of the main characteristics of sprawl is that it is considered to be market-led. More precisely, a major factor is the lack of balance between market trends and planning policy that allows for the market players to determine the use of their plots in suburban locations with little reference to the public interests and issues of sustainability. As the countries in Eastern and South-eastern Europe have already made certain progress on their way to market society, the problems of sprawl were faced in these countries too.

The goal of the paper is to apply widely accepted definitions of sprawl to the processes in the suburbs of Sofia and, thus, to assess whether these are processes of sprawl. It also aims to study the specific traditions and residential preferences of Sofia's population in order to identify specific characteristics and aspects of the Bulgarian model.

The findings of the paper confirm that Bulgaria's capital Sofia is experiencing processes of urban sprawl, particularly in its southern suburban areas – in the foot of Vitosha Mountain. Next, these processes display strong regional characteristics. So far sprawl in Bulgaria is less intensive than that in Western Europe but also than that in the post-socialist countries in Central Europe and in Baltic states. Eventually, the urban forms of Bulgarian sprawl tend to be denser and with mix of single-family and multi-family residential types and mix of land uses.

Key words: urban sprawl in Bulgaria, urban market processes, EC urban policy, sustainability.

INTRODUCTION

For more than two decades urban sprawl has been identified as a major threat to sustainable urban development in North America and Western Europe (Galster *et al.*, 2001, Chin, 2002, Couch *et al.*, 2007). But is it a problem in Eastern and South-eastern Europe? The urban models, established in Bulgaria and the countries in the region, are very different from the spreading models of American or English settlements (Hirt and Slaev, 2002). However, sprawl represents a serious threat even for countries where the prevailing models are seemingly completely opposite to the sprawling American urban forms. Such, for example, are the Mediterranean cities (Leontidou, 1990) – they are compact forms with very dense urban tissue, still sprawl is a

serious problem in Greece, Italy and Spain. In principle, densities of settlements in Bulgaria are not different than those in the neighbouring countries and those in most European. Just like the rest of the former socialist countries in this part of Europe Bulgarian towns and cities are compact, with clear boundary between the urbanized and the rural territories.

In fact, this is an important consideration concerning sprawl. The clear city boundary is an antipode of the sprawling boundary and was one of the main specific features of the socialist city (Hirt, 2007, Bertaud, 2004). The strong control of central planning and the intensive housing forms of socialist urbanisation made the difference between the urban tissue and the rural surroundings quite obvious and easy to tell. The socialist planning system faced no problem even when it decreed for the towns and cities to shrink, like it did in Bulgaria in the early 1980s. On the contrary –

in a democratic society it seems to be impossible for central planning to deal with the decentralized initiatives of owners of land in close proximity to the urban fringe. For this reason urban sprawl is considered to be a market-led process (Gong and Wheeler, 2002, Knaap, 2008) closely related to the capability of the market players to determine the use of their plots in suburban locations. The European Environmental Agency (2006), too, defined the market nature of this phenomenon. Eventually, it is not strange that many western authors expected that the former socialist countries will

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face the problems of sprawl with their advance towards the market. Indeed, as the countries in Eastern and South-eastern Europe have already made certain progress in this direction the expected problems have already been observed (Timar and Varadi, 2001, Brown and Schafft, 2002, Nedovic-Budic and Tsenkova, 2006, Hirt, 2007, Slaev, 2010, etc.). However, the social, economic and urban situation in the new European democracies is also quite different and this inevitably has its impact on the forms of sprawl.

The goal of this paper is to investigate how the specific conditions in Bulgaria shape the factors of urban sprawl and how this influences the specific forms of sprawl around Bulgaria's capital city - Sofia. Therefore, the paper, first, should provide a universal definition of sprawl. This is needed in order to identify clearly and definitely whether the processes observed in Sofia are, indeed, a form of sprawl. Secondly, the paper will study the main factors of sprawl. It will then examine with this respect the situation in Sofia. Finally, it will draw conclusions about the specific Bulgarian form of urban sprawl.

DEFINING URBAN SPRAWL IN BULGARIA

A definition that comprises all essential components of urban sprawl and, also, is relevant to the goals of this research, would be:

Urban sprawl is a market-led, unplanned process of inefficient physical expansion of urban areas into **the surrounding rural or natural lands that is characterized by:**

- **Low density of new developments, patchy, scattered forms, with a tendency for discontinuity**
- **Poor mix of different land uses and urban activities, lack of well-defined, thriving activity centres, hubs of public services and commerce**
- **Insufficiently covered by public transport services.**

This definition, on one hand, is based on most widely accepted studies of urban sprawl (Gottdiener, 1977, Hall, 1997, Brueckner, 2000, Galster *et al.*, 2001, Chin, 2002, etc.). Therefore, it does reflect the essence of the "classic" form of this phenomenon. On the other hand, when applied to urban processes in Bulgarian cities Sofia, Varna, Burgas, Plovdiv, etc. it would allow for identifying the differences, between Bulgarian sprawl and its "classic" form.

Considerations that underlie the proposed

definition should be outlined as follows:

The first characteristic of urban sprawl is that it is a physical expansion of urban areas into the surrounding rural or natural lands. This characteristic is essential for urban sprawl. Besides, it is closely related to another component of the definition – the low density suburban developments, patchy, scattered forms, with a tendency for discontinuity. However, there seems to be a considerable difference in the treatment by European and American researchers. Among all American authors quoted here, only Galster *et al.* (2001) mentioned the expansion as a key element of the studied phenomenon. Chin (2002) found that the term "expansion" was used to describe more compact forms of sprawl mainly in earlier definitions from the 1950s and the 1960s (Chin cited Self, 1961, Gottmann and Harper 1967, Gottdiener, 1977, Hall, 1997). On the contrary – in Europe the tradition of regulation boundaries or other types of urban borderlines such as green belts makes the expansion of urban areas visible and obvious, so it is always a basic feature of sprawl (EEA, 2006, Couch *et al.*, 2007).

Another feature of sprawl of key importance is that it is an urban process producing inefficient urban forms. Many researchers point at the difference between urban growth and sprawl (Cheshire, 2009, Davis and Schaub, 2005, Brueckner, 2000). The trend towards urban growth (that is – the growth of urban population) is, in principle, a positive trend and, what is more – it is an irreversible trend of world development (UN, 2005). Therefore, it is rarely possible for cities to keep the existing boundaries of their urbanized area (UA) in the process of growth of their population. Most urban economists and planners who have worked on this issue (Bertaud, 2004, Anas and Hyok-Joo, 2006, Couch *et al.*, 2007) usually consider as a criterion of efficiency whether the gradient of the population density profile is parallel to the gradient of the bid-rent curve of residential properties. The expansion should be considered efficient at least as much as the pattern of urbanization has been before the period of growth, if the slope is kept the same. But if the slope has become less steep – this is inefficient expansion of the type described by Couch *et al.* (2007) and this is a typical case of urban sprawl.

Next feature that should be included in the definition is that it is generated by market forces in combination irrelevant interventions of planning (EEA, 2006, Gong and Wheeler, 2002, Brueckner, 2000, Slaev, 2011). This feature is important because it explains the nature of urban sprawl. The market nature of

sprawl can be proved, first, by the negative gradient of the slope (very low densities far from the city centre) and, second, by the very fact that planners have been trying to combat it for more than two decades, but have not managed (Knaap, 2012, Brueckner, 2000). In fact, sprawl is generated by planning too, but by poor planning. The dual role of planning with respect to urban sprawl is a specific issue, as far as planning in many cases provides essential conditions for sprawl by developing transport networks and utilities. However, in other cases planning is the major factor for development of urban forms opposite to sprawl. Bertaud (2004) regarded the positive gradient of urban densities as a proof of powerful, though usually irrelevant, planning interventions.

The low density is most widely recognized (Ewing *et al.*, 2002). It is also the main technical (physical) aspect of the poor efficiency of the generated urban forms. The density issue is closely related to the considerations stated above about the population growth of cities and their expansion into their surroundings. In general, if the urban population growth causes expansions of the urbanized area that retain higher or optimal residential densities, that should be assessed positively and would not fall within the definition of sprawl. Therefore, it is necessary to define what should be regarded as efficient or optimal densities, because, apparently, there is no universal prescription. Optimal densities in the outskirts of Sofia will be probably close to those in Belgrade, but they will certainly differ from optimal densities in the peripheral territories of London or Los Angeles.

Urban forms produced by sprawl are usually described as "patchy, scattered, with a tendency for discontinuity", but in some cases they are described as "continuous" or as "endless", which has a meaning different from "discontinuous" (Ewing *et al.*, 2002, Galster *et al.*, 2001, Slaev, 2010). While in the USA both "endless" and "discontinuous" sprawled urban forms could be observed, in Europe territories –subject to endless sprawl are rare exceptions (see Urban Sprawl in Europe, EEA, 2006). European sprawl results in typical "patchy and scattered" developments. "It leap-frogs over areas, leaving agricultural enclaves". The traditions of compact urban forms in South-eastern Europe, however, are likely to influence the form of sprawl of Balkan cities.

The next feature of urban sprawl is the poor mix of uses and different urban activities and the lack of thriving suburban centres, which also means poor integration of the dwelling function

with sectors of industry (mainly tertiary) thus providing jobs. But again – this aspect demonstrates considerable differences between the classical problems, typical mostly for American and West European cities, while the situation in South-eastern Europe is different (Leontidou, 1990).

One more feature of sprawled urban forms should be outlined here. It is related to the system of communications, the access to suburban developments and properties and the automobile dependency (Song and Knaap 2004, Ewing *et al.*, 2002), Newman and Kenworthy 1999, etc.). With this respect, too, some significant differences can be identified between the “classical” American approach, the European approach and the approach, relevant to South-eastern Europe. American authors usually consider shorter distances between urban zones, better connectivity leading to more walking and biking, fewer vehicle miles travelled or a network of interconnected streets with shorter blocks that allow greater accessibility and a broader choice of routes for drivers, pedestrians, and cyclists and better access to the light railway station (Ewing *et al.*, 2002, Song and Knaap, 2004). The European approach seems to be more radical, insomuch as to adopt critical attitude to the development of road infrastructure in the peripheral territories. The EEA study (2006) even suggests that the development of the road network in the suburban areas might be a stimulus for sprawled urban forms. Therefore, the stress should be put on the system of public transport services in the peripheral zones of the cities.

FACTORS OF URBAN SPRAWL

Main factors causing urban sprawl

Chin (2002) observed that “in recent academic literature the major focus is on the effects of sprawl, with little discussion of its causes”. Yet, while one may agree that there is certain imbalance in the respect commented by Chin, still considerable research has been carried out on the causes and factors of sprawl. Four main causes/ factors should be considered – the population growth of cities, the residential preferences of the population, market forces and mechanisms and the role of planning.

1. The population growth is a powerful factor to increase the demand for housing. The lack of sufficient supply of housing in the central cities results in high rates of housing construction in the periphery, where land is available (Chin, 2002). On the other hand, as it was already stressed when the definition was

explained, urban sprawl is growth of the built-up area, which outpaces the population growth, so the latter may not be the main cause of sprawl.

2. Residential preferences - There is a clear consensus among researchers that residential preferences are the major factor causing sprawl. Residential choices have been fuelled by higher levels of income, increased personal mobility and improvements in transportation. As Audirac *et al.* (1990) have concluded

“the ideal of owning a single family home, the need for an adequate environment for raising a family, a strong desire for privacy, and the appeal of a rural ambiance are among the most prominent reasons for choosing suburban and exurban locales.” (Audirac *et al.*, 1990:473)

EEA (2006) has also observed that “historically, the growth of cities has been driven by increasing urban population. However, in Europe today, even where there is little or no population pressure, a variety of factors are still driving sprawl. These are rooted in the desire to realise new lifestyles in suburban environments, outside the inner city”. These conclusions have been supported by many consumer preference surveys (Krisjane and Berzins, 2012, Hirt 2007, Audirac *et al.*, 1990). EEA report (2006) found that “the mix of forces include both micro and macro socio- economic trends such as the means of transportation, the price of land, individual housing preferences, demographic trends, cultural traditions and constraints, the attractiveness of existing urban areas, and, not least, the application of land use planning policies at both local and regional scales”.

3. The role of the market has become obvious as soon as housing demand had been mentioned in relation either to population growth, or to preferences. Brueckner, 2000, Self, 1961, Audirac *et al.*, 1990, and others analyze the urban sprawl caused by consumer demand and other market related factors. Many of those authors support the free market approach, but the point is that the impact of the market can be shaped so that to manage and steer the process within certain limits. For this reason the market is a factor causing urban sprawl that deserves special considerations and planning has a special role with this respect. According to the EEA report (2006) “overall, evidence suggests that where unplanned, decentralised development dominates, sprawl will occur in a mechanistic way. Conversely, where growth around the periphery of the city is coordinated by strong urban policy, more compact forms of urban development can be secured”.

4. The role of planning highly depends on the adopted planning objectives, policy and the efficiency of the instruments of their implementation (Nikiforov, 1982, Vujošević, 2007, Slaev, 2010, Slaev 2012, Zeković, 2008, Petrić, 2009). In the process of social transformation the planning system should be adjusted to the context at each stage of its development (Nedovic-Budic, 2001, Nedovic-Budic *et al.*, 2012). The role of planning should be considered at several levels. First come the objectives of planning and, particularly, the priority attached to environmental sustainability. A primary goal of society is to provide more goods for all social layers. However, this often contradicts the ideology of sustainability that puts the stress on economical use of natural resources and, especially, land. Second, the planning framework affecting suburban development should be considered usually at two levels – national and local. (The intermediate regional tier rarely provides substantial contribution to the framework). Spatial regional and urban plans are the third essential component of planning. In a democratic market society citizens exercise powers, though more or less limited by the framework, to determine the development of their plots. But the development of infrastructural networks is fully determined by regional and urban plans.

Preferences and motives of urban entities (urban players) for localisation in the suburbs

The reasons for households to locate in the suburbs fall within the same reasoning that would lead their residential choice under any other circumstances. The main reason – the access to jobs in the central business district served as a basis for the development of Alonso’s (1960, 1964) theory of the urban land market and, particularly, the households’ bid-rent curve. But, of course, it is not only the distance from the CBD and the access to jobs that determines the residential choice. The housing market is characterized by the fact that it offers heterogeneous goods. In fact, each housing unit is unique to a certain extent. Ghatak *et al.* (1996) have come to the conclusion that the main driving forces for this choice are: real wage considerations, employment considerations, considerations related to attractive amenities (public goods, environment, etc.);

While the residential preferences are the key factor for households to locate in the suburbs, companies too have their motives for similar decisions. Gong and Wheeler (2002) in their study on the suburbanization of business and

professional services in the Atlanta Metropolitan Area were able to identify the trade-offs between the external economies in the city and the suburbs that caused suburbanization of local businesses. They found that "the city is the traditional stronghold of advanced economic activities and has the advantage of face to face communication. On the other hand the suburbs have low-cost land, convenient transportation, and pools of highly qualified professionals and flexible female workers". Thus subsectors such as credit reporting and collection services, computer and data processing services, and research and testing have grown rapidly in the suburbs, suggesting the desire to avoid high land costs and to tap suburban labour sources and their ability to operate with minimal face-to-face contacts.

In South-eastern Europe, too, intensive research in this area has investigated the specific reasons for suburbanization of different urban functions in the local context (Nikiforov, 2008, Zekovic and Hadzic, 2006). More than that – special attention had been paid to the issues of efficiency and sustainability with respect to the current social and economic conditions in the region (see Vujošević and Nedović-Budić, 2006, Vujošević, 2009, Petrić, 2004, Maričić and Petrić, 2008, Slaev, 2010, etc.)

In result of the literature survey offered above several categories of reasoning for households and companies to locate on the urban fringe or beyond should be outlined:

a) Motives for suburbanization of the dwelling function (housing) - Households may prefer to live in the suburbs for the following reasons:

- For pursue of higher standard of dwelling, higher life-style (single-family housing)
- For pursue of better environmental conditions (green spaces, open spaces, less noise)
- Because of the lower price of land and housing
- The preference for a holiday /weekend home in order to compensate for stressful urban living
- Ethnic or religious considerations, like those that caused the creation of Muslims, Africans, Chinese or Roma neighbourhoods on the urban fringe of almost all European cities (Slaev, 2007)

b) Motives for suburbanization of industries and commercial activities – Industrial and commercial companies may prefer to locate in the suburbs (Zeković, 2009) for the following reasons:

- Higher profits is, no doubt, the main reason, but it can be broken into further specific considerations, such as:

- Lower price of land and construction
- Need of large spaces for industrial and storage purposes
- Need of large spaces for shopping centres/ malls with large parking spaces for their clients
- For provision of convenient car access for customers / clients of shopping centres and malls

d) Motives for suburbanization of public (social) services - In many cases companies providing social services (health, education, etc.) or local authorities may decide to locate these activities in the suburbs for the following reasons:

- Lower price of land and construction
- Need of large spaces for a hospital, a university or a specialized high school, etc.
- Advantageous environment – open and green spaces, etc.
- Provisions of regional and master plans and local regulations

Market factors generating and accelerating urban sprawl

Markets exercise their impact on urban processes through the pressure of market demand. Issues related to the role of the market and its balance with planning in generating urban sprawl have been studied by many researchers – Lerman, S.R., 1977, McFadden, 1978, Hall, 1997, Brueckner, 2000, Gong and Wheeler, 2002, Cheshire, 2009, Knaap, 2008, are to name but a few. Brueckner (2000) identified three groups of sources of market failure in urban growth related to the processes of sprawl:

- Failure to account for the social value of open space,
- Failure to account for the social value of free way congestion,
- Failure to fully account for the infrastructure cost of new development.

While most researchers would agree that these are the sources of sprawl identified in the language of urban economics, perspectives and views on the possible economic remedies differ enormously. There is an ongoing debate on this issue between two main approaches to its solution. One of the approaches is believed to be typical for urban planners and the other approach – typical for urban economists (Anas, 1992, Brueckner, 2000, Knaap, 2008, 2012). The watershed is whether planning measures are prescribed to cope with urban sprawl or the proposed remedies are local fees and taxes or subsidies.

HOUSING TRADITIONS AND RESIDENTIAL PREFERENCES OF BULGARIANS FORMED THROUGHOUT THE XX CENTURY

Preferences and motives of Bulgarians relating to the development of suburban areas can be best understood if seen in the context of their historical development. A very peculiar case of juxtaposition between the attitudes of Sofia's citizens towards urban growth and West-European attitudes occurred during the elaboration of the first comprehensive master plan of the Bulgarian capital - the Muesmann plan (though, in fact this was the sixth plan of Sofia after 1878) (Kovachev, 2005). In this case, the different approaches of the German architect Adolf Muesmann and the City Hall and the citizens of Sofia manifested significant differences, especially on the issue of urban expansion. From 1879, when Sofia became the capital, by 1936 when the preparation of the Muesmann plan started the town grew from 20,856 to 287,095 inhabitants (NSI, 2009). Such a population growth was considered an expansion that the city could hardly afford. The new suburbs of Sofia had accommodated large numbers of industrial workers and immigrants from the Balkan war (1912-1913) and World War I (1914-1918) so they were shabby and unattractive. That was why at the start of preparation of the master plan the City Hall stated that city boundaries were already too spread out and that any further expansion should be limited (Hirt and Kovachev, 2006).

Adolf Muesmann, however, had a very different view of suburban areas. He was fully committed to an idea established in Germany (and particularly precious to the ruling Nazi party) that a family house with a garden was the best form of dwelling that reflected the traditional national values. Accordingly Muesmann envisaged expansion of the city by large territories of single-family housing. Such a view, however, was not popular with the public and city officials. Under pressure from the City Hall Muesmann revised his views on a number of specific solutions (Hirt, 2007b), but still the territorial expansion remained in size that could not be realized. And it was the major reason for the failure of the plan.

A second important period in the history of urban development in Sofia, which is directly related to the formation of preferences and motives of the people relating to the development of suburban areas, refers to the stage of socialism. During this period the process of socialist industrialization led to the highest rates of population growth and urbanization of suburban areas of the capital

city (Kovachev, 2003). Well known is the paradox of the Master Plan adopted in 1961 after a competition between the teams of Neykov and Siromahov where winner was the compact version of Neykov. But only two years later an Amendment of the plan was undertaken in line with the expansionistic plan set by Siromahov. Over the next three decades Sofia implemented the expansionary option. For 39 years (1946 to 1985), the city's population grew 2.3 times (by 670,000 inhabitants) and reached 1.2 million (NSI, 2009). Clearly, such a development could not happen in the original boundaries of the city and suburban areas were the main resource for it. Socialist urbanization, however, was based on the system of prefab panel construction. The housing estates thus developed – the "socialist suburbs" – were, of course radically different from western-type suburbs. In capitalist countries similar housing types can be found on the urban fringe of French and Italian cities. The difference is the lower quality of housing in Bulgarian cities and also the poor development of public spaces. But the point here is how this development affected the preferences of the residents. The result was that, despite the desire to settle in the capital city, residents yet at that time looked at prefab socialist estates as low grade housing. Eventually, the vast majority of city residents reinforced their perception of the central territories as the most desirable areas for habitation.

ANALYSIS OF THE CURRENT URBAN TRENDS AND THE PREFERENCES AND MOTIVES OF SOFIA'S RESIDENTS RELATING TO THE PROCESSES OF URBAN SPRAWL

The goal of analysis in this section is, first, to examine the current trends of urban expansion of the city of Sofia in order to determine whether these trends should be identified as sprawl. Second, to study the preferences and motivations of the residents of the capital, which in recent decades are causing urbanization of suburban areas in order to determine whether the processes were of Western type suburbanization.

It should be stated that both issues had been first studied by Hirt (2006, 2007a, 2007b). With regard to the issue whether Sofia's expansion is a form of urban sprawl in "Suburbanizing Sofia" Hirt (2007a) came to an explicit conclusion that the processes in the southern outskirts of the Bulgarian capital were a clear, though not quite typical form of urban sprawl (Hirt, 2007a, pp 762-764). However, she studied only the "scenic southern outskirts" in the foot of Vitosha mountain. A recent study, undertaken

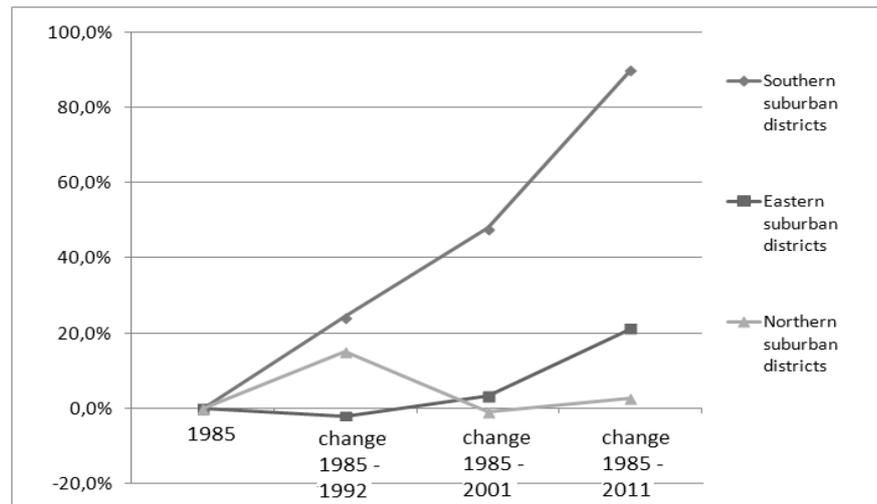


Figure 1: Change in the number of the population in the districts of Sofia by periods
Figure prepared by the first author based on data of NSI – Census 2011 (NSI, 2012)

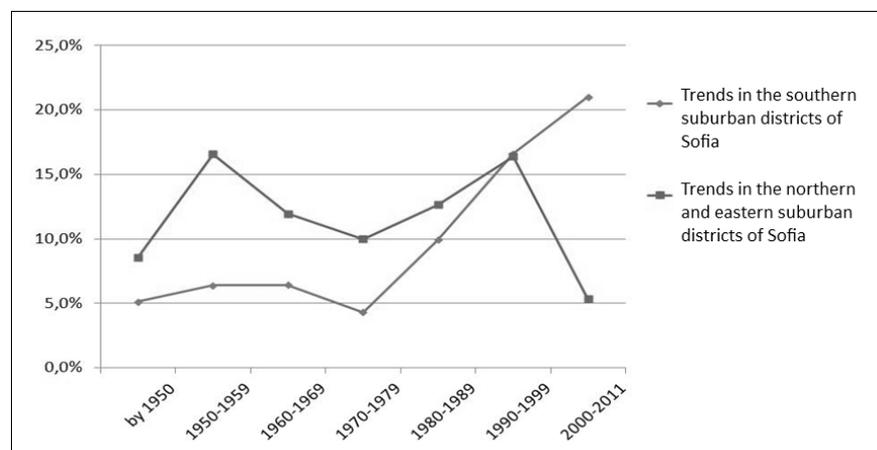


Figure 2. Changes in the percentage of housing built in Sofia's suburban districts
Figure prepared by the first author based on data of NSI – Census 2011 (NSI, 2012)

within a project funded by the Seventh Framework Programme of EC, has observed major differences between urban trends in the southern and the northern outskirts. The new study has found that, while the territories to the south of the capital were, indeed, subject to intensive processes of sprawl, the trends in the northern areas may not be identified as such. Some of the findings of this research are presented on Figure 1 and Figure 2.

According to data by the National Statistical Institute – Census 2011 (NSI, 2012) as a whole in the period 1985-2011 the population of the central districts of Sofia has decreased by 47,042 persons, while the population of the rest districts within the compact city has increased 68,672 and the population of the suburban districts – by 68,242 persons. This observation suggests that Sofia's population is sprawling, still the rates are not very high. However, if the changes in different suburban areas are examined the picture becomes much

clearer. Figure 1 illustrates the changes in the number of the population between 1985 and 2011 in three types of suburban districts around Sofia. The differences between the trends in the three types of districts are more than obvious. In the studied period the population of the southern districts of Sofia has grown by 60,668 persons, which is by 90.1%. The population of the eastern districts has increased by 5,001 persons or by 21.2%, while the population of the northern districts has virtually not changed – it has increased by only 2,573 persons, which is 2.6%.

The same trends are evident in the data sets of the National Statistical Institute concerning the rates of housing construction in the districts of Sofia (NSI, 2012). In fact, two contrary trends should be outlined in the development of Sofia's suburban areas. According to NSI data until the 1970s the southern suburban territories had attracted about 5% of housing construction in Sofia municipality. Yet since the 1980s it grew

substantially, particularly after 2000 and during the last decade it formed 21 % of the total. On the contrary –housing construction in the northern suburban territories fell down from the “traditional” 10 to 13 % (16.4 % in the 1990s) to only 5.3% during the last decade (NSI, 2012, pp. 190-191). The difference between the trends in the southern and the northern areas is illustrated on Figure 2.

Therefore, the conclusion is that processes of sprawl are observed in the outskirts of the Bulgarian capital, but mainly in some of the suburban territories. While it should be assessed as normal that the intensity of the trends may not be the same in all areas, it should be also acknowledged that these processes seem stronger, if only the southern districts are examined, but prove to be less intensive, if all districts are considered. According to data by the Regional Agricultural Directorate in the period from 11/2004 to 09/2012 (that is 7 years and 10 months) only about 436 hectares of rural land had been converted to urban use. This equals 0.325 % of the territory of the compact city. Considering that a little more than 50 % of the land converted to housing use was located in the three southern districts, it is obvious that they were indeed, subject to sprawl. But compared to the territory of the municipality, data prove that the processes of suburbanization in Sofia are still slower than the processes in other post-socialist countries in Central Europe and in the Baltic region (see Kok and Kovács, 1999, Timár and Váradi, 2001, Sykora, 1999, Tammaru, Kulu and Kask, 2004, Krisjane and Berzins, 2009).

The main focus of the study regarding the preferences and motivations of Sofia's residents is to determine whether the type of suburbanisation should be defined as type 1 (Western-style), type 2 („from-village-to-town”) or third specific type. According to Hirt for this purpose it is necessary to examine three main characteristics of the process (Hirt, 2007a, p. 757): „ (1) demographic (i.e., who settled in the urban periphery), (2) functional (i.e. what are the economic links between the centre and periphery - where do the new suburban residents work) and (3) motivational (i.e. from where the residents of peripheral areas come from and why they settle in the suburbs)”. About the first characteristic Hirt observed that the average income of the new settlers were significantly higher than average for the city or for those suburban areas. In general the new settlers had high incomes - 40% of them had an income about four times the national average. They were generally highly educated with 56% of them being

university graduates versus 36% with higher education for long-time residents. With regard to the functional characteristic the survey found that nearly nine-tenths of the new suburban settlers worked in other parts of Sofia - mostly well-paid and prestigious positions in the central areas. With regard to the motivational characteristic the finding was that 68% of the new settlers came from the inner-city areas and their main motives were typical for suburbanization of “western” type - an escape from the city centre in search of better housing conditions. The main conclusion drawn by Hirt (2007a) was that the dominant process in the picturesque southern outskirts of Sofia was Western-style suburbanisation (type 1).

This conclusion is, in principle, confirmed by newer surveys and studies like the NSI censuses, interviews conducted with ten Bulgarian leading real estate agencies, as well as data obtained from the Provincial Directorate of Agriculture and the Registry Agency. However, though Hirt (2007a) pointed at some significant specifics of Sofia's patterns of sprawl, recent studies testify that these specifics are more important. New data and observations now support the view that the deviations of the “Bulgarian” model from the “classical” Western model are, in fact, greater and in some aspects can even be seen as opposite to it. The new observations are based on a longer period of development and, particularly, the fact that now the trends in the northern suburban areas have been investigated in more detail. They concern mainly the demographic profile of the migrants, with those moving to the northern areas now being taken into account, and the patterns of urban forms, which had not been the focus of Hirt's research. The new findings about the specific features of Bulgarian sprawl can be summarised in four groups.

First, the demographic characteristics of the new settlers' poll data from estate agents show significantly higher levels of social mix and a lower level of social segregation than the Western model. Brokers attribute less importance to the high social status. Only about half (45.5%) of the new suburban settlers are classified as high-income. About one third (36.4%) of respondents believe that the typical buyers in suburban areas are intellectuals. It is significant to note that nearly four-fifths of the brokers placed low income people on second and third place amongst buyers. Apparently, this somewhat different demographic profile is due to the different social background of the settlers in the northern areas.

Second, concerning the functional characteristics, too, data provided by Sofia Municipality show trends different from the Western model. Unusual for traditional forms of sprawl, integration of service and industrial functions is observed, although on a limited scale. According to the data 13.7% of new building permits in the southern territories are for public-service buildings and 4.4% for industrial purposes. According to Provincial Directorate of Agriculture, however, in the southern suburban areas 69.9 % of newly urbanized lands were converted to residential use, 24.4 % - to activities of the tertiary sector and 5.7% to industrial use. In the northern suburban areas these shares were, respectively, 17.1%, 47.6% and 35.3%. The overall shares (for all suburban territories around the city) of the newly urbanized territories are - 27.4% converted to residential use, 37.7% converted to tertiary uses and 34.9% - to industrial use. Therefore, the mix of uses is characteristic of Sofia's expansion, which should be considered positive, provided that the hygienic norms are strictly implemented (the latter condition is supported by empirical data).

A third specific characteristic of the Bulgarian model is the preference for a variety of housing types, allowing higher density of development. Data from Sofia municipality show that new multi-family buildings in Vitosha district in recent years comprise 28.5 % of the total number of new residential buildings. According to data from NSI the average number of dwellings in a multi-family building in the same area is 13.3. Therefore, apartment units in multi-housing buildings comprise 83.8 % of the total number of new homes.

Finally, though the processes of suburbanization of Sofia are considerable and obvious, they are several grades lower than similar trends in/ around Prague (Sykora and Novák, 2007) or Riga (Krisjane and Berzins, 2012), for example. Mass market consumers in Sofia are still very attracted to areas within the compact city. If the southern and northern suburban territories are considered in one group, then the rates of new construction in the intermediate areas of the compact city over the last decade have been two times higher than the overall rates in the outskirts (NSI, 2012). This is explained by the fact that the very high rates in the southern territories had been compensated by the negative rates in the northern.

CONCLUSIONS

The paper draws the following conclusions:

- Issues related to urban sprawl are faced by Bulgarian cities later than American and Western

European cities. Urban expansion had happened in the Eastern and South-eastern European countries yet during socialism, but its forms were different from sprawl.

- Nevertheless, urban sprawl in Bulgaria nowadays seems to follow the same trends as in Western European and American cities, however, shaped in patterns specific for local traditions and realities in Southeast Europe

- Just like sprawl in America and Western Europe, sprawl in Bulgaria causes problems of sustainability of urban development due to inefficient use of land resources, loss of green areas, worsening living environment and poor access to central territories.

- Yet Bulgarian cities have some advantages mainly related to traditions of higher densities and compact urban forms and relevant residential preferences. Because of these factors the processes of sprawl seem to be less intensive and the urban forms produced by sprawl around Sofia allow for some relatively better mix of different dwelling forms and mix of uses. Though different suburban areas have different prices and attract different social groups, still Sofia's suburbs are not yet zones of social segregation.

- Bulgarian urban planning should make efficient use of these advantages and look for efficient approaches and tools to cope with the negative aspects of sprawl in Bulgarian cities. However, Bulgarian planning so far has not even identified the problems that arise with sprawl and combating sprawl is not on its agenda.

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