TURAS

TRANSITIONING TOWARDS URBAN RESILIENCE AND SUSTAINABILITY

Deliverable 5.6

Report on the balance between planning and the market relating to sustainable and resilient development of suburban areas

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Task Leader:	Aleksandar Slaev
Authors:	A. Slaev, N. Krunic, S. Zekovic, M. Vujosevic, N. Pichler-Milanovic, C. Baffioni, I. Guttadauria, M. Odorico, S. Vallocchia, A. M. Voglino, T. Maricic, J. Petric, T. Bajic, N. Nikiforov, D. Konakchiev, N. Nikolov, D. Daskalova, Y. Lyubenov and H. Topchiev
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1. Executive Summary

The significance of the issues of suburbanisation and sprawl in Europe and America

At present urban sprawl is considered to be the main threat to sustainable urban development by most urban planners. As a trend that was first been observed in North America after the Second World War, it was not seen as a threat to urban development until the 1980s. It was then, with the evolution of the concept of sustainability, that the attitude of planners, most professionals and the wider public changed. In Europe, these problems were faced somewhat later – they became a focus of planners' concern and research late in the 1990s and particularly in the 2000s. The European Environment Agency (EEA) issued several important documents raising public awareness about the threats that sprawl presented to the environment, the most important being the 2006 report "Urban sprawl in Europe – The ignored challenge".

Cities, as a rule, expand as they grow. To explain why urban sprawl is a threat, urban growth and expansion should be differentiated. Urban growth is, generally, positive – cities are growing because they are becoming more competitive, provide more and better jobs and bolster a vibrant, local economy. However, sprawl is excessive urban expansion, resulting in expansive, low density neighbourhoods. The proponents of sprawl argue that "sprawl is sweet" because it reflects the preferences of residents to live in larger plots in quiet, low density residential areas with a lot of open spaces and greenery. The opponents of sprawl, too, agree that the growth of cities is positive, but sprawl occurs when cities grow excessively, i.e. when the expansion of the urbanised area outstrips the growth of its population. Thus each resident consumes land for housing and for infrastructure excessively, as well as resources such as gas, for commuting.

The EEA report of 2006 outlines several major negative impacts of sprawl. Sprawl above all excessively consumes land, raw materials and fuels. Excessive consumption of land means excessive loss of rural land, which is sealed and many of its properties are lost. Biodiversity is sharply reduced. In addition to land, raw materials and fuels, the consumption of water and the production of exhaust emissions are also excessive and affect the climate. Thus the price paid by society for sprawl is high, especially in view that most of the resources consumed are non-renewable. Although the residents of low density suburbs may enjoy open spaces, greenery and high standard of living, suburbs also often become dormitory housing areas, which are socially segregated and less lively than compact, urban settlements.

Emerging issues of suburbanisation and sprawl in South-eastern Europe

The EEA 2006 report has observed that so far "little urban sprawl has been detected" in the New Member States, but precisely because of that, the threat to sustainability is even greater, because of the large amount of natural landscape. This is particularly relevant to the countries in South-eastern Europe. Preliminary analysis carried out by EEA has indicated that socio-economic development in SEE countries, especially, if accelerated, may have direct negative impact on valuable natural landscapes and natural resources.

Furthermore, many researchers expect that suburbanisation in big cities of this region will indeed accelerate. A major cause for this acceleration is the departure from the strict central planning and the adoption of free market mechanisms of urban development. During communism most of the land, particularly in suburban areas, was state property and even when privately owned, the property rights were heavily suppressed. Now, private land owners have the freedom to determine land use within the framework of regulations and to choose how to develop it, which is a major factor for processes of suburbanisation and sprawl to emerge on the fringes of SEE cities.

Goals of research under Work Package 5 of the TURAS project

Work Package 5 (WP5) of the TURAS project is aimed at the study of development in suburban areas of two South-eastern European cities – Sofia and Belgrade. WP5 research has two main goals:

- To investigate and analyse the processes in peri-urban areas of Sofia and Belgrade[1] and also for comparison (as explained below) with Rome and Ljubljana
- To propose policy measures to regulate these processes – to achieve sustainability and resilience of suburban development in the two SEE capitals

Analysis of suburban trends and their causes in Sofia, Belgrade, Rome and Ljubljana

Comparison is an efficient method of analysis and for this reason, suburban processes in Sofia and Belgrade had been compared to those in Rome throughout the course of research and, on some occasions to those in Ljubljana. Although there is more abundant literature for comparisons to Western Europe, Rome and Ljubljana were chosen because they are geographically (and perhaps culturally) closer to the two studied SEE cities.

For this analysis, it is important to note that there are many different types of suburbanisation, with respect to its causes and patterns. While suburbanisation is just suburban growth, sprawl is, in fact, a specific kind of suburban growth, characteristic of what is termed as "western" suburbanisation, i.e. typical for the western countries. Western suburbanisation is generated by middle and upper-class residents who move to the suburbs in pursuit of higher style of living and higher residential standards. As a result, sprawl is characterised by low residential densities, scattered housing patterns, a poor mix of urban functions, high levels of automobile dependence and social segregation. Other types of suburbanisation may result from different causes – e.g. when people migrate to the city and settle on the urban fringe, because they are looking for lower prices of land and housing.

Regarding trends in peri-urban areas of Sofia and Belgrade, WP5 research has found that the two cities are suburbanising, just like Rome and the majority of European cities. This is indicated by the substantial growth of suburban population. However, while suburbanisation in SE Europe does often bear resemblance to the "Western type", processes in the studied SEE capitals also demonstrate considerable deviations from this model and strong regional peculiarities. To begin with, in many suburban areas in Sofia and Belgrade, densities are rising, whereas the opposite trend of falling densities is typical for "Western" sprawl. Indeed, at the start of the transition period, peri-urban densities in the two SEE cities were much lower than those in the suburbs of Rome (traditionally the densities in South-European cities are very high). But in the last two decades, while suburban densities in Rome have been decreased, those in many suburban areas of Sofia and Belgrade have increased, which presents the question of whether this type of suburbanisation should be termed "sprawl" at all. Furthermore, this research indicates a tendency towards compactness in Sofia's and Belgrade's suburban patterns, which again are trends opposite to the dispersed, leap-frogging forms of "Western" sprawl. Finally, suburbanisation in South-eastern Europe has not resulted in a lower rate of the mix of urban uses. WP5 studies have indicated that the mix has remained high both in Sofia's and Belgrade's suburban areas, as well as in the suburbs of Rome.

To understand the causes of these specifics, WP5 has to examined local residential preferences and motivations. The preferences of the residents of Sofia and Belgrade had been studied as they have evolved throughout the 20th century, especially its' second half. The observations, then, had been compared to the results of two surveys of local population and the new settlers in some of the suburbs of the two cities, their social characteristics,

[1] Whereas both Sofia and Belgrade are subjects of the studies of Work Package 5, research is more detailed and, especially, the policy proposals concern mainly Sofia, because Sofia Metropolitan Municipality is a partner of TURAS

residential preferences and motivations for staying in or moving to the suburbs. The research has, thus, explained the specific patterns of suburbanisation with regard to local traditions and preferences for higher densities and close connections to jobs and services. The comparison with Rome has also confirmed that many features of suburbanisation in SE Europe are closer to those in Southern, than in Western Europe.

Therefore, WP5 research needed to compare those results to another city that would be closer to western traditions, but located within or close to the examined region. To this end, a study of Ljubljana's suburbanisation trends was particularly useful. Indeed, this study observed trends that were much closer to the prevailing trends in the western, northern and central parts of Europe. Suburbanisation in the capital of Slovenia exhibited features typical of low-density scattered sprawl of single-family housing decades before the transition. But even in this case, when during the 1990s urban development patterns changed with the political and economic transformations, new developments were characterised by an increasing presence of large-scale residential, industrial, and commercial developments.

The interplay and the balance between planning and the market as key factors determining the processes of suburbanisation

Suburbanisation as an urban process is generated by the interplay between planning and the market. Therefore, it is essential for WP5 research to determine the precise role of planning and the market in suburbanisation processes in Sofia and Belgrade in order to identify efficient measure to regulate them.

The study has found that so far the role of planning in managing suburban development in the two cities has been modest. As a result of the political and socio-economic transformations in Bulgaria and Serbia, the planning systems in both of these countries at some point had almost collapsed. Despite relative recovery, they are still unable of intervening efficiently. To play a constructive role in urban development in general and, particularly, in the regulation of suburbanisation, planning must fulfil three major requirements. First, it should be based on clear and relevant objectives and should develop a concise and coherent structure of measures and instruments. Second, planning should always consider the market trends and the roles of market participants. Third, planning should use proper tools of cooperation to engage with the the market.

That is why this research has paid special attention to the use of instruments for coordination between planning and the market. The main role in this respect is played by the property rights. The role of property rights is clarified by the theoretical research which is conducted in Work Package 5. It establishes that property rights are the basis of the allocation of social activities between planning and the market. If all resources, involved in a social activity, are owned individually, by persons or firms, then the activity is realised through market arrangements. When some of the resources are in joint custody or public property (e.g. space, air or infrastructure), the activity is, at least partly, arranged by planning. A key concept in this regard is that of nomocratic planning, which means planning based on rules (norms, regulations), not on direct provisions (as is "traditional" rational planning). WP5 research has found that the main role of nomocratic planning is to properly allocate property rights (including the rights of management) over commonly owned resources. This study has thus concluded that to regulate urban processes efficiently, the aim of planning ought to be establishing proper zoning regulations (allocating the rights of management), relevant systems of local taxes and fees and planning the development of infrastructure to enhance the property rights of participants in urban processes, provided that the interests of all social groups are safeguarded.

The urbanisation of suburban land poses specific requirements in view of the above conclusion. Any act of urbanisation consumes land and resources and enhances the value of private land through creation of extra value (most of it public), so new property rights should be defined and properly allocated. Thus, a key conclusion of WP5 is that the main goal of planning in regulating suburbanisation is to ensure that any settler in suburban areas – an individual, a household or a company should pay a fair and adequate price for all common/

public resources (land, amenities and infrastructure) consumed. If this principle is not observed, all local tax-payers, including the socially-weak ones, pay for the development of the suburban street networks, which chiefly serve new settlers, most of whom are well-off and wealthy residents.

Based on all outlined research studies, Work Package 5 has proposed 7 measures and 16 amendments of articles of 4 ordinances to be adopted by Sofia Metropolitan Municipality. The proposal had been discussed in detail with the local government and had been submitted for further consideration to district administrations, local interested groups, local population, NGOs and businesses.

2. Structure and content of Deliverable 5.6

Structure of Deliverable 5.6

The goal of this introduction is to present Deliverable 5.6 of Work Package 5 (Limiting Urban Sprawl) of the TURAS project and to explain its form and structure. Deliverable 5.6 comprises six papers that present some of the main findings of research conducted by Work Package 5 (WP5) of the TURAS project. These papers are organised around a core document titled "Report on the balance between planning and the market relating to sustainable and resilient development of suburban areas". However, the core document (Appendix 1) is not the deliverable – it is a draft document, necessary to identify the connections between the branches of research. Deliverable 5.6 is made up of the six papers, because academic papers are an optimal method for achieving academic rigor.

It should be noted that initially the "Report on balance between planning and the market relating to sustainable and resilient development of suburban areas" was intended to be Deliverable 5.6 itself, but the progress of research has resulted in two main changes – one formal and one substantial. The formal change concerns the formulation of the report. Initially it was titled "Report on market equilibrium relating to urban resilience". The title is now more precisely defined, because WP5 research is aimed at finding the balance and the proper form of coordination between planning and the market, rather than finding a definition of proper market equilibrium.

The substantial difference is in the character of the document. During the progress of research, it was found that the issues of suburbanisation in the four studied cities (Sofia, Belgrade, Rome and Ljubljana) are very different and requiring very different approaches. A general approach would limit a deep analysis into some of the issues that are most essential. Instead, several analyses of key issues are much more efficient to investigate the similarities and the differences in suburban development of the studied cities. Apparently, academic papers are better suited for such purposes. In this case the "Report on the balance between planning and the market" is a common point of departure, based on the purpose of research and the need to draw the internal connections between them. Besides, an important advantage of the chosen new form of Deliverable 5.6 is that, when submitted to scientific journals the papers will be objectively evaluated by blind peer-review. Already several of the papers, produced by WP5, have been accepted by journals with different impact factors. Two of the papers[2] included in Deliverable 5.6 had been accepted for publication after rigorous peer-review - one is a chapter of a book edited by K. Stanilov and L. Sykora, published in August by Wiley Blackwell and another one had been accepted by Planning Theory, preliminarily published in June on OnlineFirst (DOI: 10.1177/1473095214540651).

Documents, included in Deliverable 5.6

The first three research papers investigate the physical as well as the demographic and social changes in suburban areas of the studied cities. The paper "Urban Growth in South-eastern Europe: Specific Trends to Suburbanisation" investigates the main factors of suburbanisation in Sofia, Belgrade and Rome: suburban growth, changes in densities, rate of fragmentation of suburban patterns, mix of uses in suburban areas. The goal of the paper is to draw comparisons between the suburban trends in the two South-eastern European cities and those in Rome, reaching conclusions about the very specific forms of suburbanisation in SE

[2] For a list of other TURAS-WP5 papers - published or accepted for publishing, please see the list after this introduction

Europe. The second paper "Patterns of suburbanisation in South-eastern Europe: Separate realities" focuses mainly on the demographic and social aspects of growth in Sofia's suburban areas. It distinguishes between intra-city migration, comprised by upper-class households who settle in suburban areas in pursuit of higher standard of living and rural-to-urban migration, comprised of lower-class rural suburbanites, who hope to find opportunity in the big city. The third paper "Confronting Suburbanization in Ljubljana" analyses the historical and current processes of suburbanisation in the Ljubljana agglomeration and Ljubljana's urban region, encompassing the conditions and driving forces of both residential and non-residential trends. This is, actually, a chapter of the book "Confronting Suburbanisation", edited by K. Stanilov and L. Sykora, published in August 2014 by Wiley Blackwell.

As established by many authors and also confirmed by WP5 research, suburbanisation and sprawl are phenomena primarily generated by decentralised decisions, therefore, by market forces, but also strongly influenced and determined by planning policies. Therefore, the balance between planning and the market is of critical importance. This is the issue that is dealt with in the next three papers. The paper entitled "The roles of planning and the market in the processes of suburbanisation in South-eastern Europe" discusses the roles of the new master plans of Sofia and Belgrade for the achievement of balance with market forces. The paper studies the impacts of planning and the market on suburban development and the effects of usage of market-oriented instruments.

The paper "Types of Planning and Property rights" attempts to establish the theoretical basis of the relationship between planning and the market in urban development. This paper supports the thesis that the allocation of property rights over resources associated with a social activity, define the employment of planning or market mechanisms. Thus the allocation of property rights is essential for the relationship between these two forms of social coordination.

The interplay between planning and the market is the main factor for sustainability and, even more, for resilience. Different aspects of resilience should be attributed to planning and to markets. In fact each of the two mechanisms of social coordination has advantages and disadvantages concerning resilience. Property rights as the basic factor to allocate social activities between planning and markets play an essential role also concerning resilience.

Based on the above conclusions, the last paper, "Property rights, objectives and methods of planning", maintains that the purpose of nomocratic planning (the type of planning relevant to the complex systems of social interactions) is the proper allocation of common/ public property rights, which is particularly important for suburban development, where new property rights emerge. This sixth paper investigates the planning policies adopted in Sofia and Belgrade compared to those in Rome to assess whether they provide for a proper allocation of common property rights, concerning processes of suburbanisation. It is important to note that according to the position supported in the paper, the proper allocation of property rights over common resources is crucial for sustainability and resilience of planning solutions, especially in suburban areas.

To support the findings of Deliverable 5.6, to illustrate its full scope and to demonstrate its connection with planning practice, three more documents are supplemented. The "Report on balance between planning and the market relating to sustainable and resilient development of suburban areas" is the core document, drawing the line of logic, which connects the six papers. The "Report on the balance between planning and the market" and the report "Population dynamics (1990-2011) and land cover change (1990-2006) for three cities: Belgrade, Rome and Sofia" present the main findings of the field studies of WP5. The last document "Measures, tools and rules aimed to regulate the processes of urban sprawl and uncontrolled urban expansion in suburban areas of Sofia Municipality" is a policy statement, prepared by the TURAS team of Varna Free University for Sofia Metropolitan Municipality. The goal of this document is to propose concrete policy measures that would help the municipality to address the issues associated to Sofia's suburban development, identified

through the course of research. These measures comprise amendments in ordinances of Sofia municipality. They have been discussed with the mayors of the districts, NGOs and interested groups for more than a year and the administration intends to adopt them during the course of the TURAS project.

Documents prepared with regard to the objectives of Work Package 5

General objectives of Work Package 5	• **Explore the effects of societal transformation on the process of suburbanisation and planning practices with particular attention to attitudinal cleavages with regard to compact vs. dispersed development** • **Apply the model for Monitoring Urban Land Cover Dynamics (MOLAND) to better understand the factors that determine the urban development pattern at the urban periphery**
Specific objectives:	**Papers, included in D5.6**
• Objective 1: Explore suburbanisation trends and the specifics of physical changes by using MOLAND techniques, field studies and analysis of statistical data	• Paper 1: Urban Growth in South-eastern Europe: Specific Trends to Suburbanisation • Paper 3: Confronting Suburbanization in Ljubljana: From "Urbanization of the Countryside" to Urban Sprawl
• Objective 2: Explore the effects of societal transformation with particular attention to social changes and resulting attitudinal cleavages with regard to compact vs. dispersed development	• Paper 2: Patterns of Suburbanization in Sofia: Separate Realities • Paper 3: Confronting Suburbanization in Ljubljana: From "Urbanization of the Countryside" to Urban Sprawl
• Objective 3: Explore the changes in planning practices relating to societal transformation and the establishment of market mechanisms and the resulting changes in suburbanisation trends	• Paper 4: The Roles of Planning and the Market in the Processes of Suburbanisation in South-eastern Europe
General objectives of Work Package 5	• **Propose regulations and guidance tools, which would be implemented by local governments to address the problems of urban sprawl in their respective cities** • **Develop recommendations and guidelines on managing urban sprawl to be implemented by cities participating in the TURAS project network and in a wider European context**
Specific objectives:	**Papers, included in D5.6**
• Objective 4: Develop the theoretical basis of the principles of coordination between planning and the market in urban and suburban development	• Paper 5: Types of planning and property rights
• Objective 5: Develop approaches and types of tools of coordination between planning and the market in suburban development in the cities-partners of WP5 and in wider European context	• Property 6: Rights, Objectives and Methods of Planning

3. List of presented papers, appendixes and supporting materials

Academic papers, included in Deliverable 5.6 (i.e. in this document):

1. Slaev, A., Krunic, N., Kovachev, A. and Petric, J. (paper not yet submitted) Urban Growth in South-eastern Europe: Specific Trends to Suburbanisation
2. Daskalova, D., and Slaev, A. (paper not yet submitted) Patterns of Suburbanization in Sofia: Separate Realities
3. Pichler-Milanovic, N., (2014) Confronting Suburbanization in Ljubljana: From "Urbanization of the Countryside" to Urban Sprawl. In Stanilov, K. and Sykora, L. (eds), 2014, *Confronting Suburbanisation – Urban decentralisation in Postsocialist Central and Eastern Europe*, Chichester, Oxford: Wiley Blackwell
4. Slaev, A., Kovachev, A., Zekovic, S., Maricic, T., Vujosevic, M., and Bajic, T. (paper not yet submitted) The Roles of Planning and the Market in the Processes of Suburbanisation in South-eastern Europe
5. Slaev, A., (2014, forthcoming) Types of Planning and Property Rights. *Planning Theory*, preliminarily published on OnlineFirst (DOI: 10.1177/1473095214540651)
6. Slaev, A. (paper not yet submitted) Property Rights, Objectives and Methods of Planning

Research reports, prepared in relation to Deliverable 5.6:

1. Report on the balance between planning and the market relating to sustainable and resilient development of suburban areas – contributed by all WP5 partners, compiled and edited by A. Slaev – link to this document
2. N. Krunic – Population dynamics (1990-2011) and land cover change (1990-2006) for three cities: Belgrade, Rome and Sofia – link to this document
3. Monastra, G., Baffioni, C., Odorico, M., Vallocchia, S. – Strategies for local planning, projects and zoning guide of Rome– link to this document
4. Baffioni, C., Mendozza, M., Monastra, G., Odorico, M., Tudini, F.M., Vallocchia, S., Sangiovanni, G., Vermiglio, S. – The dynamics of population and real estate market in Rome and in Province of Rome– link to the first document,
5. Baffioni, C., Mendozza, M., Monastra, G., Odorico, M., Tudini, F.M., Vallocchia, S. – The dynamics of population and real estate market in Rome and in Province of Rome – Annex – link to this document
6. Baffioni, C., Mendozza, M., Odorico, M., Tudini, F.M., Vallocchia, S. – Survey of planning documents: The case study for Italy and Rome – link to this document
7. Monastra, G., Baffioni, C.,Mendozza, M., Nati, G., Odorico, M., Vallocchia S., Tudini, F.M. – The soil consumption in Rome – link to this document
8. Cignini, B., Baffioni, C., Mendozza, M., Odorico, M., Vallocchia, S., Tocca, L., Sangiovanni, G., Vermiglio, S. – Suburbs of Rome: From expansion to identity of reconstruction – link to this document
9. Monastra, G.,Baffioni, C.,Mendozza, M., Odorico, M., Tudini, F.M., Vallocchia, S. – Study on the role and efficiency of knots in a polycentric urban system – the case study for Rome - link to this document

Policy proposals, prepared in relation to Deliverable 5.6:

1. A. Slaev, I. Nikiforov, P. Nikolov – Measures, tools and rules aimed to regulate the processes of urban sprawl and uncontrolled urban expansion in suburban areas of Sofia Municipality – link to this document
2. Monastra, G., Baffioni, C., Odorico, M., Vallocchia, S., Tudini, F.M.– Moving Home-Work plan for employees of 10 Department of Roma Capitale – link to this document
3. Monastra, G., Baffioni, C., Mendozza, M., Odorico, M., Tudini, F.M., Vallocchia, S. – The suburbs of Rome: definitions and regulations of planning and development – link to this document

Other academic papers, prepared in relation to Deliverable 5.6:

1. Krunic, N., Maksin, M., Milijic, S., Bakic, O., and Đurđevic, J, 2014. Population dynamics and land cover changes of urban areas, *SPATIUM International Review*, 31, pp 22-29 – link to this document
2. Slaev, A. and Kovachev, A., 2014, Specific Issues of Urban Sprawl in Bulgaria, *Journal of European Spatial Research & Policy*, forthcoming – link to this document
3. S. Zeković, Evaluation of Urban Construction Land: Recommendations for Local Development/Evaluacija građevinskog zemljišta: preporuke za lokalni razvoj, in Proceedings *Strukturni i delatni potencijal lokalnog razvoja* (in Serbian, abstract in English), Institute for sociological research, Faculty of Philosophy, Belgrade university, Belgrade 2014. (forthcoming, in printing), 24 pages – link to this document
4. Petric, J., Bajic, T., Basaric, J. 2014, Urban sprawl under the influence of residential choice – Case study of settlement Kaluđerica in Belgrade (in Serbian, abstract in English). In Lukic, B., Radosavljevic, Z., Dordevic, A., Maric, M. (eds.) *Local Governance in Planning and arrangement of space and settlements*, Belgrade: Association of spatial planners of Serbia, University of Belgrade, Faculty of Geography, pp 421-427 – link to this document
5. Zekovic, S., Vujosevic, M. and Maricic, T. (submitted to a peer-review journal) Spatial regularization, planning instruments and urban land market in a post-socialist society: the case of Belgrade – link to this document
6. Zekovic, S. and Vujosevic, M. (submitted to a peer-review journal) Development of South-Eastern Europe: the role of industrial policy – link to this document
7. Konakchiev, D. and Nikolov, P. (paper not yet submitted) Demographic Growth, Urbanization Process and Urban Sprawl in the Agglomerations of Sofia, Rome and Belgrade. – link to this document
8. Bajic, T. and Petric, J. (paper not yet submitted) The influence of residential preferencies on urban sprawl – Case study of Belgrade settlement Kaluđerica. – link to this document
9. Nikiforov, I. and Lyubenov, Y. (paper not yet submitted) The Polycentricity as an Instrument of Balanced Development of the City and Surrounding Areas in the General Urban Development Plan of Sofia. – link to this document
10. Topchiev, H. (paper not yet submitted) The Role of Public Transport for the Sustainable Urban Development of Sofia in the Context of Urban Sprawl. – link to this document

Academic papers, published or accepted before 2014:

1. Petric, J., Basaric, and J. Bajic, T., 2013, Urban society and resilience of Belgrade and Novi Sad in the network of settlements in Serbia – recent changes and perspectives. In Gospodini, A. (ed) Proceedings of the International Conference on "Changing Cities": Spatial, morphological, formal & socio-economic dimensions, Skiathos Island, June 18-21, 2013, pp. 1720-1729. – link to this document
2. Slaev, A and Nikiforov, I., 2013, Factors of Urban Sprawl in Bulgaria, *SPATIUM International Review*, 29, pp 22-29 – link to this document
3. Zekovic S., 2013, Guidelines and recommendations for the harmonization of regulations for funding urban land equipment, local economies and local public finances in Serbia/ Smernice i preporuke za usaglašavanje finansiranja komunalnog opremanja građevinskog zemljišta, komunalne privrede i lokalnih javnih finansija u Srbiji, published in a book "*Financing of Urban Land and Utilities Investment in Local Self-governments in Croatia, Slovenia, Montenegro and Germany: Experiences and Recommendations for Serbia"/Finansiranje komunalnog opremanja građevinskog zemiljišta u lokalnim samoupravama Hrvatske, Slovenije, Crne Gore i Nemačke: iskustva i preporuke za Srbiju* (in Serbian), Standing Conference of Cities and Municipalities of Serbia, Belgrade, April 2013, pp. 7-14 and 65-67. This contribution has been listed as an example of the empirical dissemination of the WP5 results - policy proposals, instruments/tools on the local level (cities and municipalities) in Serbia. – link to this document
4. Zekovic S., 2013, Local economic development and transformation of urban structures in municipality Stari Grad in Belgrade, published in Proceedings of the Conference "The old town and historic urban environments - issues and opportunities for preservation and management", Institute for Protection of Cultural Monuments of Belgrade, December 2013. (in Serbian), pp. 206-218. – link to this document
5. Petric, J., 2013, Residential preferences towards urban and suburban areas and their relationship with demographic characteristics (in Serbian, abstract in English), *Arhitektura i urbanizam*, 38, pp 3-8 – link to this document
6. Slaev. A., 2012, Definitions and Factors of Urban Sprawl in Europe, *Scientific almanac of Varna Free University*, 6, pp 92-107 – link to this document

4. Paper 1

Urban Growth in South-eastern Europe: Specific Trends to Suburbanisation

A. Slaev, N. Krunic, A. Kovachev and J. Petric

Introduction:

The changes in social and economic life in former socialist countries of Eastern, Central and SE Europe have also changed the mechanisms and patterns of urban development. These changes were most significant in big cities that experienced considerable growth, which, as a rule, has occurred in suburban areas. The suburbanisation processes in the countries of Eastern, Central and SE Europe, which were observed long before the fall of socialism, also changed substantially and resulted in a variety of new urban forms (Kok and Kovács 1999, Korcelli 1990, Nedović-Budić and Cavrić 2006, Timar and Varadi 2001). The new suburban forms are often characterised by low densities, discontinuity and leap-frogging – features considered typical for urban sprawl. Many authors consider urban sprawl to be a type of suburbanisation widely spread in the Western countries. Urban sprawl is also considered a negative form of development. Therefore, it is important to identify whether suburbanisation in the former socialist countries has followed trends similar to those in the western countries and specifically whether and to what extent processes of sprawl are observed.

Most former socialist countries have been faced with issues which result from sprawl only in the last couple of decades. Considerable research in this area had been focused on Central Europe and the Baltic countries. In SE Europe such research (Hirt 2007a, Nedovic-Budic et al 2012, Slaev and Kovachev 2014, Tsenkova and Nedovic-Budic 2006) so far has been less plentiful and, may be said, insufficient. What is more, planners in this part of Europe have little experience with issues of sprawl and are unfamiliar with their implications. This paper will focus on two SE European capitals – Sofia and Belgrade. To establish a basis of analysis, the paper will draw a comparison between the observations in these two SEE cities and those in Rome, as an example of a South-European capital. Presumably suburbanisation trends in South-eastern and Southern Europe may exhibit similar features, however the latter had been studied in more depth (e.g. Leontidou 1990, Leontidou et al 2007, Patacchini and Zenou 2009).

The goal of this paper is to investigate the processes in the suburban areas of Sofia and Belgrade. It will study the specific features of those processes and will seek to identify whether those processes and their results can be identified as sprawl. There is an obvious connection between the goal of the paper and issues like growth, suburbanisation and sprawl. As it will be discussed in the following sections, urban growth usually, but not necessarily generates suburbanisation. Modern suburbanisation most often, but not necessarily takes the shape of sprawl.This paper is focused on two research questions: What are the specific physical features of suburbanisation processes in SE Europe? Can these processes be qualified as "sprawl"?

Literature review

The first goal of the literature review is to identify specific features of suburbanisation /sprawl that should be used by this research. In planning literature the issues of suburbanisation and sprawl are intertwined, so first of all their relation should be clarified. In this paper the term "suburbanisation" denotes any growth of urban functions on the urban

fringe. Urban growth in principle is indicated by population growth, thus, suburbanisation is indicated by suburban population growth. Sprawl, in turn, is a form of suburbanisation (suburban growth) characterised by specific features. Galster et al (2001) identify 6 groups of definitions of sprawl: sprawl defined 1) by an example, 2) as an aesthetic judgement, 3) as a cause of an externality, 4) as the effect of an independent variable, 5) as (an) existing pattern(s) of development, and 6) as a process of development. Urban growth or expansion is at the basis of each of these definitions. A definition by Sudhira et al (2003) is ''when the rate of the development of land outstrips the rate of population growth''. Similarly, the definition of Fulton et al (2001) is: ''if land is being consumed at a faster rate than population growth, then a metropolitan area can be characterized as sprawling'' Brueckner (2000:161), too, defines sprawl as "excessive spatial growth of cities", which occurs in suburban locations in result of "spurred suburbanisation". Hence, any suburban growth can be termed "suburbanisation", whereas only the excessive territorial growth that outstrips the population growth should be termed "sprawl". Thus sprawl is a specific type of suburbanisation.

Next, the key characteristics of sprawl should be identified. For this purpose a few more definitions should be examined, starting with the one provided by the European Environment Agency (EEA 2006:6):

> *Urban sprawl is commonly used to describe physically expanding urban areas. The European Environment Agency (EEA) has described sprawl as the physical pattern of low-density expansion of large urban areas, under market conditions, mainly into the surrounding agricultural areas. Sprawl is the leading edge of urban growth and implies little planning control of land subdivision. Development is patchy, scattered and strung out, with a tendency for discontinuity. It leap-frogs over areas, leaving agricultural enclaves. Sprawling cities are the opposite of compact cities — full of empty spaces that indicate the inefficiencies in development and highlight the consequences of uncontrolled growth.*

It is obvious in the EEA definition that the term "sprawl" is used to denote different phenomena – urban forms as well as specific development. Couch et al (2007) analysed sprawl "not as a pattern of urbanisation, ... but rather as a process of urban change". Galster et al (2001:681) have found that the term "has been attached to [1] ***patterns*** of residential and non-residential land use, to the [2] ***process*** of extending the reach of urbanized areas (UAs), to the [3] ***causes*** of particular practices of land use and to the [4] ***consequences*** of those practices." Chin (2002: 3-6) outlined four different types of definitions: definitions of urban form, definitions based on land use, on impacts and on density. Finally, a description given by Couch et al (2007) is, indeed, useful mainly because it draws the connection between the process and the resulting urban form. Couch et al compared sprawl to the changing form of a conical sandcastle. With time the form of the sandcastle changes and in result "the height of the peak of the centre of the cone is less, the angle of slope is reduced and the circumference is enlarged." Thus, in result of processes of sprawl the densities in the city centre are falling, whereas the low-density peripheral areas are enlarging. Therefore, the falling overall densities are a key characteristic of sprawl.

But not only low overall densities are an important feature of sprawl – suburban densities are also a key characteristic. Sprawl termed as "western type" suburbanisation is considered generated by middle or upper class residents, who move from inner city areas to the urban periphery in pursue of higher standard of living (Fielding, 1989; Fishman, 1987, Jackson, 1985), respectively high standard housing with large plots and a lot of open spaces. Hence, western type suburbanisation/ sprawl is characterised by low and *further falling suburban densities*. This is not a typical feature of other types of suburbanisation – e.g., generated by in-migration of people looking for means of living, who settle on the urban fringe because of the cheaper housing (Korcelli, 1990).

Furthermore, a number of other characteristics of sprawl, typical mainly of the "western style", had been identified in planning literature. According to Ewing et al (2002:2) key features of sprawl are: " [1] a population that is widely dispersed in lowdensity development; [2] rigidly separated homes, shops, and workplaces; [3] a network of roads marked by huge

blocks and poor access; and [4] a lack of well-defined, thriving activity centres, such as downtowns and town centers". Galster et al (2001) have outlined a number of features of sprawl, depending on different meanings of the term. Thus, when the term *sprawl* is used to identify *patterns of development,* its features are low density, leapfrogging, distance to central facilities, dispersion of employment and residential development, and continuous strip development. When the term sprawl is used to denote a *cause of an externality*, the latter takes the form of high dependence on the automobile, isolation of the poor in the inner city, the spatial mismatch between jobs and housing, or loss of environmental qualities. Sprawl may also denote a *consequence or effect of some independent variable* – in such cases its features are fragmented local government, poor planning or exclusionary zoning. Similar features are outline in the definition of EEA (2006) quoted above.

Regional and local specifics of suburbanisation

Another important factor for choosing which features and respective indicators should be employed in investigating suburbanisation in Sofia and Belgrade is the consideration to identify whether local specifics are present. A well established fact is that urban sprawl in Europe is not the same as that in North America. First of all densities differ substantially. Nivola (1998) has emphasised that New York, America's densest city, had approximately one-third the population density of Frankfurt and Frankfurt is by far not the densest European city. Another major difference observed by Nivola relates to the use of private cars and the rate of automobile dependence. He pointed that residents of San Diego made on average 17 trips on public transport in a year, whereas residents of Milan – 350 trips in a year. Gordon and Richardson (20017) note in the United States only 3.5 percent of total commuting trips are on mass transit. According to Buehler and Pucher (2012) the number of annual public transport trips per capita in the USA is 24, while in Germany is 139 and in Switzerland – 237.

The differences between Western Europe and Southern Europe are of greater interest for this paper, because a large part of Southern Europe is closer to the study region geographically. The history of the past few centuries of Bulgaria, Serbia and, for instance, is similar to that of Greece, also in terms of urban development. Even the fundamentally different socio-economic conditions in the second half of the 20th century could not change some common features (Slaev et al. 2012, Slaev and Nikiforov 2013, Kovachev 2003)). Whereas numerous studies of peri-urban processes in Central Europe and the Baltic states have found considerable similarities with those in the western countries (Krisjane and Berzins 2012, Kok and Kovács 1999, Stanilov and Sykora 2012, Tammaru et all 2004 and many others), only a small number of studies have discussed the issue whether suburbanisation in SE Europe is similar, too, or not.

Many researchers have performed exhaustive analyses of the urban forms and sprawl in Southern Europe, such as Leontidou (1990, and Leontidou et al 2007), Antipolis (2001), Munoz (2003), Romano and Zullo (2013). According to Leontidou (1990), South-European (or Mediterranean) cities are much more compact and dense than Western-European and this is characteristic also of their suburban developments (Leontidou et al 2007). The author observed that suburban forms in Greater Athens and the Prefecture of Attica were more compact, often strung out, ribbon and, in some cases, "leap-frogging", but not dispersed. Leontidou explained her findings with the specific urban culture and specific historic factors and traditions in urban development characterised by relatively high densities and clear boundaries. She emphasised the specific residential preferences formed as a result of the widespread illegal suburbanisation, which took place during the 1950s and the 1960s.

Hence, the survey of literature has led to the conclusion that to study the specifics of the trends in SE Europe, at least four features of suburban processes in Sofia and Belgrade should be examined: the population growth in suburban areas, the overall and the suburban densities, the rates of dispersion (meaning the opposite of compactness), and the rate of mix of uses. Analysing these features is viable, because it uses standard data that are available (to be discussed further in the methodology section) and it may produce meaningful results.

Methodology

To answer the two main research questions the paper should study the specific features of urban processes in the outskirts of Sofia, Belgrade and Rome with regard to population growth, densities, dispersion (fragmentation), and mix of uses. Because different data are available in each of the three cities, and certain factors of suburbanisation are too complex (e.g. the mix of uses) they will be measured by more than one indicator.

Identifying the characteristics of sprawl to be investigated in the two SE European capitals should also depend on the feasibility of their analysis and assessment. Chin (2002) has discussed this issue and has outlined a number of difficulties related to measuring sprawl. Even densities that are considered the most popular, evident and most easy to measure indicators of sprawl present considerable problems like, for instance, what kinds of land are included in the denominator and what the reference values should be. Also, measuring "scattered" and "leap-frog" forms could be problematic, she noted, because for instance Ewing (1994) distinguished between these two types, whereas many researchers do not. Another problem mentioned by Chin was that developments "as diverse as contiguous suburban growth and scattered development" were both classified as sprawl, despite the fact that they represent significantly different patterns.

The research should begin by identifying whether suburbanisation or sprawl is observed in Sofia and Belgrade. Therefore, the first problem is to estimate whether the suburban areas of the two cities are experiencing growth – specifically, population growth.

Suburban population growth

Population growth will be measured by the increase in the number of the population in each suburban district compared to the overall population growth of the city. Census data of the three capitals the will be used. If the growth of the population in the suburban areas is greater than the overall, it will indicate trend to suburbanisation.

The next goal of the research should be to assess whether the observed characteristics of suburbanisation in South-eastern Europe are similar to the characteristics of Western-sprawl, as they had been outlined by the literature survey.

Overall densities and suburban densities

As concluded by the literature survey, the falling overall densities are a key characteristic of sprawl. If the territory of a city is expanding, but the densities remain the same, then the city is growing, not sprawling. The fall in the overall densities is particularly indicative if the densities in the central areas are falling too – referring to the decreasing height of the centre of the cone of the sandcastle cited by Coach et al (2007). The indicator to be used in this research will be the *change* in the level of density. Examining the change in time will avoid the need for an external reference value. For this analysis data from the site of the European Environment Agency (EEA: http://www.eea.europa.eu/data-and-maps), and the national statistical services of Bulgaria, Serbia and Italy – NSI, SORS, and ISTAT will be used. It should be stressed that EEA data (Corine Land Cover – CLC) indicate artificial surfaces, which is not exactly the same as urbanised surfaces. For instance, large urban open and green areas are not included. I.e. the calculated urban densities do not account for the parks and all green lands of the cities. The indicator, i.e. the *change* in the level, will be employed to also measure suburban densities. Low and falling suburban densities are considered an important component of Western type sprawl. Thus where densities are falling, Western type suburbanisation may indeed be occurring. The same sources of data will be used.

The suburban areas of Sofia and Belgrade are elucidated in Figure 1 and Figure 2. Sofa Metropolitan Municipality comprises 24 districts. For the purpose of the present research, the districts are classified in 4 groups: central districts, intermediate, peripheral (the periphery of the compact city) and suburban. The seven suburban districts are classified in two groups – southern and northern – because the suburbanisation processes in these two groups prove to be very different. This classification of the districts of Sofia is based on the General Urban Development Plan (completed 2003, adopted by the Parliament 2007) and an earlier

research conducted by Hirt (2007a, 2007b) and Slev (2012) on Sofia's suburbanisation processes.

Figure 1 – Types of districts of Sofia

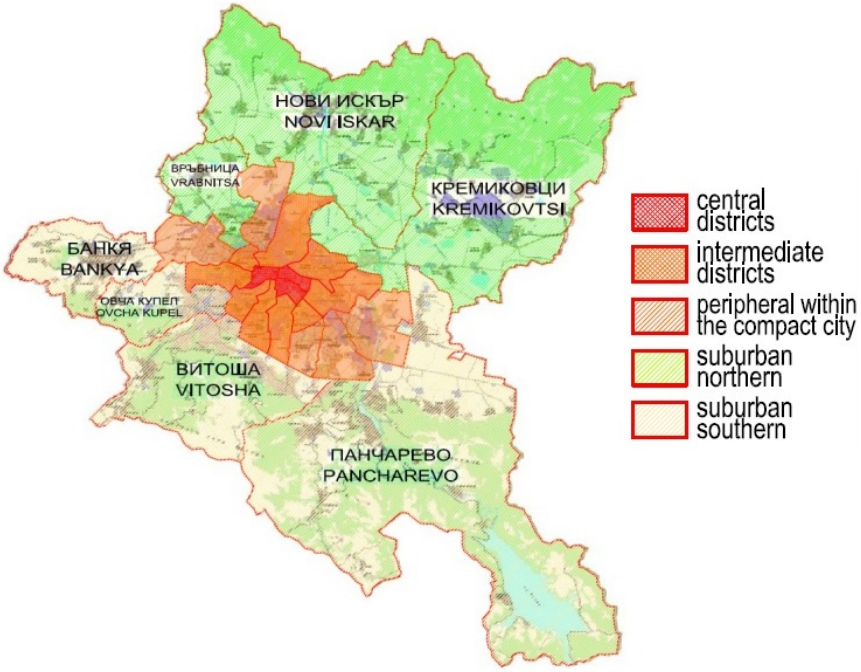
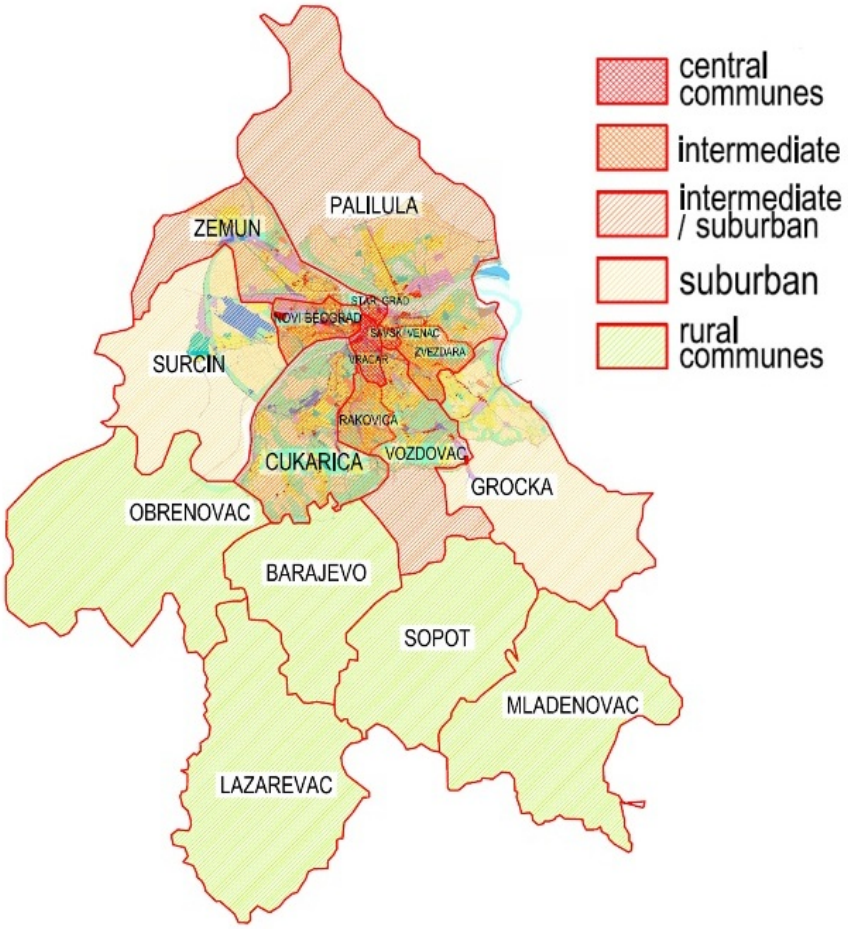


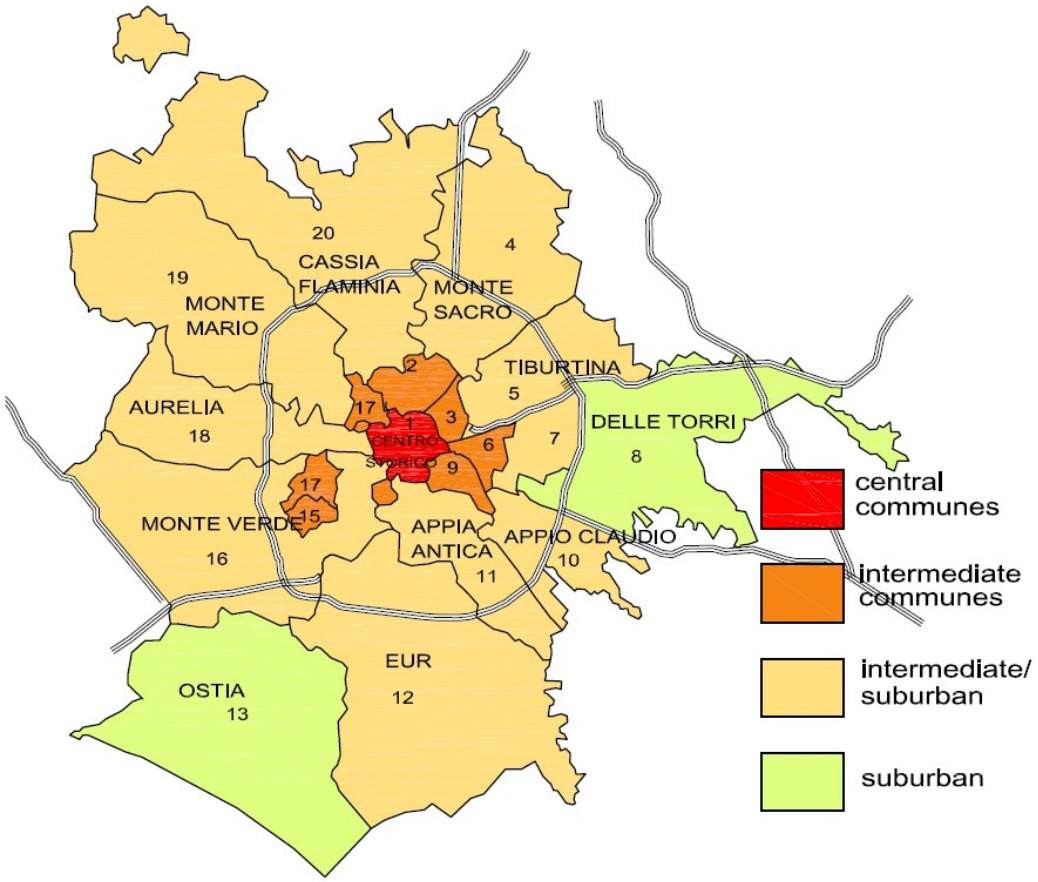
Figure 2 – Types of municipalities of Belgrade



For the sake of the comparison a similar typology is adopted for Belgrade (Figure 2) and Rome (Figure 3). The urban region of Belgrade is larger than that of Sofia and its existing administrative structure comprises 17 communes (16 until 2003, when one of the communes was split into two). Respectively, except for the urban and suburban communes, 5 rural communes are also included in the region. Besides this, three of the urban communes cover both intermediate and suburban territories and will be classified as intermediate/suburban.

The City of Rome (Roma Capitale) comprises 19 municipalities (communes). Like in Belgrade, some of the municipalities occupy different types of area with regard to centrality. Nine of them cover intermediate areas, territories of urban periphery and suburban territories and one covers only peripheral areas within the ring road (Grande Raccordo Anulare). These municipalities are considered one group – intermediate/suburban.

Figure 2 – Types of municipalities of Rome



Level of dispersion (fragmentation)

The level of dispersion will be measured by employing two different indicators. The first indicator will be the average surface of an urbanised area (urbanised fragment, nucleus). If the average surface of the urbanised areas is diminishing, then the rate of dispersion is growing. The second indicator will be the ratio between the total length of the outer borders of all urbanized areas (fragments, nuclei) and their total surface. A given surface of urbanised land allocated in larger fragments with compact forms will have a shorter border than the same surface allocated in smaller fragments with irregular star-like shapes. Thus a longer border per hectare will indicate a higher rate of fragmentation. In this case, too, the indicator will be the relative change in levels, so that no external reference will be needed. If the levels are rising – that means that the rate of dispersion of suburban forms is growing; if the levels are falling – then the forms are becoming more compact.

Rate of the mix of uses in suburban areas

Various methods have been employed by different researchers to measure the mix of uses. Two methods will be examined in this paper – one proposed by Galster et al (2001) and another proposed by Song and Knaap (2004). The measure proposed by Galser et al (2001:695) is "the degree to which two different land uses commonly exist within the same small area, and this is common throughout the UA [urbanised area]". Actually, Galster et al employed a version of the exposure index of Massey and Denton (1988), which can be interpreted as "the average density of a particular land use (e.g. housing units) in another land use's (e.g. nonresidential or employees) area" (Galster et al, 2001:703). The measure proposed by Song and Knaap (2004:214) is the surface "of commercial, industrial, and public land uses in the neighborhood divided by the number of housing units". The researchers tested their measure in two neighbourhoods in Washington County, Portland. One of the neighbourhoods they chose – Forest Glen – was characterised by measures of urban form near the median values in Washington county, so it was considered an example of a "typical" county, whereas the second neighbourhood – Orenco Station – was "a highly touted New Urbanist" one. In the latter, the indicator actual value was 2,068 sq.ft. of non-residential land per housing unit and the planned value was 6,837 sq.ft. (respectively 192 actual and 635 planned sq.m per housing unit). In the "typical" neighbourhood the value of the indicator was 0, because not a single square foot was allocated to non-residential use.

For the purpose of comparison between the three cities studied in this paper, a critical factor is the availability of relevant data in all three. Therefore, this research will focus on methods that use already provided data from EEA, NSI, SORS, and ISTAT. Where appropriate, also data about Sofia will be used from the Cadastral Agency of Bulgaria and Sofia's municipal company for urban planning SOFPROEKT. The first indicator to be used in this study is based on the one proposed by Song and Knaap (2004). Only, instead of the number of households, the number of the population will be used (i.e. land for non-residential use per person instead of per household), because data about the number of population of the suburban districts/ communes of Sofia, Belgrade and Rome are available – and have already been provided for other research. The second indicator will be based on the measure used by Galster et al. However, again, because data about residential areas are available and provided for this paper, the indicator will be *number of jobs per household*, instead of "number of housing units per unit of non-residential land" or "per job."

Changes in values of the indicators over time would be examined and, also, the values in suburban districts will be compared to the mean values in the centre and for the whole city. It should also be noted that the available data is only at the level of the commune/ district, so conclusions may be drawn only concerning this level and not the neighbourhood level.

Findings of the empirical research

1. Population growth

The population growth of the different administrative units of Sofia and Belgrade is a key indicator to identify existing trends of suburbanisation. Summarised data are presented in Tables 1 and 2 and for comparison – about Rome in Table 3. The overall growth of the two Balkan capitals after 1990 is evident, though not as intensive as it had been from the 1950s till the end of the 1980s, whereas the growth of the population of Rome since 1991 is modest. However, the trends in the three cities are parallel, in regards to the balance between central and suburban growth. In all three cases, the population of suburban areas is growing quickly. For most suburban districts and communes, the growth in two decades is between 20 and 30-35 percent; for the southern districts of Sofia it is 48 per cent and as high as 60 per cent in the district of Vitosha.

Furthermore, coupling continued suburban growth, the population of central areas has in Sofia and Begrade dropped between 7.6 and 29.3 per cent, while in Rome the centre experienced no significant change in population. However, there has been a population decrease in all other communes of the wider central area, from about 10-15 per cent. These

trends are depicted in the diagram in Figure 4. This type of growth of population in the suburbs paired by a drop in the central areas is an important indication of suburbanisation. Of course, the growth is not the same in all peri-urban areas. In Sofia, a particular disparity is observed. In contrast to the extreme growth in the southern districts, the growth in the northern districts varies between +20 and –46 per cent and the overall is negative. Thus, for most areas to the north of Sofia, it is difficult to claim definitively that clear trends of suburbanisation are occurring.

Table 1 – Changes in the number of the population of the different groups of districts of Sofia between 1992 and 2011

Districts	**1992**	**2001**	**2011**	**Change 1992- 2012**
Central districts	116 524	94 651	100 786	**-13,5%**
Intermediate districts	454 425	468 174	512 772	**12,8%**
Peripheral districts	399 651	386 989	420 826	**5,3%**
Suburban districts	219 535	221 028	257 207	**17,2%**
TOTAL	**1 190 135**	**1 170 842**	**1 291 591**	**8,5%**
Southern Suburban	*106 780*	*123 972*	*156 606*	***46,7%***
Northern Suburban	*112 755*	*97 056*	*100 601*	***-10,8%***

Table based on data by the National Statistical Institute 2012a – Census 2011

Table 2 – Changes in the number of the population of the different groups of communes of Belgrade between 1991 and 2011

Municipalities	**1991**	**2001**	**2011**	**Change 1991- 2012**
Central communes	181 951	156 434	143 905	**-20,91%**
Intermediate	450 627	449 394	474 955	**5,40%**
Intermediate / suburban	597 360	629 128	681 135	**14,02%**
Suburban communes	101 371	114 161	127 726	**26,00%**
Rural communes	220 842	227 007	231 719	**4,93%**
TOTAL	**1 552 151**	**1 576 124**	**1 659 440**	**6,91%**

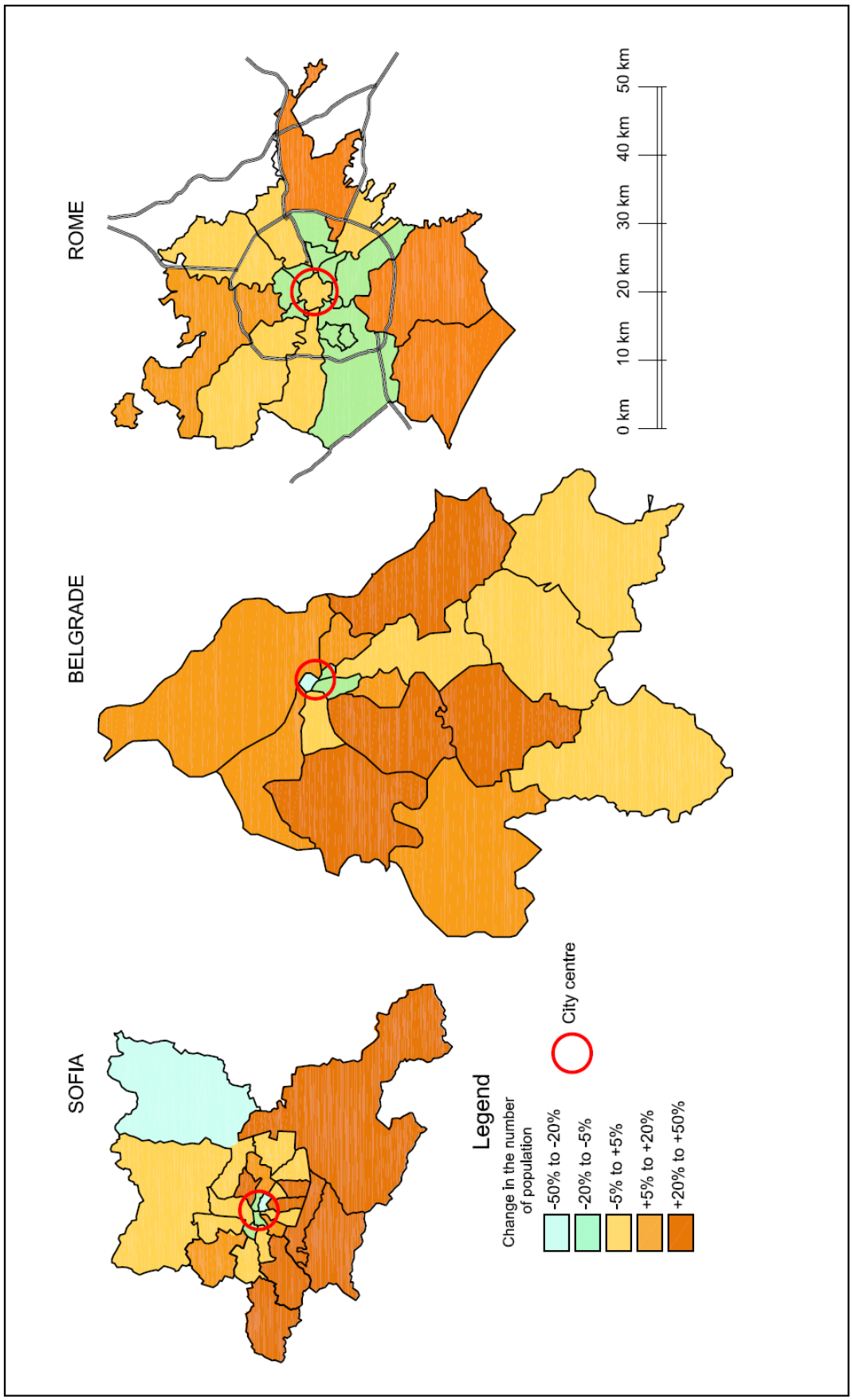
Table based on data by the Statistical Office of the Republic of Serbia (2014)

Table 3 – Changes in the number of the population of the different groups of communes of Rome between 1991 and 2011

Municipality	**1991**	**2001**	**2011**	**Change 1991-2011**
Central / Centro Storico	130 296	122 619	128 454	**-1,41%**
Imtermediate municipalities (wider central area)	730 375	675 707	644 068	**-11,82%**
Intermediate / suburban	1 615 746	1 609 014	1 625 777	**0,62%**
Suburban	367 188	393 920	477 835	**30,13%**
TOTAL	**2 843 605**	**2 801 260**	**2 876 134**	**1,14%**

Table based on data by the Italian National Institute of Statistics– ISTAT

Figure 4 – Changes in the number of the population of the districts and communes of Sofia, Belgrade and Rome between 1991 and 2011



2. Change in overall densities.

The change in the overall density of population is the second key indicator used in the investigation of trends of suburbanisation and sprawl. An important factor is that South-European cities are, in principle, more densely populated than Western and Northern cities. Good examples are Mediterranean cities like Athens, Marseille, and Barcelona (EUROSTAT 2014, HSA 2014, INSEE 2014, INE 2014). Values calculated by this research concerning the Sofia, Belgrade and Rome (Table 4) show that the densities in the two post-socialist capitals are twice lower than the overall density of Rome, which is about as high as that of a typical, Mediterranean city. Densities of Sofia and Belgrade are typical for Europe – confirming what Bertaud (2004) has observed generally about the post-socialist urban form. To remind, however, spatial data from EEA, used in this research, refer to artificial surfaces, so larger green surfaces are excluded from the urbanised areas.

Table 4 – Population densities in Sofia, Belgrade and Rome in 1990 and 2006

	1991			2006			Change in Density
	Population	Artif.Area	Density	Population	Artif.Area	Density	
Sofia	1190135	26867,8	44,30	1231217	27728,0	44,40	0,24%
Belgrade	1552151	37331,8	41,58	1602861	42115,3	38,06	-8,46%
Rome	2843605	36908,2	77,05	2747689	39721,3	69,17	-10,22%

Table based on data by NSI (2012), SORS (2014), ISTAT (2012) and EEA (2014)

An observation of particular importance for this study is that the urbanised area (represented by the artificial surface) of all three cities is expanding – Table 4. However, although urbanised areas may be expanding, the negative change in the overall density of Belgrade and Rome should be regarded as an indicator against urban sprawl. The data collected and processed for this study does not indicate any significant change in density in Sofia. Thus, the changes in the overall densities in the period between 1990-2006 suggest that Sofia is not sprawling (at least so far), but that it is definitely is suburbanising (as concluded by Hirt, 2007a and in the former paragraphs of this paper). However, changes after 2006 support an observation that trends of sprawl in Sofia are accelerating – as it will be discussed in relation to changes in suburban densities.

3. Change in suburban densities

The changes in suburban densities in the three cities are, again, parallel – they are falling, but with two exceptions in Belgrade and Sofia. As it was found, these are the districts of the two capitals that have attracted the highest inflow of new settlers and have highest growth of population in the two cities.

Generally and not surprisingly, suburban densities in Belgrade, Rome and Sofia are lowest compared to the average for the city – the mean suburban densities vary between 0.3 and 0.74 of the city mean (the overall density) and, as a rule, continue to fall. If the trends in this period are analysed in each district, the results are more definite and display certain peculiarities. Such analyses provide evidence of increasing levels of density in the two "purely" suburban communes of Belgrade, in all four southern suburban districts and even in one of Sofia's northern districts. A drop in densities is observed only in two of Sofia's northern districts. In the District of Kremikovtsi, the indicator has dropped by 44 per cent, but this is obviously due to the falling number of the population (see Figure 4 – the northern suburban area with greatest, 46 percent, loss of population), not to sprawl.

Table 5 – Changes in suburban densities in Sofia, Belgrade and Rome

City / types of districts / communes	1991			2006			Change in Density 1991-2006
	Population	Artif.Area	Density pp/ha	Population	Artif.Area	Density pp/ha	
Sofia - overall	1190135	26867,8	**44,30**	1231217	27728	**44,40**	**0,24%**
Southern suburban	106780	6036,56	**17,69**	140290	6569,6	**21,35**	**20,72%**
Northern suburban	112755	7680,12	**14,68**	98830	7799,33	**12,67**	**-13,69%**
All Suburban	**219535**	**13716,7**	**16,00**	**239120**	**14368,9**	**16,64**	**3,98%**
Belgrade -overall	1552151	37331,8	41,58	1602861	42115,3	38,06	**-8,46%**
Intermed/suburban	597360	12527,92	47,68	646571	14841,8	43,56	**-8,64%**
Suburban/ Rural	101371	5155,46	19,66	120470	5617,37	21,45	**9,07%**
Rome - overall	2843605	36908,2	77,05	2747689	39721,3	69,17	**-10,22%**
Intermed/suburban	1615746	24027,1	67,25	1570054	26019,25	60,34	**-10,27%**
Suburban	367188	6892,7	53,27	405646	7821,42	51,86	**-2,64%**

Table based on data by NSI (2012), SORS (2014), ISTAT (2012) and EEA (2014)

Furthermore, data from the Cadastral Agency suggest that trends in the outskirts of Sofia have not changed substantially since 2006. This study has focused on 3 districts – one southern and two northern. As evident in Table 6, the densities in the southern district and in one of the northern have remained about the same over the last fie years. In only one of the studied districts – again in the above-mentioned Kremikovtsi – density levels have experienced continued reduction.

Table 6 – Changes in the population densities in three suburban districts of Sofia

Suburban Districts	2006			2011			Change in Density 2006-2011
	Popula-tion	Urbani-sed area	Density	Popula-tion	Urbani-sed area	Density	
Vitosha (southern)	52210	2514,43	20,76	61467	3043,15	20,20	-2,72%
Novi Iskar (northern)	27768	2751,44	10,09	28991	2798,57	10,36	2,65%
Kremikovtsi (northern)	23447	3405,68	6,88	23641	3664,43	6,45	-6,29%

Table based on data by NSI and the Cadastral Agency

It can be concluded that the population growth of the suburban administrative units of Belgrade and Sofia has generally resulted in a rise in population densities. This connection is not characteristic of Western sprawl; neither has it been observed in Rome. Thus, it can be considered a specific feature of suburbanisation in South-Eastern Europe.

4. Dispersion (fragmentation)

Two indicators had been chosen to measure the rate of dispersion in this paper and they will be examined simultaneously. Data and calculations concerning Sofia, Belgrade and Rome are presented in Tables 6, 7 and 8. The results of the calculations indicate that the urban structures of all three cities are becoming more compact. As evidenced in the tables, the

mean surfaces of urbanised fragments in all types of communes/ districts are growing, with the exception of the central areas. This indicator does not change in Sofia and Belgrades' central areas, it decreased only in the central areas of Rome. Furthermore, the results for the second indicator "length of outer border per hectare of urbanised area" confirm this result. The changes in central and intermediate locations are negligible and can be considered "zero". The negative values in peripheral and suburban areas in Belgrade and, even more, in Rome show that the urban patterns are definitely less dispersed in 2006 than in 1990. In Sofia, the rate of dispersion measured by the second indicator in territories on the urban fringe and in the southern suburban districts has remains practically unchanged. Only in northern suburban districts do urban patterns show slight signs of a growing rate of dispersion (change 1.1 m/ha).

Table 6 – Mean surfaces of urbanised fragments and length of outer borders per hectare of urbanised areas in Sofia's districts

Type of commune	Year	Frag-ments, Nr	Total surface of fragments, ha	Mean surface of fragments, ha	Total length of border, km	Length of border [m] per hectare
Central	1990	1	859.0	859.0	25.3	29.5
	2006	1	859.0	859.0	25.3	29.5
	Change			0.0		0.0
Intermediate	1990	12	8097.2	674.8	55	6.8
	2006	9	8131.8	903.5	54.5	6.7
	Change			228.8		-0.1
Peripheral	1990	17	4194.9	246.8	81.5	19.4
	2006	17	4368.2	257.0	86	19.7
	Change			10.2		0.3
Suburban southern	1990	45	6036.6	134.1	168.2	27.9
	2006	43	6569.6	152.8	185.4	28.2
	Change			18.6		0.4
Suburban northern	1990	61	7680.1	125.9	296.7	38.6
	2006	56	7799.3	139.3	309.6	39.7
	Change			13.4		1.1

Table 7 – Mean surfaces of urbanised fragments and length of outer borders per hectare of urbanised areas in Belgrade's communes

Type of commune	Year	Frag-ments, Nr	Total surface of fragments, ha	Mean surface of fragments, ha	Total length of border, km	Length of border [m] per hectare
Central	1990	6	2103.60	350.60	37.1	17.64
	2006	6	2101.43	350.24	37.3	17.75
	Change			-0.36		0.11
Intermediate	1990	30	8082.38	269.41	249.4	30.86
	2006	17	8947.67	526.33	247.1	27.62
	Change			256.92		-3.24
Intermediate/ suburban	1990	143	15752.75	110.16	752.7	47.78
	2006	73	18242.74	249.90	767.3	42.06
	Change			139.74		-5.72
Rural	1990	102	11393.04	111.70	678.2	59.53
	2006	88	12823.43	145.72	727.5	56.73
	Change			34.02		-2.80

Table 8 – Mean surfaces of urbanised fragments and length of outer borders per hectare of urbanised areas in Rome's communes

Type of commune	Year	Frag-ments, Nr	Total surface of fragments, ha	Mean surface of fragments, ha	Total length of border, km	Length of border [m] per hectare
Central	1990	4	1399.9	350.0	28.9	20.64
	2006	5	1403.9	280.8	29.1	20.73
	Change			-69.2		0.08
Intermediate	1990	26	4588.5	176.5	126.7	27.61
	2006	20	4476.7	223.8	118.5	26.47
	Change			47.4		-1.14
Intermediate/ suburban	1990	236	24027.1	101.8	1097.3	45.67
	2006	200	26019.3	130.1	949.8	36.50
	Change			28.3		-9.17
Suburban	1990	42	6892.7	164.1	293.7	42.61
	2006	31	7821.4	252.3	256.4	32.78
	Change			88.2		-9.83

Further data provided by the Cadastral Agency and processed by SOFPROEKT is analysed on Table 9 for the years 2006 and 2013. These results are more explicit than the results in Tables 6-8, which is due either to the different methods of research used by EEA and the Cadastral Agency, or to the different period of development. Nevertheless, they generally confirm the former analysis. The figures indicate that in the southern suburban areas of Sofia, patterns are quickly changing to more compact forms, whereas dispersion in the northern districts is growing but the rates have accelerated substantially compared to those indicated in Table 6. Because the growing dispersion in those districts differs from all other observations, it should be confirmed by further studies.

Table 9 – Length of outer borders per hectare of the urbanised area in three suburban districts of Sofia – 2006-2013

Factors	Vitosha		Novi Iskar		Kremikovtsi	
	2006	2013	2006	2013	2006	2013
Total Urbanised Area UA- [ha]	2514,43	3131,27	2751,44	2806,42	3405,68	3707,55
Length of Outer Borders (bordering non-urban land - rural and forest) OB - [m]	106104	90569	213688	229330	146033	168248
Ratio Outer borders / Urbanised area OB / UA - [m/ha]	42,20	28,92	77,66	81,72	42,88	45,38

Table based on data by the Cadastral Agency (2013)

The observation that suburban patterns in the three cities are becoming more compact (with only one exception found – the northern suburban districts of Sofia) may have two alternative explanations. One is that suburbanisation in South-eastern and in Southern Europe indeed produces more compact urban forms. Another explanation is supported by the view of some researchers (e.g. Fee and Hartley 2011), who assert that in continuously growing cities suburbanisation and sprawl are often just elements of a cycle of urban enlargement. Thus in the first phase of a cycle, suburban areas are subject to low-density growth (i.e. sprawl), but if the city continues to grow, development patterns in these areas become denser and turn over the next phases of development. If this holds true for Sofia, Belgrade and Rome, it means that only the northern suburban territories of Sofia are in the initial phase of development and all other suburban areas are currently in more mature phases of densification.

5. Mix of uses

As prescribed in the methodology section, the mix of uses in suburban areas of the three cities will be measured using two indicators – surface for non-residential uses per resident of the commune/ district and the jobs/ households ratio. The first indicator is, probably, less accurate, because the usage of land surface may vary extremely with regard to density and intensity of development, particularly, the floor-space ratio. Thus it is possible to accommodate development with high levels of residential/non residential mix albeit on a small plot of land. Furthermore, and this is the main problem with this indicator, when mixed-use developments are permitted, urban land (surface, plot) is usually marked after the prevailing use. For instance, in an urban plot that is marked (allocated) for high-rise housing, regulations often allow for acceptable commercial or service uses to be accommodated as well, as long as they occupy only a marginal share of the development. Since the prevailing use is housing, the other uses are not accounted for. However, because data are available for calculating the values of this indicator in all three capital cities, it will be used to compare the existing mix of uses. The results are presented in Tables 10 to 12.

Table 10 – Non-residential land surface per resident in Sofia's districts

Type of districts	Year	non-residen-tial surface, ha	Population, Nr	**m2/pp**	**Change m2/pp**
Central districts	1990	50,3	116524	**4,32**	**-0,01**
	2006	42,1	97720	**4,31**	
Intermediate districts	1990	1402,7	454425	**30,87**	**0,34**
	2006	1530,9	490476	**31,21**	
Peripheral districts	1990	1022,4	399651	**25,58**	**17,40**
	2006	1736,1	403909	**42,98**	
Suburban southern	1990	718,1	106780	**67,25**	**-11,15**
	2006	787,1	140290	**56,11**	
Suburban northern	1990	2136,8	112755	**189,51**	**22,15**
	2006	2091,8	98830	**211,66**	

Table 11 – Non-residential land surface per resident in Belgrade's communes

Type of communes		non-residen-tial surface, ha	Population	**m2/pp**	**Change m2/pp**
Central communes	1990	472,4	363902	**12,98**	**1,13**
	2006	425,8	301808	**14,11**	
Intermediate communes	1990	1139,4	901254	**12,64**	**1,46**
	2006	1290,2	914824	**14,10**	
Intermediate/ suburban	1990	3746,2	1397462	**26,81**	**4,55**
	2006	4811,2	1534082	**31,36**	
Rural communes	1990	1202,0	441684	**27,21**	**2,61**
	2006	1356,8	455008	**29,82**	

Table 12 – Non-residential land surface per resident in Rome's communes

Type of communes		non-residential surface, ha	Population	**m2/pp**	**Change m2/pp**
Central communes	1990	0,0	130296	**0,00**	**0,00**
	2006	0,0	122611	**0,00**	
Intermediate communes	1990	1,7	730375	**0,02**	**0,02**
	2006	3,1	649378	**0,05**	
Intermediate/ suburban	1990	2631,3	1615746	**16,29**	**7,49**
	2006	3732,7	1570054	**23,77**	
Suburban communes	1990	142,7	367188	**3,89**	**2,77**
	2006	270,1	405646	**6,66**	

While it is possible that distinct areas within a given type of communes/ districts are highly mono-functional, the results of this exercise still clearly indicate a growing diversification of uses in most suburban communes/ districts. To support this finding, the trends in the central and intermediate areas should be compared to those in the peripheral and suburban territories. Apparently the former indicate nominal or no changes whatsoever. However, the rate of the mix has grown in all peripheral/suburban areas substantially (between 2.61 and 22.15 m2/pp), with only one exception – the southern suburban districts of Sofia, where the mix has decreased by 11.15 m2/pp. In fact, this is the only large area in the three studied cities, where suburbanisation has resulted in growing mono-functionality, but it should be stressed that the rate of the mix has still remained very high compared to the suburban territories of Belgrade and Rome. (To avoid confusion it should be noted that the explanation proposed in the former paragraph to the problem related to the prevailing use is illustrated in the central and intermediate areas of Rome. The value of the indicator is "zero" in these communes, because surfaces are marked as "residential", but in reality a large amount of commercial, service and office space is accommodated as well.)

The second indicator employed by this research to measure the mix of uses is the one based by Galster et al (2001) – which measures the number of jobs per household. Data about Rome and Belgrade are missing, while about Sofia, data has been provided only for three suburban districts – the southern Vitosha and the northern Novi Iskar and Kremikovtsi. The results shown on Table 11 support the above findings in a more explicit way. The calculated values of the number of jobs per household confirm the conclusion about the high mix of uses in Sofia's suburbs. The mean rates of this mix in the three examined suburban districts are not lower than the mean for Sofia, but are even a little higher and the highest rate is in the southern suburban district of Vitosha – 13 percent higher that the city mean.

Table 11 – Households – jobs ratio in three suburban districts of Sofia

	Total for Sofia	**Vitosha**	**Novi Iskar**	**Kremi-kovtsi**	**Total for the 3 districts**
inhabitants /Nr/	1 201 719	61 647	28 991	23 641	114 279
households /Nr/	572 510	25 276	11 345	9 166	45 787
jobs /Nr/	609 922	30 678	12 419	9 657	52 754
jobs per household	1,07	1,21	1,09	1,05	1,15

Table based on data of Census 2011 (NSI 2012)

Conclusions

Processes of suburbanisation have developed in Sofia and Belgrade over decades, in step with the phases of cycles of accelerated urban growth. Such processes have been sustained throughout the 20th century, though in different forms and under different conditions. Nowadays suburbanisation is more prominent and complex. Whereas trends resembling "Western type" suburbanisation (better off residents settling in the suburbs in pursue of higher lifestyle and higher housing standard) are definitely strong, other types are also significant, such as residents who settle in suburban locations on account of cheaper property values. In Sofia these two trends and their differences are particularly evident, since they have developed in distinct suburban territories.

Related to the above conclusion, this paper has found that the trend toward suburbanization (defined by features like low densities, dispersed "leap-frogging" patterns, poor mix of uses, etc.) may be still under question in South-Eastern Europe, unlike in Western Europe and North America, where suburbanisation takes the form of urban sprawl. To some extent this can be explained by the tradition of compact living conditions, typical of nations with a socialist past. However, by comparing Sofia and Belgrade to Rome, this study has found that many local specifics are very close to the characteristics of South-European cities. Suburbanisation in Sofia and Belgrade, thus, exhibits very strong local peculiarities. To examine these peculiarities the research has focused on the outlined features of sprawl, namely, the low densities, the fragmentation of urban forms, and the poor mix of uses. The paper has come to the end that the evident processes on the fringes of Sofia and Belgrade are very similar to sprawl, but in each specific urban area, some important elements of sprawl are distorted or missing.

One thing is certain: just like in Rome and cities throughout Europe, Sofia and Belgrade are suburbanising, which is indicated by the growth of suburban population paired by a decline of population in central areas. Furthermore, in many suburban areas in Sofia and Belgrade, densities are rising, instead of falling. While in Rome, suburban densities are indeed falling, in the SEE capitals, the lowest values are found only in unattractive locations; in attractive locations that are subject to suburban growth, densities are rising. Furthermore, it is difficult to say that Sofia's and Belgrade's suburban forms are dispersed. In fact,, trends indicate growing compactness. In Sofia, it is obvious that intensive suburbanisation occurred, but urban forms in fact became more compact and conversely – more defragmented only where suburbanisation was weak. Neither did suburbanisation in South-Eastern Europe follow the typical sprawling patterns of poor mix of uses, characteristic of the "Western type." The measures used by this study concerning the mix of uses indicated that the mix is high in Sofia's and in Belgrade's suburban areas, similar to the suburban territories of Rome.

To understand the specific mechanisms of sprawl in SE Europe and why they produce such specific results, it is necessary to study the specific local drivers of sprawl and residential preferences in more detail. This should be an important direction of further research.

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5. Paper 2

Patterns of Suburbanization in Sofia: Separate Realities

Diliana Daskalova and Aleksandar Slaev

Introduction

At the beginning of the post-socialist transition, East European cities could be differentiated easily from their western counterparts in that they lacked the rings of affluent suburbs in the urban periphery. (Haussermann, 1996; Hirt, 2007) Cities were marked by a well-defined urban boundary, beyond which lay a rural periphery of modest villages. Following the fall of socialism and the deregulation of urban land, suburban developments, which are typical of Western cities, have emerged. The literature has shown that in many cases suburbanization was fuelled by residential decentralization of primarily upper class households, motivated by the pursuit of higher residential standards, lower densities, lusher natural environment and proximity to people with similar cultural traits. (Stanilov 2007, Tammaru et al 2004, Timar and Varadi 2001, Fishman 1897, Jackson 1985).This «flight» of the wealthier classes to the suburbs has been likened to the type of suburbanization, common in Western metropolises.

Upper-class Western-style suburbanization, with its origins in late 18th-century England, climaxed in the post-World War II era USA, where it continues intensely today. Herein, middle- and upper-middle class residents migrate from central to peripheral districts, seeking to escape urban density in manicured, large-scale "bedroom" subdivisions. These serve primarily as a home for wealthy residents, who still commute for work. Studies on post-socialist suburbanization have confirmed that post-socialist suburban development has in many cases evolved in the image of this Western trend, albeit with significant delay (Hirt 2007, Nedovic-Budic and Tsenkova 2006, Stanilov 2007). In many Western nations however, there is also migration of lower classes to suburbs, prevalent especially in southern urban metropolises. Thus, if post-socialist suburban form can be likened to Western suburban form, then it has the proclivity to secure private wealth as well as marginalize lower-income groups, simultaneously.

Whereas there has been much literature on Western style suburbanization in post-socialist cities, it has focused almost exclusively on upper-class decentralization. This paper argues that, while this type of upper-class suburbanization may well have been the distinctive form of suburbanization in Sofia for several decades, other types of suburbs are developing. These suburbs are constituted by lower and middle-income groups, whose relocation to the capitals' periphery is fuelled not by the ambition to improve lifestyle but for increased opportunities near the city. Are there then, in fact, two, separate types of suburban realities emerging? Not yet published studies by a project funded by the Seventh Framework Programme of the European Commission (TURAS) indicate such a pattern of contrasting, suburban realities. Based upon historical review and these new findings, this work aims to identify and distinguish disparate trends in Sofia's suburbs, generated by residential traditions and different social motivations.

In order to do this, the first section of the paper considers the phenomenon of suburbanization in the context of South-eastern Europe. This is followed by a brief overview of suburbanization as it has occurred in the Bulgarian capital, especially with regard to the influence of socialism and post-socialism on specific drives and social and demographic characteristics of suburban development. Finally, the characteristics of post-socialist, contemporary suburbanization in Sofia are considered. With a focus on the social and

demographic features of new residents in emerging suburbs, the study attempts to identify and differentiate between various motivations of these residents and thus to explain contemporary patterns of suburban development in Sofia's peripheral districts.

Suburbanization as a Phenomenon in South-eastern Europe

Suburban growth can be defined as a "a combination of an increase in non-central city population and economic activity, as well as urban expansion." (Keil, 2013, pp. 9) Yet, there are many, different types of suburban growth. This can be attributed to the fact that suburban environments are the result of diverse socio-economic and political circumstances.

The suburbs, which have emerged in South-eastern Europe, have taken shape in the midst of an unstable and changing socio-economic and political environment. The urban development policies, which were implemented with the onset of socialism, resulted in a distinct type of urban structure. Just a half a century later, these rules were rewritten and reversed. The reorientation towards Western values, the onset of democracy and free-market rule, inevitably brought on new patterns of urban (and suburban) development.

Thus, the phenomenon of Western-style suburbanization in post-socialist cities is only two decades old, as a result the specifics of geographical, demographic, historical and especially socio-economic development in the region. For example, the restrictions on development imposed during the socialist regime delayed the consumers' ability to choose single-family housing. (Nedovic-Budic, 2001, Blinnikov et al., 2006, Slaev, 2012a).

It can be said that are two main types of suburbanization in Western, market-driven societies. The first group is comprised of households who relocate from the inner city to the urban periphery for a more luxurious lifestyle. This phenomenon, known as *intra-urban migration*, comprised of upper-class households, who leave the city for a quieter life in the suburbs. These migrants in effect seclude themselves from the rest of society in wealthy, landscaped, more socially homogenous subdivisions, albeit willingly. It has been found, that this model of the suburb as a "bourgeois escape" from the city is much "more relevant in the north [than] in the south [of Europe.]"(Keil, 2013, 2012, pp?)

The second type of suburbs, which are typical in market-driven societies, are comprised of marginalized people, typically poorer immigrants and rural migrants, who move to the city periphery in hopes of improved chances of survival, in proximity to the city. This migration to the periphery, fuelled by rural populations in search of livelihood, is known as *rural-to-urban migration*, and is more prevalent in southern than in northern Europe.

Rather than seeking to escape the city, these poorer, rural suburbanites hope to find opportunity in it. (Leontidou, 1990; *Pichler-Milanovic,* 2004). Rural-to-urban migration is unlike "Western-style" suburban development in the following ways: it is more informal, less regulated and often self-built. Nonetheless, both brands of market-driven suburbs have and often continue to be places of exclusion; a phenomenon, which spatially concentrates either more privileged or marginalized groups.

Since both of the types of migration, inherent to market-driven societies, are exclusionary in nature, they stand in contrast to the type of suburbs which evolved in the formerly Soviet-bloc countries in South-eastern Europe during socialism. Socialist urban development policies formulated the development of polycentric suburbs to accommodate controlled and classless urban population growth. They were designed and constructed by state planners who operated in an environment in which the state had a nearly full control over urban land and other resources. This type of centralized control, coupled by newly developed construction technologies, permitted the rapid and widespread construction of neighbourhoods of prefabricated housing blocks.

These dense, housing estates were to mitigate the type of marginalization and socio-spatial stratification, associated with rapid urban growth in metropolises to the West. Indeed, they

were constructed to accommodate the large, socialist urban middle class as opposed to the richer or poorer strata, which are more characteristic of lassiez-faire societies. To some degree, these suburbs did achieve the transformative social reforms for which they were intended. Certainly, the estates achieved an exceptionally diverse demographic and social makeup of residents, when compared to Western suburban enclaves for the rich or poor.

This divergence between socialist and market-driven suburbs can be attributed to one main factor. Whereas market mechanisms have long been a, if not *the*, conclusive determinant in urban residential development in market-driven societies, socialist suburbs were planned and provisioned by the state. Rather than being the consequences of market based supply, demand and housing preferences—to either escape the city or find opportunities in it—they were the product of tight central planning. The inability to express individual housing preferences during socialism in effect thwarted the primary mechanisms that could have produced market-driven, and thus segregated forms, of suburbanization.

With the transition to market-economy, urban land, especially the city outskirts, quickly became among the most desirable (and profitable) of commodities in Eastern Europe. The private sector seized the initiative for housing development during a period when planning regulations, disdained as a mechanism of the former regime, were weak. For these reasons, eastern European cities bear the

> *"scars of extremely rapid development of the city denied for years by socialist central planning; an excess for demand of all sorts – for shops, factories, warehouses, mass residential accommodations, as well as more exclusive gated residential developments – spilling out, as new suburbs gorge themselves on the expanses of agricultural land now available through often imperfectly reconstructed market mechanisms…as in Leipzig or Budapest, rupture with past patterns of socialist and pre-socialist urbanization." (Phelps, 2013, pp. 179)*

While the poly-centric, high-rise suburbs of the socialist era have experienced decline over the last several decades, the suburban periphery bourgeoned. The newly found freedom to express housing preferences brought with it a shift towards individual housing construction in the urban periphery. Perhaps because living in uniform, collectivist socialist housing was compulsory, residents of post-socialist cities were almost immediately drawn towards individual housing, which was less dense and provided a richer, private environment.

Over the last 10-15 years, a handful of researchers have focused their work on the characteristics of suburban development in large post-socialist cities, in particular the capitals of Russian Federation (Blinnikov et al., 2006, and Makharova, 2007, on Moscow), Central-European countries (Sykora, 1999a, 1999b, 2000, on Prague; Timar and Varadi, 2001; Kovacs, 1994, Dingsdale, 1999, and Kok and Kovacs, 1999, on Budapest) and the Baltic countries (Ruoppila, 1998, on Tallinn). Similar studies have also been conducted in the south-eastern part of Europe, although this region has been investigated less. (Hirt 2007, Nedovic-Budic and Tsenkova 2006 and Slaev 2012)

Throughout Eastern Europe, researchers observed an occurrence of upper-class, intra-urban migration to peri-urban regions. The social, demographic as well as physical characteristics of the post-socialist suburbs have been likened to "Western" patterns, as they have been observed throughout the 20th century, especially in the global north and west. This has been coupled by the general trend towards socio-spatial stratification, manifested physically in the peripheries of cities, in the form of wealthy, residential suburbs. This paper will investigate the extent of this phenomenon in Sofia in order to determine if this phenomenon continues today.

Historic Suburban Growth in Sofia

The goal of the historic review is to provide a context for understanding residential conditions and traditions in Sofia. Local traditions and social conditions are a driving proponent of residential preferences, influencing suburban development in Sofia.

Intra-urban and Rural-to-urban Migration in Sofia

During the first half of the century, Sofia was characterised by strong rural-to-urban migration. With its designation as a state capital, the city grew over 15 to 20 times in population (Lampe, 19840; NSI, 2009) and in urban area (Hirt, 2007b, Hirt and Kovachev, 2006) from 1880 to 1935. Already then, the city had become the core of the national industry and was home to fifty per cent of the industrial workforce. Poor migrants and refugees came to the city looking for opportunity, putting a strain on the housing supply.

Despite the rapid population influx from rural areas throughout the twentieth century, construction in Sofia's peri-urban areas comprised just one-fifth (between 14-23%) of total development. (NSI 2012) This can be attributed to the fact that Bulgarian public officials and local planning authorities advocated compact urban development policies, because they perceived territorial expansion as a threat, primarily because of the pressure to provision adequate infrastructure and urban utilities. (Kovachev 2005)

With the rise of the communist regime following World War II, urbanization and industrialization continued to intensify. From 1945 to 1985, population growth in Sofia often exceeded forecasts and expectations. For example, a plan in 1945 forecasted a population increase of 300,000 by 1965, but actual growth just a decade later was 720,000. (NSI 2009: 26). From 1946 to 1985, Sofia's population boomed, gaining more than 900,000 residents and reaching approximately 1.2 million inhabitants in total. At this point, urban development and migration came under the strict control of the municipal and state planning authorities. In contrast to the early capitalist period prior to World War II, migrants from rural areas were required to have a permit in order to live in Sofia under state socialism.

Since the state was granted these special administrative powers over urban development, unauthorised construction of housing in the urban periphery was curtailed. To meet the great demand for housing, the state hastily provisioned apartments to all incoming and existing urban dwellers through the construction of socialist suburbs in the form of standardized mass-housing districts. This in effect mitigated the growth of impoverished slums and affluent enclaves, which were common in growing, western metropolises.

Indeed, twentieth century Sofia had strikingly little "illegal" settlements (built by poor rural-to-urban migrants) in suburban districts, even when compared to other socialist capitals, such as Belgrade, were regulations on peri-urban land were more relaxed. Under these conditions, intra-urban migration to the suburbs was also limited. Again, even when compared to other socialist capitals, the Sofia planning municipality maintained a conservative policy towards single-family housing development in the urban fringe, thus restricting the construction of more affluent, "western-style" suburbs in peri-urban zone. Instead, it was the polycentric suburbs of the socialist type, which were envisioned for the growing middle class.

The Socialist Legacy in Urban Development Patterns

The historical influences of the greater part of the twentieth century inevitably helped to shape the development patterns and housing preferences, which have emerged since the transition to market economy and democracy. During socialism, residents were accustomed to predominantly compact urban forms, partially because the preferences for single-family housing could not be expressed until after the fall of socialism. As in most other socialist

cities, this is because single-family housing construction was restricted and relatively well-serviced housing estates were provisioned by the state.

Over the two and a half decades of post-socialism, socialist housing estates fell into disrepair and plummeted in popularity among the local population. This can be attributed partly to the rate at which these were built, which certainly had some consequences in regards to their quality and thus, image. Built in haste in the context of rapid industrialization and urbanization, they have been repeatedly criticized for their low quality construction, services and landscaping. During socialism, the poor image of socialist estates fortified the position of central city areas as the most desirable place to live, rather than push residents' preferences towards single-family housing in the periphery. Since more alternatives have become available, the socialist suburbs have been effectively condemned to a low status in the spectrum of housing preferences. (Slaev and Kovachev, 2014)

The onset of democracy and market economy heralded the promise of individual choice and thus, housing alternatives. Once restrictions on peripheral development were lifted, affluent buyers began to reorient themselves towards the new real estate in the city periphery. Although the city centre remains to be one of the favoured places to live in Sofia (Slaev and Kovachev 2014), several of the once "rural" villages neighbouring the city quickly became some of the most attractive places to live, for those who could afford it. Consequently, a process of rapid upper-class residential decentralization, suburbanization in its "Western" sense, became visible, as residents from the city centre began relocating to peri-urban areas. Wealthy residents, especially, were at last able to show off newfound individuality and status in the suburbs. However, peri-urban growth has not been uniform among all suburban districts. Indeed, growth indicators such as population growth and construction rates, indicate that growth in Sofia's southern urban periphery far exceeded that of other peripheral regions.

To summarize the findings of the historical review, it can be said that residential preferences in Sofia have traditionally favored more compact urban forms. This is on account of the specific historical factors, such as the restrictions on housing construction and provision of housing by the state, which restricted expansive suburban development throughout the twentieth century. As these limitations have been lifted, residential preferences have swayed towards housing in the urban periphery. However, peripheral development is not occurring evenly, with implications upon the newly developing suburban neighborhoods.

Contemporary Suburbanization in Sofia

This section of the paper aims to differentiate between alternative patterns of suburbanization in Sofia, with respect to their different causes. For this purpose it will investigate the social and demographic characteristics of various groups of new suburban residents in different suburban areas. Furthermore, the research will try to identify the residential preferences underlying the choices of the residents, which drive them to settle in certain suburban locations. Thus, the influence of residential preferences, as key drivers of suburbanization and its patterns, is determined.

Studies have indicated a trend towards accelerated decentralization and peripheralization in Sofia since the fall of socialism. Thus far, they have been focused primarily on the rapid development, which has occurred along Sofia's southern periphery, the so-called "Vitosha collar." It has been found, that these developments resemble the social and demographic characteristics typical of upper-class "Western" suburbanization, as they has been observed throughout the 20th century in the global north and west. (Hirt, 2007; Slaev, 2012)

Indeed, the demographic and social characteristics of residents in the southern periphery have been well documented. A relevant study (Hirt 2007) on demographic characteristics and residential preferences of new residents in the southern neighbourhood, Vitosha,

provided conclusive evidence that suburbanization in this district constituted the upper-class Western-type. The study found that new residents moved predominantly from the city centre to the Vitosha suburb, in order to attain a higher standard of living, to live in lower densities and with customized housing styles.

According to the results of the study, residents were typically of a higher class, as attributed to the fact that 40 % of the participant newcomers had an annual income that was four times that of the average Bulgarian (in the year of survey, 2006). Furthermore, the survey found that one third of the long time residents worked within or near the peripheral area where they lived, whereas the newcomers' share of that was less than one tenth. In other words, the newcomers primarily commuted to work outside of the peripheral area, likely to the city centre, and only lived in the peripheral area, rendering these largely residential, or "bedroom" suburbs. Finally, only eight per cent of newcomers in Vitosha had moved from elsewhere in the country, annihilating any doubt that the migrants to the southern suburb were part of the rural-to-urban migration pattern. (Hirt, 2007)

Recent indicators show that in addition to the suburban development in Sofia's southern periphery, there is also a trend of migration to the northern urban periphery, albeit less significant. However, social and demographic research has thus far neglected new residents in these suburban districts. The aim of this study is to introduce the much-needed demographic and social characteristics of these new residents, in order to be able to differentiate them from the better-studied suburbanites to the south. For the purposes of this analysis, Sofia's urban periphery is divided into northern and southern districts. The southern district includes suburbs Ovcha Kupel, Bankya, Vitosha and Pancharevo. The northern district includes Vrabnica, Novi Izkar and the formerly industrial district, Kremikovci.

The nature of suburban development in northern districts is illustrated below in an analysis of population data, coupled by a study conducted by Vitosha Research, surveying the social and demographic characteristics of residents in southern (Vitosha) as well as northern suburbs (Kremikovci and Novi Iskar). The social profiles of new residents are reviewed in terms of demographic, functional, motivational and locational characteristics, in line with the methodology developed by Hirt in 2007. This methodology, which enabled Hirt to differentiate the qualitative differences between established and new residents in the Vitosha neighborhood, enables us to differentiate between new residents in southern and northern suburbs.

Population Growth

When discussing the processes of suburbanization, it is necessary first to identify whether processes of population growth are observed in the peri-urban areas of the city. As a matter of fact, no such studies had been conducted about Sofia so far at the exception of Hirt (2007a) who investigated only one of the suburban districts of the capital city. As is shown in the next couple of paragraphs, northern districts are experiencing negative growth, to the point that it is questionable as to whether or not they can be identified as "suburbanization" at all. However, this fact in itself testifies to the key specifics, which are inherent to suburbanization in Sofia.

Population data from the last decades indicates gradual, yet uneven residential decentralization in Sofia. Beginning in the mid-eighties, Sofia's southern peri-urban zone experienced growth, which surpassed that of Sofia's central and all other peri-urban districts. In fact, central areas experienced a population decrease. During the 26-year period between 1985 and 2011, central areas lost approximately 32% of the total population. This decrease was compensated by a 72% population increase in the peri-urban neighbourhoods (see Table 1)(NSI 2012). Meanwhile, suburban districts to the north experienced only nominal or negative population growth, as indicated in the table below.

Table 1. Population dynamics in the suburban districts of Sofia 1985-2011

	1985	1992	2001	2011	Change 2011/1984	
Southern suburban						
Vitosha	41445	38484	42953	61467	20022	48,31%
Ovcha kupel	17608	37012	47380	54417	36809	209,05%
Bankya	8299	8228	9297	12136	3837	46,23%
Pancharevo	23585	23056	24342	28586	5001	21,20%
Total	**90937**	**106780**	**123972**	**156606**	**65669**	**72,21%**
Northern suburban						
Vrabnitsa	22612	39768	47260	47969	25357	112,14%
Novi Iskar	31765	29265	26544	28991	-2774	-8,73%
Kremikovtsi	43651	43722	23252	23641	-20010	-45,84%
Total	**98028**	**112755**	**97056**	**100601**	**2573**	**2,62%**

National Statistical Institute, 2011, Census 2011

These figures confirm a suburban population growth in Sofia, which corresponds to the dominant trend of intra-urban migration, or a flight towards the suburbs that has been experienced in post-socialist cities since the fall of socialism. For years, population influxes have followed a path that flows predominantly from the city centre towards the southern suburban districts, along the Vitosha footlands, rather than to the northern suburban districts in the plains to the north.

However, according to statistics on population dynamics collected by the TURAS team, the northern periphery is also attracting new migrants. (Krunić, et al., 2014, publication pending) The study, which encompassed population growth between 1992-2011, indicated that although growth in southern peripheral municipalities (Vitosha, Ovcha Kupel, Bankya and Pancharevo) has been the most drastic, residential migration is also occurring into the north, especially in Vrabnica. The study confirmed the continued "depopulation" in central districts.

Social and Demographic Characteristics

Data conducted in January-February of 2014 by Vitosha Research confirms the phenomenon of upper class intra-city migration to Sofia's southern suburbs, complementing population data and Hirts' findings from 2007. However, whereas Hirt's survey focused entirely on residents in the southern suburbs, this study includes research on residents of northern peripheries as well. Thus, this data enables us to differentiate between social and demographic characteristics of new residents in the north to those of new residents in the south.

Preserving Hirts' methodology, relevant survey questions are organized into demographic, functional and motivational criteria. The demographic characteristics answer the question of who moves to the urban edge, encompassing characteristics such as resident age, income, education and material possessions. The functional explores the relationship between new residents' and their neighbourhood, such as whether they commute to and from the suburbs on a regular basis, how they commute and for what purposes. Finally, the locational and motivational traits answer questions about the origins of new residents, specifically from where they have migrated to the suburbs and why. These criteria help to determine whether the conditions, which motivate people to move to the northern periphery, are different from those, which motivate people to move to the southern periphery. If there are indeed

differences in these criteria, it follows then that the social makeup of residents in northern and southern districts will differ from one another, indicating a process of socio-spatial stratification.

To begin with demographic characteristics, the findings of Vitosha Research show that new migrant groups in Kremikovci and Novi Iskar are of a more middle-class demographic composition. Whereas the average Bulgarian income in 2012 was 896 leva per month, the average income for new residents in southern Vitosha was 1235 per month. In Novi Iskar and Kremikovci, the average was still higher than the country's average income but lower than that in Vitosha, 1133 per month. Furthermore, the new residents in all suburban districts exceeded the incomes of the residents who have lived there for over twenty years, whose incomes averaged 894 per month. In the study period, new settlers' income in Vitosha was 36.6 percent higher than older residents. In Kremikovci and Novi Iskar, new residents' income exceeded older residents' income by 27.6.

Table 2. **Monthly Income by District**

Monthly Income	Vitosha	Kremikovci	Novi Iskar
Under 99 leva	5,70%	0%	0%
100-199 leva	0%	0%	0%
200-299 leva	0%	0%	0%
300-399 leva	5,70%	6,30%	0%
400-499 leva	5,70%	18,80%	0%
500-599 leva	0%	6,30%	0%
600-699 leva	0%	0%	0%
700-799 leva	5,70%	6,30%	0%
800-899 leva	5,70%	12,50%	16,70%
900-999 leva	5,70%	12,50%	16,70%
100-1499 leva	25,70%	25,00%	25,00%
1500-1999 leva	11,40%	12,50%	33,30%
2000 or more	22,90%	0%	8,30%
No income	5,70%	0%	0%

Vitosha Research. February 2014

Another area of distinction between new residents in suburban districts (as well as classical intra-urban and rural-to-urban models) is the level of education. As evident on Table 3 the newcomers to the southern suburban areas are better educated than those who settle in the northern areas.

Table 3. **Level of Education by District**

Level of Education	Vitosha	Kremikovci	Novi Iskar
No education	0%	0%	0%
Primary (4th Grade)	0%	5,90%	0%
Secondary (8th Grade)	5,90%	14,70%	20,00%
High School (11-13th grade)	47,10%	73,50%	57,10%
College	4,40%	0%	2,90%
University	42,60%	5,90%	20,00%

Vitosha Research. February 2014

One of the well-known characteristics of Western style suburbanization is its propensity to induce socio-spatial stratification. Thus, one objectives of this section is to assess to what extent the processes of suburbanisation in Sofia is leading to higher-level segregation of social classes. To measure the process of socio-spatial segregation, an assessment of Sofia's

social structure and the social mix can be complementary to the findings on demographic characteristics in Sofia's suburbs. The social structures of the population (long term residents and newcomers) are examined based on the data of the 2011 Census (NSI, 2012). In order to understand the social structure of population in suburban districts, it must be but investigated in the context of the overall social structure in Sofia. Thus, the social structure of the suburbs will be compared to the overall social structure of Sofia, the results of which are shown in the table below.

The basis for comparison is the social structure of the central districts, where 7.8 per cent of the total population resides. In central districts, the percentage of managers and specialists with higher education is much higher and the percentage of the workers (qualified and unskilled) is much lower. The situation in the southern suburban districts, where 12.1 per cent of the total city population resides, is a bit different. The absolute number of managers and highly educated specialist in the southern suburbs is high – similar to the central region. However, when shares in the total of the city are considered, it turns out that the resulting social mix is actually quite high. The shares of occupations in these areas (employees and workers) are relatively equal (varying between 11.25 and 12.82 per cent) with the exception of managers (14.86 %), qualified workers (14.03 %) and the *other* occupations (13.77 %). The explanation is that the process of suburbanization has added managers and well-paid highly educated employees to the local social structure of mainly working people, the result being a higher social mix. Although detailed information and data are missing, one can observe a few small, gated communities amidst large socially mixed areas in the southern suburbs of Sofia. If suburbanisation continues along this same trend, then it will continue to bring more well-paid, highly educated managerial classes to this neighbourhood, resulting in higher levels of segregation. However, the capacity of these attractive suburban areas (picturesque outskirts – Sofia's scenic southern edge – Hirt 2007) is almost fully exhausted, so further major changes in the social structure of the population are unlikely. Whereas the trend towards upper-class, Western suburbanization in the south has been very pronounced, suburbanization in the northern districts are much weaker and thus, the trend towards social segregation less thus less well expressed.

It should, thus, be concluded that, while suburbanisation trends in Sofia are evident and they do tend to generate social segregation, the level of the social mix remains high, even in the prestigious suburban areas. The tables below depict these trends in Sofia, central, southern and suburban regions. According to these data, it can be said that local suburbanization patterns resemble those, which are evident in other South European and Mediterranean cities (Leontidou, 1990) – nonetheless, further studies are needed.

Table 4. **Social Structure of the Population of Sofia's Districts in Number of Managers and Employees and in Percentage of the Total Numbers, Sofia**

Districts	Sofia (overall)	Central districts		Southern Suburban districts		Northern Suburban districts	
Total number of managers and employees	609922	44440	7,29%	77822	12,76%	45767	7,50%
Mangers	80989	7525	9,29%	12038	14,86%	3132	3,87%
Highly educated Specialists	141947	14059	9,90%	15971	11,25%	5248	3,70%
Technicians	60919	4813	7,90%	7194	11,81%	3289	5,40%
Admin.assistents	74917	5344	7,13%	9395	12,54%	4921	6,57%
Sales&services	120461	6909	5,74%	15369	12,76%	12037	9,99%
Qualified workers	74893	3183	4,25%	10506	14,03%	10161	13,57%
Unskilled	35043	1478	4,22%	4492	12,82%	4938	14,09%
Other	20753	1129	5,44%	2857	13,77%	2041	9,83%

Table 5. **Social structure of the population of Sofia's districts in number of managers and employees and in percentage of the total numbers, Sofia**

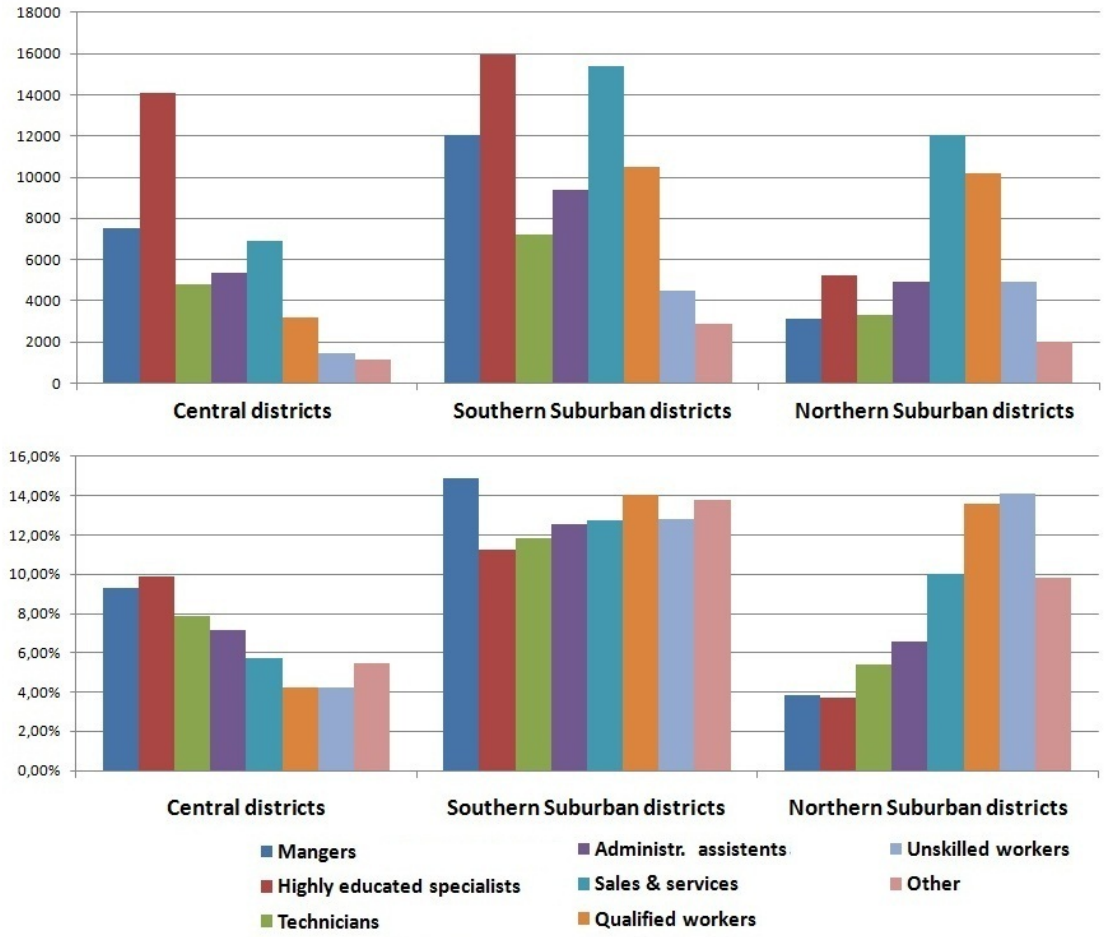

Diagram based on data by NSI (2012) Census 2011

Changes in social mix are affected by the influx of new residents who move to the suburbs from diverse districts or regions. The following locational and motivational characteristics of new residents can help elucidate differences the backgrounds of new residents in the north and south. These characteristics indicate where new residents come from and their motivations for moving, depicted in the tables below.

Table 6. **Last Residents of New Residents by District**

Where did you live 20 years ago?	Vitosha	Kremikovci	Novi Iskar
Another area in central Sofia	33,80%	11,80%	6,10%
Another area in peripheral Sofia	29,40%	26,50%	24,20%
In the same area	1,50%	5,90%	6,10%
In another city in Sofia municipality	5,90%	8,80%	30,30%
In another city outside of Sofia municipality	23,50%	44,10%	15,20%
Respondent is under 20 years old	5,90%	2,90%	18,20%

Vitosha Research. February 2014

As indicated above, there are differences in locational and motivational characteristics between new residents in the south versus those in the north. For example, whereas over

thirty percent of new residents in the Vitosha district came from the city centre, they constitute only a small fraction of new residents in Kremikovci and Novi Iskar. These data support the hypothesis that residential migration to the southern suburbs is of an intra-urban, Western type. (Hirt, 2007) Furthermore, they are indicative of a pattern of socio-spatial stratification, in which better-educated and less educated social groups live in separate settlements.

When asked about the motives for their move, none of the new settlers in Kremikovci and Novi Iskar cited their move to be based on hopes for increasing their quality of life and environment, as would be the case among Western-type, intra-urban migrations. Indeed, these were precisely the reasons, which were cited by residents in Vitosha. The answers cited by new residents in Novi Iskar and Kremikovci are more in line with the rural-to-urban migrant pattern. New residents in the north stated that they moved to peripheral districts on account of cheaper property values and proximity to employment.

Table 7. **Motivations for Relocation by District**

Why did you choose to live here?	Vitosha	Kremikovci	Novi Iskar
We own land here	36,80%	20,60%	57,10%
Cleaner air	26,50%	2,90%	5,70%
Cheaper property values	8,80%	26,50%	28,60%
Quieter environment	23,50%	2,90%	11,40%
More job opportunities	4,40%	17,60%	8,60%
Closer to work/school/university	7,40%	8,80%	0%
More parks/gardens	5,90%	0%	0%
Less neighbors (and conflicts with neighbors)	5,90%	0%	0%
Better environment for children and play	1,50%	0%	0%
No particular reason	4,40%	0%	0%
Other	23,50%	47,10%	25,70%

Vitosha Research. February 2014

In terms of functional characteristics, the southern suburbs are differentiated in that people who move there do not only come from but also continue to work in the city centre. This is evidenced by the two tables below, which indicate where new residents work and how often they travel into the city. In Vitosha, nearly half of new residents continue to work in the central city and almost all of them travel to the city every day. The figure of residents who continue to work in the compact, inner city is much less, around a quarter, Kremikovci and Novi Iskar.

Table 8. **Location of Occupation by District**

Where do you study/work?	Vitosha	Kremikovci	Novi Iskar
Another area in central Sofia	44,10%	17,60%	11,40%
Another area in peripheral Sofia	16,20%	11,80%	42,90%
In the same area	25,00%	20,60%	17,10%
In another city in Sofia municipality	4,40%	8,80%	0%
In another city outside of Sofia municipality	0%	0%	5,70%
Does not work/study	10,30%	41,20%	22,90%
No answer	0%	0%	0%

Vitosha Research. February 2014

The continued, functional dependency on residents in southern Vitosha on the city centre is also suggested by the fact that three-quarters of new residents travel to the city on a daily basis. In Kremikovci and Novi Iskar, these numbers are significantly diminished, as indicated below.

Table 9. **Rate of Travel to the Inner City by District**

How often do you travel to the city?	Vitosha	Kremikovci	Novi Iskar
Every day	75,00%	38,20%	40,00%
A few times a week	16,20%	26,50%	31,40%
Once every two weeks	0%	14,70%	11,40%
Rarely	2,90%	11,80%	14,30%
	5,90%	8,80%	2,90%

Vitosha Research. February 2014

These data conclusively indicate that northern peri-urban districts, Kremikovci and Novi Iskar, are attracting a different breed of new residents than those who have traditionally settled in the southern, Vitosha district over last twenty years, and that they do so for different reasons. These social and demographic data show, that there between these two groups, there are some of the classical differences, which exist between poorer rural-to-urban migrants and richer intra-urban migrants. These developments may indeed constitute the foundations of a process of socio-spatial stratification in Sofia's suburbs.

Conclusion

The post-socialist suburban growth, which occurred during the initial period of transition in Sofia, was indeed distinctive, especially since there was comparatively little socio-spatial segregation in Sofia before 1990. In the beginning of the 90's and 2000's, suburbanization in Sofia was predominantly of an upper-class intra-urban type, which followed a path from the inner city to the southern surburbs, the Vitosha footlands. In many ways, the Vitosha collar evolved in the fashion of "Western" suburbs, although in many respects, remained more mixed, dense and informal than standard "Western" models. In this way, the southern periphery resembles suburban constellations in south European metropolises.

New socio-spatial patterns are emerging in Sofia's urban periphery. This has been evidenced by the developments in the northern urban periphery, whose new residents' represent a different set of social and demographic characteristics from those in the older suburban developments along the Vitosha footlands. The comparison of these two suburban groups in terms of their demographic, social, motivational and functional characteristics has shown that new residents in the Sofia's northern, peripheral districts sometimes resemble rural-to-urban migrants, or migrants, typical of suburbs in southern metropolises. This is attested to by their lower levels of income, their relocation from non-central city neighbourhoods and their motivations for moving to the urban periphery.

The propensity of suburbs such as Novi Iskar and Kremikovci to attract these types of migrants frustrates prescriptions of post-socialist suburban development as strictly an intra-urban, upper-class "Western-type." Indeed, the reasons for migrating to the northern urban periphery stand in direct contrast to classical intra-urban migrant models, represented so well by residents of the southern suburbs, such as Vitosha.

The "flight" of middle and upper-middle class households to the urban periphery is known to cement socio-spatial disparities in the built environment. While this may be true, this research indicates that, while segregation is occurring, social mix remains relatively high in

Sofia. In the south, where intensive intra-urban "Western-style" suburbanization has taken place, the social mix has risen, perhaps exactly on account of the flow of managers and high-paid individuals and families – which have relocated there from the city center in the last decades. Their flight has in effect "balanced" the social mix in southern peripheral neighborhoods – wherein the social structure was previously dominated by working-class families.

Ultimately, continued research can provide insight into the experience of socio-spatial stratification in the context of a maturing market society and democracy. Further evaluation on continued suburbanization in Eastern Europe can indicate whether there is an increasing likeness to Western patterns and associated socio-spatial segregation. Namely, whether suburban lifestyles are more and more accessible to the masses, in effect paving the way towards more intense socio-spatial stratification in the urban periphery.

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6. Paper 3

Confronting Suburbanization in Ljubljana From "Urbanization of the Countryside" to Urban Sprawl[3]

Nataša Pichler-Milanović

Introduction

In Slovenia there is no official translation for the phrase *urban sprawl*. Yet such patterns of development, mostly associated with the construction of detached single-family dwellings by individual households, have characterized the suburban periphery of Slovenian towns for several decades prior to the transition of the country's economy to a market-based system in the early 1990s.

During the 1960s and 1970s, which became known in Slovenian history as the period of "urbanization of the countryside," the construction of self-built owner-occupied houses was accelerated by the increased availability of housing subsidies (offered through employers, banks, community development programs, and so on), by chronic shortages of public housing, and by sharp rises in the cost of owner-occupied dwellings in urban areas. Construction of single-family dwellings continued at even greater speed through the 1980s, when it was supported by the popularization of a lifestyle centered on the occupation of a single-family home. During the 1990s, the process of suburbanization was reinforced through transition from socialist to market-based economy, which involved far-reaching political, economic, and institutional reforms. The most important urban phenomenon of this period was the proliferation of residential sprawl, which was driven by the exodus of a significant number of city dwellers to suburban and rural areas; this is usually referred to as a process of "desurbanization" (van den Berg, Drewett, Klassen, Rossi, and Vijverberg, 1982; Pichler-Milanović, 2001a, 2005a).

Until 1996 urban sprawl in Slovenia was characterized primarily by scattered low-density developments, planned or unplanned, composed pre- dominantly of single-family detached houses but also containing some scattered small business and service establishments. A different type of urban sprawl began to take shape by the second half of the 1990s due to the rising impact of macroeconomic and structural reforms. The resulting new patterns have been characterized by the increasing presence of large-scale residential, industrial, commercial, and leisure developments in areas previously not used for such purposes. Types of such areas are agricultural and forest lands at the edges of the inner city, as well as previously undeveloped territories in more remote suburban and rural areas. This new type of sprawl has been fuelled by a host of factors – such as the increase in transport infrastructure investments, the constrained supply of affordable housing for rent or purchase in inner-city areas, the dramatic swell in the rate of motorization, the differences in land and property

[3] This paper is already published – Chapter 3 in Stanilov, K. and Sykora, L. (eds), 2014, *Confronting Suburbanisation – Urban decentralisation in Postsocialist Central and Eastern Europe*, Chichester, Oxford: Wiley Blackwell

prices between the inner city on the one hand, suburban and rural areas on the other, the unforeseen impacts of local government reforms on land use, the popularization of new consumption patterns and lifestyles, or delays in the development of a new spatial planning system.

Yet, despite the well-known negative consequences of suburban sprawl on the environment, on the economy, and on society, it could be argued that in Slovenia suburbanization is more sustainable as a pattern of urban growth than in many other countries in Europe. This claim is supported by the – historically – highly dispersed settlement pattern of Slovenia, which is characterized by a large number of small settlements scattered throughout a heavily forested and mountainous territory.[1] In addition, most new houses are built with planning permission, as energy-efficient buildings with proper water supply and sewage facilities.

Suburbanization Patterns prior to the Postsocialist Period

As in many other countries of Eastern Europe after World War II, in Slovenia too the drive for industrialization became a development pri- ority of the highest order. The corresponding policy spurred an intensive process of urbanization, which influenced the growth of larger towns as dominant locations of economic activities. The introduction of some market-based economic principles in Yugoslavia during the 1970s and 1980s, coupled with Slovenia's cross-border links with Austria, Italy, and Germany, allowed the country to become the most prosperous republic in the Yugoslav Federation by the end of the 1980s.

In order to eliminate the economic gap between different regions and to curb housing demand in the country's larger urban areas, toward the end of the 1960s the Slovenian government instituted new urban and settlement development policies based on the principle of an "equal distribution" of industry and services. The aim was to channel urban growth away from Ljubljana, to the smaller regional and local centers, by placing an emphasis on the development of transport infrastructure, services, and employment opportunities in secondary and tertiary cities and towns. The push for the development of a new, polycentric settlement system was supported by the principles of self- government adopted by the Yugoslav Federal Constitution in 1974, which gave substantially greater power to local authorities. In accordance with the new settlement development policy, about 15 towns were recognized as regional and another 45 as local centers. The small towns in this settlement system served as important job centers for the population that lived within a 45-minute commuting distance from the regional centers (Pichler-Milanović, 2005a; Pichler-Milanović, Gutry-Korycka, and Rink, 2007). The successful pursuit of these policies of polycentric development since the 1970s has been a main factor for in determining the currently low primacy rate of Ljubljana, whose residents compose only 15 percent of the country's population.

Another distinguishing characteristic of urbanization in Slovenia is the relatively low share of the country's urban population. Of the total of approximately 6,000 settlements in Slovenia, only 182 (less than 3 percent) were defined as urban by the 1991 census. According to the census of 2002, the share of the country's urban population was below 50 percent. These statistics reflect a process of intensive suburbanization, which was triggered several decades before the fall of the communist regime. Today over a third of Slovenia's population resides in settlements of less than 500 inhabitants. Such a large share is impressive, considering that less than 5 percent of the country's population was employed in the agricultural sector in 2011 (from 10 percent in 1991). These statistics reflect a specifically Slovenian situation in which the majority of the country's rural population commutes daily to nearby urban centers for access to jobs and services.

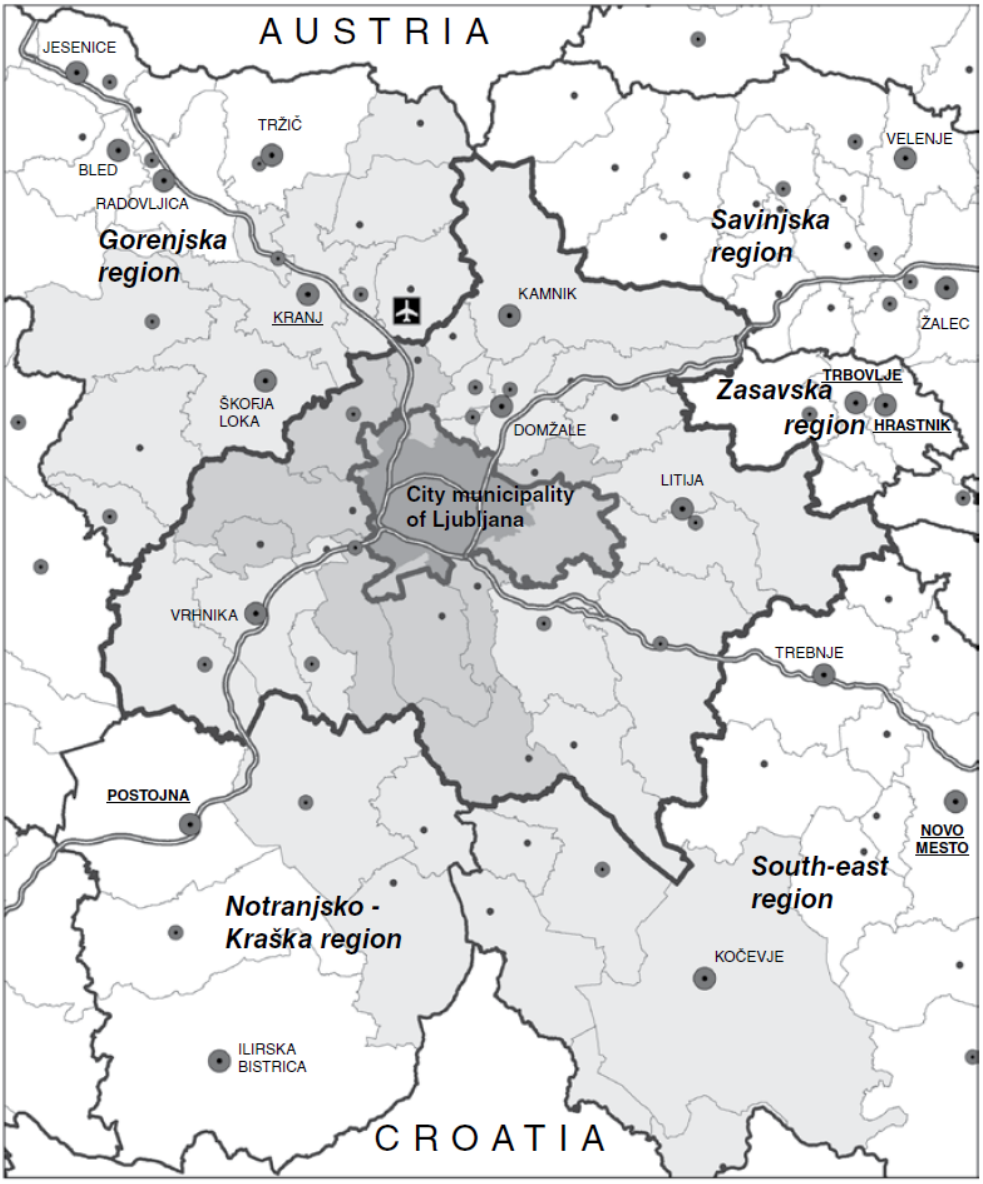

Figure 3.1 Administrative boundaries within Ljubljana's metro- politan area. Based on data from Pichler-Milanović, 2005a, various statistical yearbooks of the Statistical Office of the Republic of Slovenia (SURS), and the Surveying and Mapping Authority of the Republic of Slovenia (GURS).

Another distinguishing characteristic of Slovenia's urbanization – and one that sets it apart from most other Eastern European countries – is the establishment of the rural, self-built, owner-occupied, single-family house as a predominant type of dwelling; this type was strongly sup- ported by the socialist housing policies of the 1960s, 1970s, and 1980s. In Yugoslavia, unlike in many other socialist countries, the government authorities showed greater tolerance for private ownership and the

formation of semi-formal private land and property markets. In addition, the Slovenian government allocated public subsidies for the construction and maintenance of owner-occupied single-family dwellings and ensured an adequate provision of local and regional roads in rural areas. All of these factors, combined with persistent housing shortages in urban areas, contributed to the proliferation of residential sprawl in Slovenia at an earlier date than in other socialist countries of Eastern and Central Europe (Pichler-Milanović, 2005a; 2008a).

After World War II, the fastest population growth of any urban area in Slovenia occurred within the territory of the country's capital, Ljubljana. Under the socialist regime the population of Slovenia's largest city more than doubled, reaching a little over a quarter of a million residents by the beginning of the 1990. This growth was spurred by the fast rate of industrialization in the city area and by the migration of many residents from other parts of Slovenia and the other Yugoslav republics to Ljubljana during the 1970s and the 1980s. While the population in the city center declined during the 1960s due to ageing, lack of new housing, and the conversion of existing residential stock for commercial uses, urban areas outside the compactly built city experienced the most rapid population growth – particularly during the 1970s, when a number of large housing estates were constructed on greenfield sites in the inner city's periphery. These new developments occurred in areas where urban land was nationalized or compulsorily purchased following the adoption of new master plans calling for such measures.

In the suburban and rural settlements, where land remained mostly in private ownership, real estate transactions were rather loosely regulated. In consequence, population growth outside the compactly built inner-city area rose from under 10 percent during the 1960s to 25 percent during the 1970s. This growth was realized through a rapid increase in the construction of self-built, owner-occupied single-family houses on private land (Dekleva, 1991; Pichler-Milanović, 2005a). The two city districts that initially attracted most developments of this type, Bežigrad and Šiška, are located alongside the main transportation axes, in the northern parts of the capital's urban agglomeration. During the 1980s population growth occurred also in smaller settlements in the southern (Vič-Rudnik) and eastern (Moste-Polje) parts of Ljubljana's urban agglomeration. By the late 1980s, the rate of population growth in the capital's metropolitan area begun to slow down as a result of accelerated (sub)urbanization beyond metropolitan boundaries and growth of smaller towns in the outer periphery of urban regions such as Vrhnika, Škofja Loka, Domžale, Kamnik, and Grosuplje. From 1987 on, Ljubljana's urban agglomeration registered a negative population growth, which indicated a shift from the phase of *suburbanization* to one of *desurbanization* – a trend that was further reinforced during the 1990s (Pichler-Milanović, 2005a) and dur- ing the recent reurbanization after 2006 (Table 3.1).

Administrative and functional classification	Area *(in km2)*	Population *(2011)*	Density *(pop./ sq.km)*	Annual population change (%)				
				1961–1971	*1971–1981*	*1981–1991*	*1991–2002*	*2002–2011*
Ljubljana urban settlement[a]	147	272 220	1 852	2 9	2 1	0 3	–0 3	0 6
Ljubljana city municipality[b]	272	280 140	1 030	2 8	1 9	0 4	–0 3	0 6
Ljubljana agglomeration[c]	902	347 147	385	2 4	1 9	0 5	–0 0	0 9
Ljubljana urban region[d]	2 555	533 213	209	2 1	1 8	0 7	0 4	1 1
Metropolitan area[e]	4 990	702 705	141	1 6	1 6	0 7	0 4	1 0

[a]Inner-city/compact city (NUTS 7).

[b]Administrative city after 1994 (NUTS 5).
[c]Administrative city from 1955 to 1994 (NUTS 4).
[d]After 2000: Central Slovenian statistical region (NUTS 3).
[e]The metropolitan area (FUA).

Patterns and Processes of Suburbanization during the Postsocialist Period

Since the late 1980s, the processes of residential suburbanization set in place during the preceding decades of socialist rule have intensified, being followed by an accelerated industrial and commercial suburbani- zation. This dispersal has been taking place primarily in the newly formed suburban municipalities created through the Local Self- Government Reform Act of 1994. This legislation instituted profound changes in the local administrative division of Slovenia, bringing into existence numerous independent municipalities around Slovenia's main urban centers.

Residential suburbanization

Between 1991 and 2011 the national population of Slovenia increased by 3 percent, while the proportion of urban population declined from

50.5 percent to 49.0 percent. Population decline was most pronounced in the largest urban municipalities of Ljubljana, Maribor, and Celje, while the highest population growth was registered in their surrounding suburban municipalities (Figure 3.2) (Benini and Naldi, 2007).

In Slovenia's urban context, the main effect of the political and economic reforms instituted during the 1990s has been the re-establish- ment of land and housing markets (Pichler-Milanović, 1994, 2001a). Housing privatization was one of the most important political decisions taken in support of private property rights and market-based economic reforms.[3] The long-term objective of housing privatization reforms was to establish a more efficient system of production, distribution, and maintenance of housing. Their general consequence, however, was a reduction in the government's budget for housing expenditure: a shift in the responsibilities for housing provision to the local level and to the private market and a transfer of the costs of housing maintenance to private owners accounted for this effect. But the major negative out- comes of these reforms were the precipitous decline in new housing construction[4] and the rise of property prices; both processes exacerbated the problem of housing availability and affordability (see Hegedűs, Mayo, and Tosics, 1996; Struyk, 1996; Pichler-Milanović, 2001a).

In the 1990s, the only place where the volume of new housing construction was significant was the sector of owner-occupied family houses, the overwhelming majority of which were built in the periphery of the inner city and in the suburban or rural settlements around it. Of the 16,000 dwellings constructed in Ljubljana's urban region between 1991 and 2000, more than 70 percent were single-family houses located in suburban and rural municipalities. Building activity expanded after 2000: 10,000 new dwellings were constructed in Ljubljana's urban region just between 2001 and 2005 (Statistical Office of the Republic of Slovenia, n.d.), half of them being were upscale multi-family dwellings built within the city of Ljubljana. The remaining 5,000 dwellings were primarily single-family houses built or sold as lower price properties in the outer towns and settlements of Ljubljana's urban region (Figure 3.3). Between 2000 and 2011 the rate of construction of houses of this type was higher in the city of Ljubljana and in the suburban municipalities of its agglomeration area than in the urban or rural settlements located in the regional belt or in the rest of the metropolitan area.

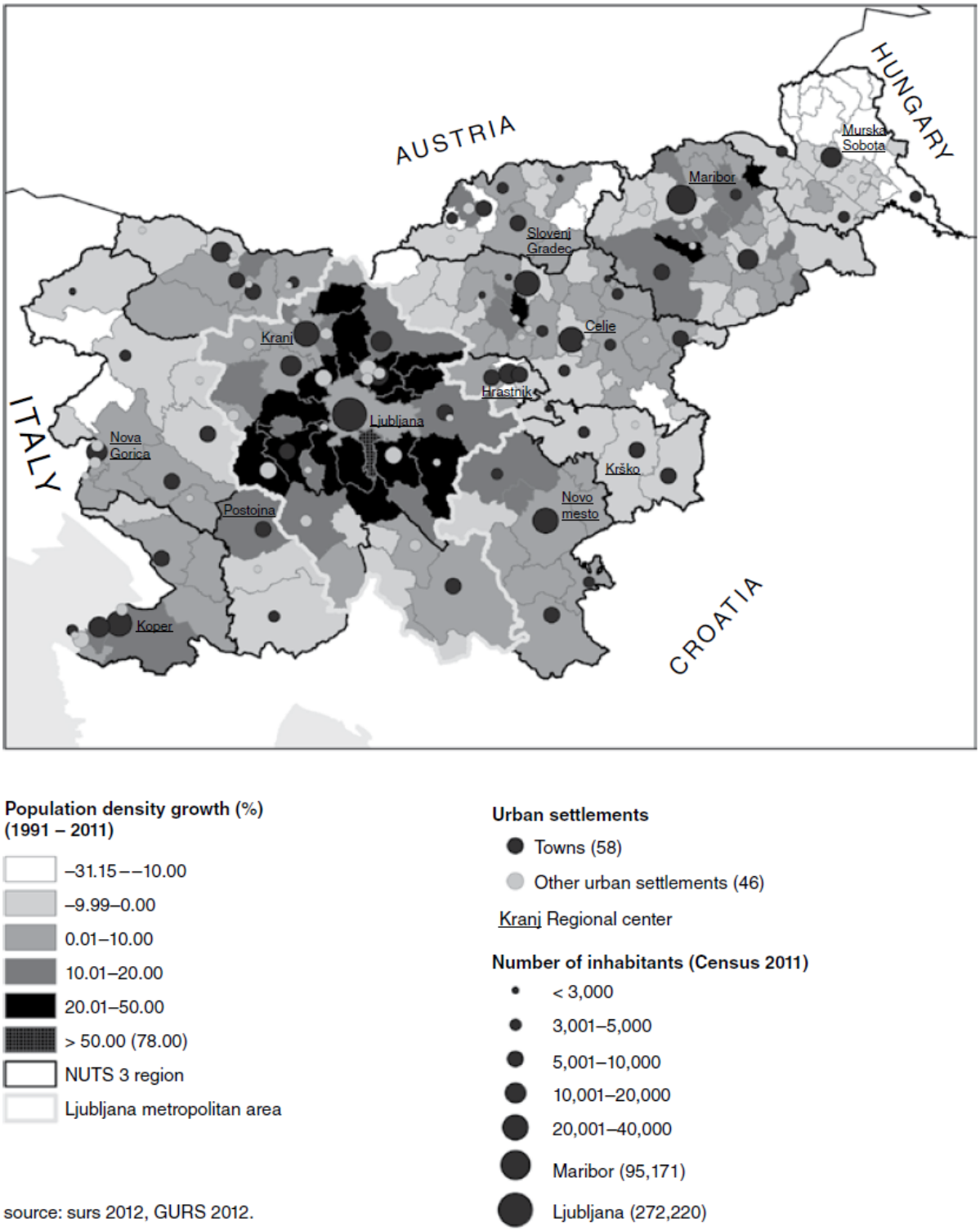

Figure 3.2 Population change in municipalities in Slovenia. Based on data from Benini and Naldi, 2007, various statistical yearbooks of the Statistical Office of the Republic of Slovenia (SURS), and the Surveying and Mapping Authority of the Republic of Slovenia (GURS).

Due to the ongoing financial and economic crisis in Slovenia, since 2009 property prices and housing transactions have began to decline. By 2011, the number of new construction permits and property transac- tions reached 40 percent of the levels they

had 2007 (Statistical Office of the Republic of Slovenia, n.d.: census for 2011). Since 2010 many large construction companies have become bankrupt as a result of their speculative supply of upmarket new dwellings financed through bank loans. Many housing projects, especially in Ljubljana's agglomeration area, have not been completed. As a consequence of the lower market demand for owner-occupied housing, the share of the rental housing market has increased, yet the market rent for commercial and residen- tial properties has dropped to levels that are lower than in 2008.

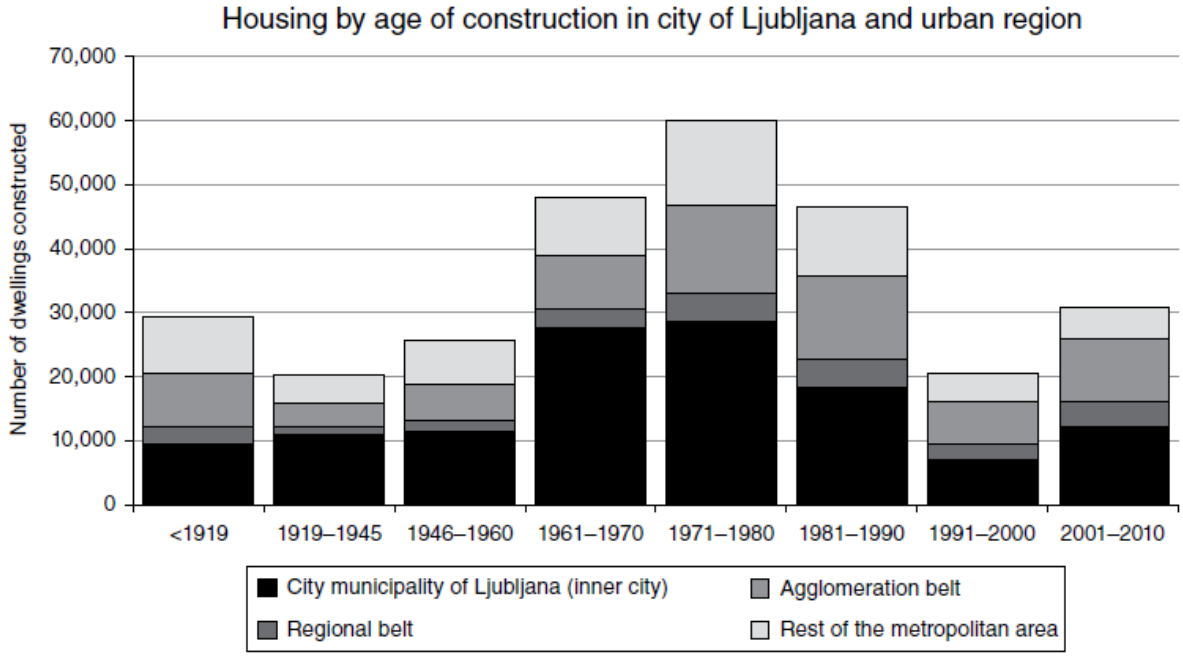

Figure 3.3 Housing construction in Ljubljana's metropolitan area. Based on data from Pichler-Milanović, 2005a and the Statistical Office of the Republic of Slovenia (SURS) for 2012 (methodology of census in 2011).

The advance of residential suburbanization in Ljubljana's region has been marked by a diversification of the building typology in areas outside the boundaries of the compact inner city. These territories are now dotted with newly built detached single-family houses and with speculatively built multi-family dwellings, including some low-densit semi-detached units, row houses, and urban villas. The present suburban and rural settlements are being actively transformed through infill development and through the conversion of weekend houses to permanent or second homes. The infusion of new, wealthy residents into the metropolitan periphery has begun to reverse the traditional sociospatial pattern of the socialist city, in which the households' socioeconomic status declined proportionally with their distance from the city center (Pichler-Milanović et al., 2007).

Nonresidential suburbanization

At the beginning of the 1990s, the city of Ljubljana and its region entered a severe economic recession as a consequence of the collapse of the old socialist regime and of the short war with the Yugoslav army that ensued. The dramatic structural adjustments needed in order to make a fast transition to a democratic state led to a substantial decline in Slovenia's economic productivity, output, and employment. Between 1989 and 1993 unemployment in the capital region rose from 3 to more than 10 percent (Pichler-Milanović, 2005a). Most companies lost their export markets and their links to subsidiaries based in the other republics of the Yugoslav Federation. The closing of several large state-run industrial enterprises located in the inner city left substantial segments of Ljubljana's urban fabric in a state of dereliction. In general, the privatization of some of these properties made the subsequent management and maintenance of public infrastructure in those areas very difficult. While the majority of these properties have been released for other uses (most often for retailing and new housing developments), brownfield redevelopment has not been able to absorb nearly as much new commercial, office, or industrial development as greenfield sites in the suburban periphery.

Nonresidential suburbanization in Slovenia has had a significant impact on the transformation of the spatial structure of Ljubljana's urban region, particularly after 1995, through a pronounced concentration of commercial activities in new, large complexes built along motorways and at important transport intersections, as well as in some railway stations. Speculative industrial, warehousing, and logistics zones have been devel- oped as well along the motorway network and its major junctions. Recent developments have included the creation of new business, science, and office parks at high access points in the inner city's periphery or in sub- urban municipalities of the region (e.g. Trzin, Vrhnika, Grosupje). Many suburban municipal governments, which have joined the regional com- petition for jobs and budget revenues, have begun to develop special enterprise zones by packaging land and infrastructure so as to attract cov- eted hi-tech developments and property investments.

During the 1990s, the role played by foreign capital in Slovenia's reconstruction and economic development was not as significant as in some other former socialist countries of Central Europe, most notably Hungary, Poland, and the Czech Republic. The low level of foreign investment was a result of a combination of several factors, mostly related to the unstable political situation in the Balkans at the time, the specifics of the privatization process in Slovenia (which discouraged foreign participation), property prices and labor costs, which were high by Eastern European standards, and inadequate support from the country's spatial planning legislation for larger scale investments. Yet, over the course of the decade, the foreign direct investment (FDI) stock rose threefold, to reach 12 percent of the national gross domestic product (GDP) by 2000. Most of the FDI in Slovenia (over 70 percent) has been concentrated in the six largest urban areas located along the E5 and E10 trans-European corridors. Notably, almost half of the foreign invest- ments have targeted the city municipality of Ljubljana, which has been established as the almost exclusive recipient of FDI in the financial ser- vices (98 percent of the total), also absorbing more than half of the country's foreign investments in trade, real estate, and business services (Pichler-Milanović, 2005a, 2010).

The spatial impact of the inflow of FDI and the new trade patterns have been reflected in a rapid increase in the number of new commercial establishments in Ljubljana, which were also supported by a steady rise in consumer demand. Foreign developers have become influential, most notably in retailing, either by acquiring existing operations or by establishing joint ventures with local partners. Toward the end of the 1990s the emphasis of investors, developers, and public officials was placed on large-scale investment projects. Thus, in the course of only a few years between 1999 and 2001, the total amount of retail space in shopping centers

increased by 80 percent (Rebernik and Jakovčić, 2006). Four large new shopping centers were built in the inner city's periphery, near the intersections of the ring road with the city's major transport routs. Today the BTC City shopping and recreation center – one of the largest and most popular new retail destinations, located on a former industrial site 5 km to the northeast of Ljubljana's center – features 50,000 m^2 of retail space and more than 300 shops, which attract over 30,000 visitors per day.[5] Rudnik, the second largest commercial area under construction since 1999, has utilized another vacant industrial site, in the southern part of the inner city's periphery. As in the case of BTC City, international retail firms are key players in this development, which offers numerous shops, restaurants, entertainment, and consumer services. Other underutilized industrial sites in Ljubljana's periphery have attracted hypermarket chains such as Interspar, which opened its second store in 1997 in the western part of the inner city, and Mercator, which opened the doors of another hypermarket, in the northwestern part of the city, in 2000 (Pichler-Milanović, 2005a). These shopping cen- ters, built in the periphery of the inner city, were the first signs of a sub- urbanization of retailing and shopping facilities in the relatively small metropolitan area of Ljubljana.

Administrative units	Active working population[c]		Employment sectors[b] (%) 2011				Number of jobs[a]	
	2002	*2011*	*I*	*II*	*III*	*IV*	*2002*	*2011*
Slovenia	768 172	817 311	4.70%	23.00%	38.90%	33.50%	768 172	817 311
Ljubljana's urban region	218 361	271 792	1.80%	13.20%	43.70%	41.20%	211 018	220 250
City municipality of Ljubljana	174 466	205 246	0.40%	9.30%	44.60%	45.80%	115 708	111 389
Other municipalities in Ljubljana's urban region	43 895	66 546	6.20%	25.50%	41.20%	27.10%	95 310	108 861

Notes:

[a]Persons in paid employment.

[b]Employment sectors (NACE classification): primary (agriculture, forestry, fishing); secondary (manufacturing, mining and construction); tertiary (utilities supply, construction, trade, hotels and restaurants, transport and telecommunications, financial, real estate and business services); quatenary (public administration, defense, social security; education, health and social work; sport, recreation; other public and private services).

[c]Resident population.

Sources: Pichler-Milanović, 2005a and various statistical yearbooks of the Statistical Office of the Republic of Slovenia

Since the end of the 1990s, hypermarkets and shopping centers have been more frequently developed in suburban and other municipalities of the capital city region, especially in the conurbation area of Kamnik- Domžale-Mengeš-Trzin, located in the northern part of Ljubljana's urban region, as well as on several sites between Ljubljana and Kranj (the fourth largest town in Slovenia), in the vicinity of the international air- port at Brnik. New retail developments are also dotting the western parts of Ljubljana's urban agglomeration, stretching along the E5 corridor in Vrhnika, Logatec, and Postojna (see Figure 3.1). The dispersal of retail development beyond the city boundaries of Ljubljana has increased the proportion of service sector jobs in

Ljubljana's metropolitan periphery to the levels characteristic for Ljubljana's metropolitan core (see Table 3.2). Smaller scale retail stores are spreading out in more rural areas in the southern and eastern parts of the capital city region.

The majority of new offices constructed during the last couple of decades have been either purpose-built or established in other buildings – residential structures with good accessibility, former industrial premises, and the like – within the city of Ljubljana. A good share of this type of office development can be found in other towns and urban settlements in the capital city region, while new enterprise zones are being established in suburban and other municipalities of Ljubljana's agglomeration.

It should be noted that recreational development has contributed significantly to the proliferation of sprawl in Slovenia – namely through the transformation of rural landscapes into theme parks and leisure parks; through the building of new golf courses; and through the expan- sion of existing and construction of new ski-slopes, marinas, hotels and other tourist facilities in the mountains and at the Adriatic sea coast. Recreational sprawl is also related to the sharp increase in the construction of second homes along the coast, in the mountains, near natural spas, or in other areas of natural beauty.

Complex assessment of patterns and processes

Overall, despite the existence of many similarities in the urban and regional development of Central European cities prior to and after the fall of the socialist system, there are some clear differences and specific- ities to the process of suburbanization in Ljubljana's urban region vis-à-vis other capital city regions in Central and Eastern Europe. These specificities are highlighted by the following periodization:

1960–1990 This is the socialist period marked by the "urbanization of the countryside" from the 1960s onwards and by residential suburbaniza- tion in the 1980s thanks to the availability of private rural land and housing subsidies for the construction of single-family houses in sub- urban and rural areas.

1991–1995 The first half of the 1990s was characterized by residen- tial sprawl due to the limited supply of new affordable single- and multi-family dwellings in the inner-city area as a consequence of housing privatization, restitution of property, and economic restructuring. The new single-family detached houses built in suburban and rural municipalities were constructed without any government subsidies.

1995–2000 The successful implementation of macroeconomic and structural reforms during the first half of the 1990s led to a new phase of postsocialist suburbanization, which was dominated by the explosive growth of large-scale residential, industrial, commercial, and leisure developments in areas previously not used for those purposes, with an emphasis on the conversion of non-urban land to urban uses at the edges of the inner city as well as in suburban and rural areas. Commercial sprawl dominated the second half of the 1990s due to the privatization of enterprises, the processes of de-industrialization, the influx of FDI, the expansion of motorways and the modernization of roads, and the creation of new enterprise zones and shopping centers on many green- field sites. Residential sprawl was also infused with relatively affordable low-density row houses and various types of multi-family dwellings.

2000–2008 This period of suburbanization is characterized by a general increase in the mixture of new residential, commercial, and leisure devel- opments and, consequently, by a higher complexity of the urban patterns interspersed with new office complexes, technological and science parks, commercial zones, shopping centers, and leisure and recreation areas. Most of these new developments are

built on previously undeveloped land, in the context of an increased competition for investments among suburban municipalities and other towns in the capital city region.

2008–2012 This final period is characterized by stagnation in the property market, which is in turn marked by a sharp decline of transactions, property prices, and rents. The economic crisis has shaken seriously consumer confidence in the ability to improve housing conditions. According to a household survey recently published in the Statistical Office of the Republic of Slovenia (SURS, 2012), 86 percent of respondents do not plan to buy or build housing due to reduction in real incomes and uncertainty about employment prospects. Financing for the construction or purchase of housing has dried up, as banks have considerably tight- ened their credit limits after a sharp increase in loan defaults. All of these factors have led to a dramatic fall in the demand for housing and a subsequent collapse of the housing construction industry. As a consequence of this new property market situation, suburbanization trends have been slowing down while the demand for dwellings in urban areas has been on the rise. Between 2002 and 2011 the city of Ljubljana and its urban agglomeration recorded once again population growth, which indicates the start of a *reurbanization phase*. This is linked to intensive housing construction in these areas in the past 10 years.

Overall, the peculiarities of suburbanization in Slovenia are related to the following specific points:

- an extensive support for decentralization through the "urbaniza- tion of the countryside" strategy pursued by the state government from 1960s onwards, including the provision of public subsidies (by employers, banks, local communities) for the construction of single-family detached houses in suburban and rural areas near urban (employment) centers;
- relatively small size of towns and a large number of small rural settle- ments located within 30-minute distance from nearby urban centers, well connected via local and regional roads;
- small size of suburban and rural municipalities competing for invest- ments as a source of budget revenues;
- high levels of home ownership as a consequence of housing privatiza- tion in 1990s, and using the equity realized from the sale of dwellings in valuable inner-city areas as down payment for suburban houses;
- high accessibility and good quality of road networks in suburban and rural areas;
- high environmental quality and diversity of landscapes in suburban and rural areas (e.g. forests, green areas, mountains, hills, sea coast, river valleys).

Conditions and Driving Forces of Suburbanization

In Slovenia suburbanization can be interpreted as a consequence of the processes of transition to a more democratic form of social organization. The main principles of this transition have been the establishment of a market-oriented economy (through privatization, restitution, decentralization, and deregulation) and the protection of citizen rights (including private property rights and the freedom to make individual choices).

These processes have been taking place in the context of the functional (re)integration of the country into the global socioeconomic networks, which led to the adoption of western values, standards, and lifestyles. These socioeconomic and cultural shifts have called for the development of new shopping centers, enterprise zones, residential communities, golf courses, theme parks, and other contemporary essentials of middle-

class urban existence. In this light, the most important driving forces of suburbanization and urban sprawl in Slovenia, and particularly in the capital city of Ljubljana, can be summarized under two broad categories: economic forces and demographic and lifestyle changes.

Economic forces

Some of the strongest drivers of suburbanization in postsocialist Slovenia are rooted in the specific economic circumstances of the transition period. The most critical features of this urban context can be framed by the following three characteristics:

Lack of affordable housing in inner-city areas Due to the highly constrained supply of new dwellings in Ljubljana's inner-city areas, housing prices doubled between 1993 and 2000, an additional 100 percent jump being registered between 2000 and 2007. The lack of affordable housing in the inner city has redirected the attention of homebuyers to the urban periphery and the prevalent stock of single-family houses offered in suburban and rural areas. The price differential between properties in the inner-city areas and suburban and rural areas has become one of the main drivers of suburbanization, not just in Ljubljana, but in Slovenia in general.

Lack of developable land in inner-city areas The privatization of real estate, the establishment of a free property market, and the subsequent rush to buy land available for development within the city for speculative purposes have resulted in a rapid escalation of not just housing prices but land values as well. Thus most new residential as well as commercial and industrial development has been pushed out, to greenfield sites in suburban and other municipalities within the capital city region, where land values and the cost of development in general have been significantly cheaper.

Economic growth and the rise of a middle class From 1995 to 2008, the growth in real income has been an important and consistent hallmark of the transition period in Slovenia. This process was particularly strong in Ljubljana, where productivity (e.g. value added per employee) is more than 25 percent higher than in the rest of Slovenia. The average salary in the capital is 20 percent above the national average, mirroring the concentration of employment in higher value-added activities (e.g. banking, insurance, public administration, pharmaceuticals), and the rather successful transformation of a socialist industrial city into a ser- vice-based Central European metropolis (Pichler-Milanović, 2005a; Regional Development Agency of Ljubljana Urban Region, n.d.). This rise in economic affluence has fueled a demand for housing and non- residential space, most of which has been absorbed by the suburban areas, for the reasons outlined above.

Demographic changes

In addition to the economic factors outlined above, the rise in the demand for single-family housing has been driven by changes in the demographic structure of the urban population in Slovenia. These demographic changes are marked by the general increase in the number of households, a process driven mostly by a reduction in average household size. The increase in the number of households – which is due to the disaggregation of large households along generational boundaries – and the commercial and residential gentrification of the inner-city areas have been significant factors linked to the rising demand for affordable dwellings and, by extension, to the processes of suburbanization. The continuing migration of middle- and upper-income residents from urban to suburban and rural areas and the subsequent social diversification of the metropolitan peri- phery have in turn attracted more urban residents to those areas.

An additional factor fueling suburbanization has been the rise in the number of households that acquired second homes in suburban and rural areas. The long-established cultural traditions in Slovenia have shaped a strong residential

preference for privately owned, detached, single-family houses located in small peripheral or rural communities. For the majority of Slovenians, the ideal living arrangement is associ- ated with a family house with large garden, located at the edge of a forest, yet within easy reach of an urban or employment center. In pursuit of this ideal, over the course of several decades during the socialist years more than one third of households in Slovenia acquired a weekend home or a second home in suburban and rural areas. Most of these houses were self-constructed or inherited rural farmhouses. Since the mid-1990s, many of these properties have been converted into second homes or permanent residences, primarily serving the needs of young families or their retired parents.

Property rights and land development policy

As a result of to the policies pursued in the early 1990s by the government – which enabled the low-cost sale of state-owned, municipal, and company dwellings to sitting occupants and the restitution of older housing in kind – many former tenants and their close relatives living in public rented dwellings ended up with unexpected equity. The significant profits that could be realized by pocketing the difference between the market value of the units and their purchasing price prompted many of the owners to sell their newly acquired property on the open market after 1996, when such transactions became possible. This equity, combined with additional financing through inheritance, family savings, bank loans, and mortgages (available since 1998), helped many families to become first-time buyers. Not surprisingly, the large majority in this group of consumers opted for targeting the more afford- able suburban housing market.

In Slovenia suburbanization has also been aided by the set of government policies that pushed the property rights agenda: such policies have eased the conversion of agricultural land for urban uses in suburban and rural municipalities. They have been coupled with state and local policies that have emphasized the development of transport infrastructure in suburban and in rural areas, thus facilitating still further the processes of urban decentralization. The massive conversion of agricultural land for urban uses, which ensued with the help of such government policies, has resulted in an accelerated decline of agricul- tural activities in rural areas. This process has also been fueled by the continuing restructuring of the economy, which in turn was marked by the growth of the service industries at the expense of the industrial and agricultural sectors.

In addition to pushing the property rights and economic development agenda, neoliberal thinking – which dominated Central and Eastern European countries during the 1990s – was characterized by the low political priority accorded by central governments to physical planning, regional development, and housing policy. On this count, Slovenia was hardly an exception. The absence of comprehensive national spatial development strategies and coherent regional policies was evident during the country's transition period, marked as this was by protracted dis- putes regarding the basis of the much-needed new planning legislation. Consequently, land use planning at the municipal level has been characterized by the prevalence of ad hoc political decisions, investment- led approaches, and weak development controls rather than long-term strategic initiatives. This has been a direct result of the "planning vacuum" that set in during the 1990s, when macroeconomic reforms took center stage and planning was generally viewed as a nuisance, handed over from the socialist regime (Pichler-Milanović, 2001a). In this context it was fairly easy to get approval for planning and building permits that did not comply with the local development plans prepared during the 1970s and 1980s. The regulatory environment was further handicapped by the massive amount of unresolved property rights related to privatization, restitution, and inadequate property registry. Naturally, in these circum- stances, development was attracted to places where it was easier to realize new development projects, such as greenfield sites in development-friendly suburban municipalities and rural communities. Since 1994, when local government reform helped to establish a

large number of new small municipalities, these local governments embarked almost immediately on a quest to attract new investments as a way of securing an inflow of budget revenues. As a result of this intergovernmental competition for jobs, housing, and services, the process of suburbanization and urban sprawl has markedly intensified.

The Consequences of Suburbanization and Urban Sprawl in Ljubljana's Urban Region

The effects of urban sprawl have been classified traditionally along three main dimensions – environmental, economic, and social (Couch, Leontidou, and Petschel-Held, 2007). In Slovenia and in the urban region of Ljubljana, the consequences of suburbanization could also be traced along these three principal axes of impact.

Environmental impacts

The city of Ljubljana was infamous for its legacy of poor environmental conditions, which dated back to the period of industrial expansion that lasted until the end of the 1980s. While some of the worst problems associated with air pollution have been mitigated by the collapse of many of the socialist industrial enterprises, other environmental problems, related with the rise of motorization, have worsened since the 1990s. Energy consumption in the Slovenian capital city increased substantially due to growth in the number of dwellings and increase in the number and use of private motor vehicles. Traffic congestion today represents one of the most pressing problems in Ljubljana, especially with regard to its impact on air and noise pollution. Significant loss of agricultural land and of areas of unique natural beauty has occurred as a result of residential and commercial sprawl and continuing upgrades of the region's transport infrastructure. Surface sealing has increased substantially as a consequence of the accelerated conversion of agricultural land to urban uses and through the intensification of building activities on previously undeveloped greenfield sites. Ecosystem fragmentation has become a typical characteristic of the landscape

Figure 3.4 Typical example of a new single-family detached house in Ljubljana's urban region.
Source: Photo by Pichler-Milanović.

in the suburban periphery, being caused primarily by the development of new motorways. Unplanned (or poorly planned) urban sprawl at the edge of existing settlements has disrupted the network of eco-corridors important for the migration of some animal species. Noticeable increase in the concentration of heavy metals in the soil has threatened the quality of underground water reserves and the crops of the prime agricultural lands in the urban region due to the growing number of septic tanks and individual sewage facilities built to service the sprawling new single-family and commercial developments.

Figure 3.5 An example of new mansion-style house in settlements within Ljubljana's suburban periphery.
Source: Photo by Pichler-Milanović.

The loss of historical character and local identity is another negative effect of suburbanization, quite visible in the surroundings of the Slovenian capital, which abound in new houses that look equally generic, regardless of whether they are inspired by modern or postmodern architecture (Figures 3.4 and 3.5).

The proliferation of suburban sprawl and the architectural diversity introduced by burgeoning residential and commercial buildings have significantly changed the rural landscape of Ljubljana's periphery. The traditional distinction between urban and rural environments has disappeared, being replaced by "hybrid" land- scapes, which blend city and country characteristics in an amorphous, nondescript pattern. Extensive retail strips have begun to emerge and solidify along the main arteries that lead out of the city, attracting the usual assortment of car dealerships, fast food restaurants, and large shopping centers.

Since the mid-1990s, the rising demand for space for new warehouses, shopping and leisure centers, industrial and office parks, and new housing has increased the overall cost of land development and real estate values in general. In the inner-city areas of Ljubljana the overall increase in property prices since 1995 has led to an extremely high price-to-income ratio, to the emergence of speculative urban land banks, and to a severe shortage of affordable housing. While the intensive construction in suburban areas has mitigated some of these problems by meeting substantial portions of the new demand and by providing lower cost residential and business accommodations, it has also shifted public resources away from the existing inner-city communities. A number of large-scale projects have been undertaken in or near Ljubljana with the goal of improving the competitiveness of the Slovenian capital on the international scene. The emphasis has been on enhancing

regional accessibility and transport infrastructure through upgrades of airport and port facilities, motorways, and inter-city transport. This strategy has led to an underutilization of the existing social and technical city infrastructure and to a relative decrease in infrastructure mainte- nance and service provision in some parts of the capital municipality. The designation of a large share of public funds for the upgrading of motorways and airports has shrunk the amount of funding available for investments in rail infrastructure or in an efficient public transport system, fostering in return higher levels of automobile use, traffic con- gestion, and environmental pollution.

The dispersed settlement network and the new, sprawling suburban development patterns have contributed also to a sharp rise in car own- ership.[7] While the suburban railway system is still not well developed in Ljubljana's urban region, buses remain the main mode of public transportation for suburban residents. In consequence, more than 70 per- cent of the 120,000 daily commuters to the city use private cars (Dekleva, 2002; Regional Development Agency of Ljubljana Urban Region, n.d.). Daily commuting flows are especially intensive in the northwestern parts of Ljubljana's functional urban area, where the towns of Kranj and Škofja Loka and the conurbation of Jesenice–Radovljica–Bled are located. With the completion of the motorways along transport corri- dors E 5 (west–east) and E 10 (north–south), the 60-minute commuting shed of the capital city of Ljubljana has widened to cover more than 70 percent of the Slovenian territory, including the second largest town of Slovenia, Maribor, and the Koper–Izola–Piran conurbation on the Adriatic coast.

Social impacts

Since 1990 the sociospatial differentiation of Ljubljana's urban region has been driven by the processes of industrial restructuring, decentralization of economic activities, and growing income polarization. The process of sociospatial differentiation has emphasized particular city locations with specific housing, demographic, and social structures and functional land use composition. The suburbs have become a location favored by the more affluent segments of the population, channeling an outflow of human and financial resources to the periphery. As a conse- quence, the processes of accelerated suburbanization have contributed to the deterioration of some inner-city areas and to increase in sociospatial differentiation. High property prices in the capital city due to deferred provision of affordable housing and a speculative urban land market have fueled further suburbanization, as has the disappearance of lower end residential services from the neighborhoods in the city core. The decline of retailing in the city center has been aided by the development of new large shopping centers in the city periphery. A positive sign of reversing this trend is the renewal and upgrading, evident in recent years, of the older housing stock and retail shops in the inner-city areas of Ljubljana. This process has been spearheaded by different forms of public–private partnership that have utilized recently available renewal subsidies and equity loans (e.g. EU funds, national subsidies, local municipal grants, bank loans, individual investors, and the like).

Given the high level of suburbanization of the Slovenian capital city region, it is quite remarkable that the inner city of Ljubljana has pre- served strong and viable residential functions. This has been mainly a result of the relatively low maintenance costs of the existing structures and of the strong attachments of older residents to their properties and neighborhoods. And, while there are very few gated communities to be found in Ljubljana's urban region (yet), differentiation in the quality of traditional and new housing is clear in the inner city, suburban, and rural areas. Lifestyle conflicts are evident between newcomers (suburbanites) and traditional (rural) residents, who are bound to share spatial resources yet have different outlooks on how these should be appropriated. Another set of social problems exacerbated by suburbanization relates to the unequal distribution of and accessibility to jobs, schools, and shopping and leisure facilities in suburban and rural areas within the urban region. While local authorities in suburban and rural municipalities will be called to provide more

services, inevitably they will be forced to increase local taxes in order to finance these initiatives. The variations in the ability of the various segments of the suburban population to foot these bills will undoubtedly heighten social tensions already brewing in the suburbs

Management of Suburban / Metropolitan Growth

The success of the political, economic, and institutional reforms in Slovenia following the collapse of the socialist regime has impacted strongly the transformation of Ljubljana's urban region. At the end of the 1990s, Ljubljana became one of the most competitive cities in Central and Eastern Europe,[8] with substantial comparative advantages derived from its geographic location, the strengths of its national and city econ- omies, its high level of social cohesion, and the high quality of its natural and built environment (Pichler-Milanović, 2005a, 2005b, 2006). It should be noted that this position was not a result of any coherent urban development strategy. The impact of the public sector on urban development in the region during the postsocialist years has been limited to several sectoral development programs led by the national government in its quest for full-fledged EU membership and a string of ad hoc development decisions taken by investment-led public author- ities in the city municipality of Ljubljana and in other municipalities within Ljubljana's urban region.

The absence of comprehensive new national spatial development strategies and coherent regional policies during the 1990s, the priorities placed on macroeconomic reforms, and the disputes regarding the basis for a new planning legislation created an apparent "planning vacuum" during the first decade of the transition period (Pichler-Milanović, 2001a). The lack of an adequate planning regulation at the national and local levels resulted in a shift of population and economic activities from the inner city of Ljubljana to suburban and rural municipalities. Throughout the 1990s, land use planning at the local (municipal) level aided that process of decentralization, as it was characterized by the prevalence of ad hoc political decisions, weak development control, and a laissez-faire approach to city development. Thus market forces, not planning, dominated the decade of the 1990s. Only toward the turn of the millennium was the need for effective planning regulation recognized as a necessary form of public intervention – namely one needed to control and direct spatial development at the national, regional, and local level (Pichler-Milanović, 2001a, 2010).

Spatial development policy in Slovenia

Shortly after gaining its independence from the Yugoslav Federation in 1991, Slovenia abolished its former socialist system of comprehen- sive planning. While politicians and experts were laboring on the fundamentals of the new planning system, directions from the spatial planning documents approved in the 1980s were officially extended during 1990s.[9] The adaptation of the old planning documents to meet the new spatial development needs involved time-consuming, costly, and demanding administrative procedures. As a result, many spatial development activities and projects were not implemented at all. Similarly complex, time-consuming, and expensive were the procedures for obtaining building permits. These were granted at two levels for the same development activity: as a planning permit and as a building permit. In consequence, developers often withdrew their proposals – this was especially the case when the projects involved foreign investments – or resorted to semi-legal housing construction in the periphery of the inner city or in rural areas where the enforcement of regulations by authorities was rather loose. The broader impacts from the lack of an effective system of planning during the 1990s can be linked to the increase in unplanned (but legal) suburban developments, the

inadequate provision of municipal infrastructure in the growth areas (e.g. water supply, sewage and waste management systems), the decline of old urban communities, and the losses of agricultural and forest land to urban use The beginning of the new millennium marked a flurry of legislative initiatives designed to set in place a new system of spatial planning in Slovenia. In 2002 the National Assembly adopted the Spatial Planning and Management Act and the Construction Act. Two years later, the Spatial Development Strategy and the Spatial Order of Slovenia Acts were passed; they contained clear priorities and guidelines for the development of settlements, infrastructure, and landscape areas at the national, regional, and local levels. In 2007 the National Assembly of Slovenia adopted a new Spatial Planning Act, intended to address some weaknesses identified in the earlier planning legislation and to strengthen the coordination of planning activities carried out at various levels. The act allowed for the possibility of planning at a regional level on the basis of agreements established between two or more municipal- ities. It was also aimed to strengthen the universal enforcement of spatial plans and measures of implementation, requiring that all municipalities in Slovenia prepare new strategic and detailed local spatial development plans by 2010. This has turned out to be a more difficult task than envisioned by the law, as only 33 out of the 211 municipalities of Slovenia had adopted new municipal spatial plans by mid-2012.

Both the Spatial Development Strategy of Slovenia and the Spatial Planning Act devote special attention to managing the dispersed settlement patterns that have evolved in the country as part of the traditional settlement morphology or as new areas of growth. Local municipalities are required to take measures for curbing urban sprawl by emphasizing the densification and revitalization of existing communities. Special attention is to be placed on the renovation of existing town centers as well as on the revitalization of industrial zones, abandoned military sites, and other degraded urban areas (e.g. brownfields). Particular emphasis is placed on the need to protect the natural and cultural heritage and on the prioritization of initiatives intended to reduce the use of passenger cars while promoting user-friendly public transportation.

Another area of public policy that has a strong impact on (sub)urban development is defined by various national sectoral development pro- grams and strategies adopted during the 1990s and updated later according to the requirements of Slovenia's accession to the European Union in 2004. National spatial and regional development programming documents for the periods 2004–2006 and 2007–2013 have been harmonized with EU policies related to the concepts of sustainable, balanced, and polycentric development at the national, regional, and local levels. But inadequate coordination between spatial planning, housing, transport, and environmental policies at the national level and their implementation at the municipal level in the absence of administrative Nomenclature of Territorial Units for Statistics (NUTS) 3 regions are allowing competition between municipalities for investments and budget revenues to continue unabated, fueling further urban sprawl. The low effectiveness of spatial planning policies at the local level is also caused by frequent changes in legislation, weak local governance, strong development lobbies, bureaucratic inertia, poor communication among different stakeholders, and a lack of efficient property and transport taxation, all of which undermine the possibility of curbing sprawl.

Management of growth in Ljubljana's urban region

An earlier attempt to put together a planning document regulating the development of Ljubljana's urban agglomeration in line with market principles and property rights reforms dated back to the mid-1980s, when "Ljubljana 2000" (the official urban development strategy adopted by the socialist government) was revised to address principles such as restitution, privatization, and abolishment of compulsory purchase. The revised urban plan proposed the densification and recycling of the existing urban

built-up area, stressing the need for a renewal of the communities built during the 1950s and 1960s.

The plan failed to achieve these goals, due to the changes in the country's political and economic system at the end of the 1980s and the adoption of local government reforms during the mid-1990s that resulted in greater administrative fragmentation, fostering competition among municipalities for new capital investments. The absence of an effective regional institutional framework and the delayed formation of administrative NUTS 3 regions created the perfect conditions for the proliferation of urban sprawl.

In order to improve the state of regional planning, a new Regional Development Agency for the Ljubljana Urban Region was established in 2002, with the main task of preparing regional development programs to cover the 2002–2006 and 2007–2013 programming periods. In addition, the agency's responsibilities include the preparation of operational programs for projects of regional importance that are eligible for EU funding. Of late the agency started spearheading the preparation of the first regional spatial development concept for the Ljubljana urban region according to the requirements of the Spatial Planning Acts of 2002 and 2007. The project is organized as a joint venture with the city municipality of Ljubljana and the surrounding municipalities of the Ljubljana urban region, with the broader participation of other main stakeholders (e.g. larger employers, public and private institutions, non- government and civic organizations).

Since 2000, the city municipality of Ljubljana has been actively engaged in the development of a new generation of local spatial development documents while updating and revising its existing land use and detailed site plans. A new urban development strategy and a spatial development concept for the city of Ljubljana were adopted in 2002 under the paradigm of sustainable development. These two documents became part of the new Strategic Spatial Development Plan of the city municipality of Ljubljana, which underwent public revision between 2007 and 2010. This strategic municipal planning document was adopted in 2010 together with an implementation (land use) plan.[10] The principal goal of the spatial plan is to achieve "smart city" growth, emphasizing also the internationalization of the Slovenian capital and its development as a center of art, culture, and knowledge. The urban development strategy also emphasizes the need to maintain and improve the quality of life for local citizens by preserving local identity, which is increasingly threat- ened by the expansion of market forces and the process of global homogenization of cityscapes. A critical step in this direction is the recognition of the need to confront the challenges of poorly regulated urban growth leading to further suburbanization and urban sprawl, the decline of the city center, and the loss of urban identity.

A review of the main principles and ideas embedded in the new generation of national, regional, and local spatial development plans that address the future growth of Ljubljana's urban region indicates that priority has been placed on projects that target improvements in the transport infrastructure (e.g. comprehensive renovation of the main rail and bus stations, enhancement of the public transport system, provision of additional parking garages, and so on), the construction of infill low-density multi-dwelling housing, improvements in the waste management system, and the provision of new recreational areas. The implementation of these strategies still awaits the development of effective policy instruments, including the identification of financial resources and the formation of specific partnerships between different stake- holders. It is encouraging that greater emphasis has been placed on the vertical and horizontal integration of different planning activities at the international, national, regional, and local levels.

The main challenge now, particularly in the context of a growing global financial and economic crisis, is how to achieve further economic growth and land and property development in the capital city region, while avoiding additional urban sprawl and its

negative environmental, economic, and social consequences. The achievement of this goal will depend upon the ability of local leaders to encourage the active involvement of different professions, social groups, and local communities. Strong political leadership with cooperation and partnership between different public and private institutions and other stakeholders, which was often so desperately lacking until recently, is essential for the implementation of these comprehensive strategies in what seems an increasingly uncertain future.

Conclusion

Since 1991, the population growth of Ljubljana's urban region has been marked by a continuous decline within the city municipality and by an intensive suburbanization of the capital region's outer areas. While the roots of these processes were planted by the socialist regime's spatial development policies enforced during the 1970s and the 1980s, the advance of market-based economic principles and of private property rights, combined with the lack of coherent strategic planning policies at all levels of government during the 1990s, accelerated significantly the pace of urban decentralization. In recent years there has been a growing recognition of the need for stronger regulation of the urban growth, one that requires greater cooperation between the city of Ljubljana and its surrounding municipalities.

The successful implementation of the new urban and regional development strategy, which has been developed during the last few years as a result of the effort to increase intergovernmental cooperation, depends upon the ability of public officials to encourage the active involvement of a wide range of professional organizations, social groups, and local communities, in a concerted effort to broaden public support for this initiative. The success of the strategy also depends on the adoption of an effective set of implementation measures. Significant advances could be made by employing a broader arsenal of regulatory mechanisms, including adjustments in the taxation system and in the implementation of other fiscal and legal anti-sprawl instruments (use of impact fees, transfer of development rights, and so on); by making improvements aimed at strengthening development control (improvements such as the enforcement of stricter sanctions); and, last but not least, by raising public awareness (in citizens, investors, and elected officials) of the negative impacts of sprawl.

These measures should go hand in hand with the implementation of a set of programs that support urban revitalization in the inner-city areas, placing emphasis on improving the availability of non-profit rented housing and affordable owner-occupied housing in Ljubljana's inner-city areas. This goal could be accomplished by improving the availability of financial resources to municipalities and by encouraging public–private partnerships for the provision of affordable housing in urban areas. At the regional level stronger emphasis should be placed on the integrated development of transport infrastructure and land development, with adequate provision of public transport coverage and level of services.

The overall goal of Ljubljana's new regional policy is to strengthen economic and social cohesion and balanced regional development within the paradigm of sustainable development. At the local level the urban-planning goals are related to the development or revitalization of urban, suburban, and rural settlements, with efficient urban land use (anti-sprawl) development and management. The planning documents developed recently at the national, regional, and local level call for comprehensive agreements between different stakeholders, but their implementation will be sternly challenged by the duration of the current economic and financial crisis, by the continuing energy and climate change demands, by the ageing of Slovenia's population, and by the increasing level of market saturation for consumer demands.

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Notes

1 Over 65 percent of Slovenia's territory is covered by forests.

2 With less than 8 percent of the total Yugoslav population, Slovenia produced 20 percent of the federal GDP and 29 percent of the federal exports in 1990 (Pichler-Milanović, 1996; 2005a).

3 As a result of the rapid privatization of public housing during the 1991–1994 period, the rate of home ownership in the country increased dramatically from 67 to 90 percent (Mandič and Stanovnik, 1996; Pichler-Milanovic, 1999, 2001a; 2001b).

4 In the 1990s the organized (not individual) type of housing construction in Ljubljana declined to approximately 450 dwellings per annum from an annual average of 2,750 dwellings achieved during the 1970–1985 period

(Dekleva, 1991; Pichler-Milanović, 2005a).

5 BTC City was initially developed in the early 1990s by retrofitting a cluster of former warehouses into retail shops. The Austrian supermarket chain Interspar first opened its premises there in 1993. In the late 1990s, BTC expanded further by acquiring and refitting additional industrial premises and by adding new infill developments such as supermarkets, furniture stores, designer outlets, multiplex cinema, fitness centers, an aqua park, a fringe theater, and

several restaurants and kindergartens.

6 On average, property prices in Ljubljana rose several times higher than in other Slovenian towns. Price increases have been most significant in several attractive locations within the inner city and in some attractive residential areas at the city periphery, generally marking a sharp price differential between urban, suburban, and rural areas in the city region (Pichler-Milanović, 2005a).

7 Between 1989 and 2006, the number of cars registered per 1,000 residents increased from 320 to 480 (Statistical Office of the Republic of Slovenia [SURS], n.d.).

8 A recent study of about 70 medium-sized European cities, which is based on the analysis of 74 quality of life indicators, has ranked Ljubljana among the top 20 cities and as the top city among the new EU member states (Giffinger, Fertner, Kramar, Kalasek, Pichler-Milanović, and Meijers, 2007).

9 Only a few amendments were added to the existing articles of the spatial planning legislation during the 1990s: the Spatial Planning Act in Transition, 1993, 2000; the Settlement Planning Act, 1993, 1997; the Building Land Act, 1997; and the Construction Act, 1999, 2000. The aim of these amendments was to provide more land so as to meet market demands and facilitate the adaptation of local land use plans.

10 The city municipality of Ljubljana has already adopted, in 2007, a document called "Vision of the City of Ljubljana by Year 2025," which emphasizes 22 strategic projects to be implemented by 2025.

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7. Paper 4

The roles of planning and the market in the processes of suburbanisation in South-eastern Europe

A. Slaev, A. Kovachev, S. Zekovic, T. Maricic, M. Vujisevic and T. Bajic

Introduction

The growth of suburban areas, both in territory and in population, generally referred to as "suburbanisation" is an urban trend observed in many parts of the world. This trend had been observed in the South-East European (SEE) countries, too, for several decades already. However, because most of the SEE countries were communist by the end of the 1980s, the mechanisms ruling urban development at that time were very different and have changed substantially since the onset of transition. The largest cities of these countries are experiencing a new type of suburbanisation that is in many cases and in many aspects similar to suburbanisation in the western countries (Hirt 2007a, 2007b, Nedovic-Budic and Tsenkova 2006). Western type suburbanisation is usually associated with urban sprawl, which is, generally, considered a negative trend. Sprawl is also considered to be market driven.

Indeed, many researchers consider sprawl to be generated by market processes and mechanisms, as well as by planning factors (Brueckner 2000, Gong and Wheeler 2002, Knaap 2008, Turnbull 2004). The market is, in principle, the initial and leading force in suburbanisation, whereas the role of planning is to react and modify the processes. However, despite the fact that planning usually acts in response, it is possible for planners to foresee trends and to take a proactive, leading role. Efficient planning is thus essential for sustainable suburban development (EEA 2006). Hence, to cope with sprawl, planning should study market processes, analyse their drivers and find mechanisms and tools to cooperate with, regulate and mitigate the market.

In this regard, an issue is faced that is rather typical in any democratic market society – the issue is the balance between planning and the market. Unfortunately, as many authors have pointed out (Adams and Tiesdell 2010, Bertaud 2003, Holcombe 2013, among others), planners tend to ignore many important aspects regarding the role of the market in urban development. Planners in the post communist societies are in an even worse position because of the lack of sufficient experience in dealing with market issues.

The objective of this study is to examine the planning instruments used by the governments of Sofia and Belgrade and their relevance to urban market processes in peri-urban areas of the two cities. This will enable an assessment on whether planning has properly reacted to market forces and trends. The main research questions of this paper are:

1. What are the roles of planning and the market in the processes of suburbanisation in South-eastern Europe (on the examples of Sofia and Belgrade)?
2. Has planning in Sofia and Belgrade considered the role of the market when defining its objectives, measures and solutions?
3. Has planning been able to influence the market or cooperate with it in order to achieve its objectives in suburban development?

The discussion in the planning literature on the roles of planning and the market in processes of suburbanisation and sprawl

It is important for this paper to distinguish between the meanings of "suburbanisation" and "sprawl". "Suburbanisation" is used to denote any growth of urban activities in peri-urban areas, most often indicated by an increase in population. Modern suburbanisation and, particularly, western suburbanisation, usually takes the form of urban sprawl. Sprawl in this paper is perceived as a specific type of suburbanisation characterised (as maintained in the following paragraphs) by features like low densities, scattered or ribbon patterns of development, poor mix of uses, social segregation, etc.

In principle, urban sprawl is driven both by planning and by the market. Indeed, many authors underline the influence of planning on processes, which occur in the urban fringe (Jun 2004, Knaap 2008, Turnbull 2004). The European Environmental Agency (EEA 2006: 7) in its report "Urban sprawl in Europe" has observed that *where growth around the periphery of the city is coordinated by strong urban policy, more compact forms of urban development can be secured*. However, while the impact of planning may not be denied, the prevailing view is that sprawl is primarily market-driven (e.g. Gong and Wheeler 2002, Brueckner 2000) and this is acknowledged by the same report of EEA (2006: 6), where sprawl has been defined as a "*low-density expansion of large urban areas, under market conditions*….".

Concerning suburbanization the situation is not any different. Indeed, in some cases suburban developments may be funded by centralised initiatives – e.g. hospitals, social institutions, universities As a rule, however, suburbanization is typically the result of the decisions of decentralised players such as households and companies. The EEA (2006) report identified the drivers of sprawl as follows: *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*. Apparently, only two of the listed drivers are directly associated with planning: the means of transportation and the application of land use planning policies. All other factors produce their impact through the market. The planning system may stimulate, facilitate or contain and even ban the development of certain activities; nevertheless, it only creates the framework of suburbanisation. Therefore, the initiatives of the decentralized market players are the real generators of sprawl. The role of planning is to respond to and regulate the processes.

This conclusion underlines the need for active engagement of the planning system to manage the issues of suburbanisation. As Knaap (2008) has noted, urban economists often tend to overlook the threats generated by sprawl and, particularly, the role and the need for planning (Anas and Rhee 2006, Arnott and Inci 2006, Brueckner 2000). Indeed, the efficiency of planning may be questioned in many situations in urban and spatial development, but urban expansion is a field where the need of high performance of planning is most evident. Nivola (1998) drew a comparison between American and European cities to maintain that European cities, in general, followed more sustainable patterns of development. He found that the differences in the rates of urban expansion were only partly due to different life-styles and residential preferences, but they were also due to different levels of use of planning and planning tools in managing urban development. Gleaser and Kahn (2003), too, have distinguished between European and American approaches. They argued that the usage of more and better-devised planning and regulation measures in Europe was an important factor in the control of sprawl.

But not only urban planners call for wider use of planning instruments to combat sprawl. The *remedies* suggested by urban economists (e.g. the above-mentioned Anas and Rhee 2006, Arnott and Inci 2006, Brueckner 2000), too, are tools of governance and planning. What they usually propose are various taxes and fees like congestion toll, property taxes, development fees, etc., but these are not *purely* market tools, they are also means of central governance and regulation. Yet governance, after all, is nothing else but developing and

implementing plans (Slaev 2014). Taxes and fees, thus, should be viewed as tools of both planning and the market.

Thus an important issue for this research concerns the cooperation between planning and the market in urban development. Indeed, the correlation between the two may be both positive and negative. As Holcombe (2013:199) noted, "sometimes planning is designed to counteract market forces, revealing an adversarial relationship between planning and the invisible hand. Other times planning builds on the spontaneous order of the market, and the two will be allies." Holcombe, drawing on the theory of nomocracy, maintained that to properly cooperate with the market, governments should not interfere much with the affairs of market participants, but should focus on planning their own activities – the development of infrastructure. Bertaud (2003) defined three groups of planning instruments, which facilitate good cooperation with the market – the development of primary infrastructure, zoning and planning regulations and local taxes and fees.

Methodological notes

Generally, it is very difficult to assess the roles of planning and the market in a social activity, because the impacts of both mechanisms are intertwined and internally related. For this reason it is, first necessary to establish clearly what is considered to be a market-driven process and what - a planning-driven one – a problem that proves to be much more difficult than it seems at first glance. Clearly, a social activity is considered market-driven when the actions of numerous decentralised agents are coordinated by the price mechanism. Alternatively, the centralised organisation of a social activity requires planning to be employed. Indeed, social activities require a special type of planning relevant to complex systems, termed nomocratic planning (Moroni 2010, 2014). Many researchers regard this kind of planning as a decentralised – bottom-up type (Portugali 2008, 2012, Moroni 2010, Holcombe 2013). But whereas the main purpose of nomocratic planning is, indeed, to provide space for the decentralised agents to participate in the process management, it still is a centralised activity (Slaev 2014). Therefore, this paper will consider an urban (or a suburban) process as planning-driven if it is organised and conducted by a central authority and market-driven, if it is based on arrangements between decentralised agents (despite that in some cases, the action of the price mechanism is not easy to observe – e.g. in informal/ illegal/ spontaneous suburban developments).

A methodological problem for this research is that in reality most processes are, both, based on decentralised arrangements and organised by a central authority. A reasonable way to study the impact of each of the two mechanisms is to investigate situations in which only one of the two mechanisms is active, so the results can be clearly attributed to the active mechanism. It is reasonable to consider that only in a centralised society (e.g. a communist one), is planning the sole mechanism of social interaction. In contrast, in a market society (as are all South-east European societies after the fall of Soviet bloc), planning is but one mechanism of coordination – acting alongside the market. Finally, as it will be discussed later in this paper, on special occasions in a market society, the market may be the sole mechanism of social coordination.

Based on the above two considerations, as well as on the conclusions from the literature survey, the paper will implement the following methodological structure. First, the general characteristics of suburbanisation processes in Sofia and Belgrade over the past few decades will be reviewed briefly in order to outline the context of research. Then, to identify the role of each one of the two mechanisms (planning and the market) in accord with the approach explained in the former paragraph, specific situations in suburban development of the studied cities will be examined, wherein only one of the two mechanisms were active. Next, key planning documents will be analysed to answer the second main research question of whether planners in Sofia and Belgrade considered the role of the market when addressing the issues faced during the course of accelerated suburbanisation, which ensued in the

period of transition. For this purpose, the paper will examine what the objectives of planning were in suburban areas and how planning aimed to achieve them – by what measures and solutions; also, whether planning anticipated the role of the market in this regard, whether it accounted for the interests and the actions of the market players and whether it sought to cooperate with them. Finally, to answer the third research question, the research evaluates whether planning has been able to influence the market or cooperate with it in a way, which achieves its' objectives, concerning the development of suburban areas. The paper will do that by examining the course of the implementation of the plan by using statistical information and data about processes in suburban areas since the adoption of the two master plans. It should be stressed that this presents some limitations to this research, because only limited data are available.

The interplay between planning and the market in the processes of suburbanisation in Sofia and Belgrade

Trends in suburbanisation in Sofia and Belgrade

As many researchers argue (e.g. Fee and Hartley 2011) suburbanisation is often just the first phase of urban growth. The growing cycles of cities usually are associated with expansion onto the surrounding landscape. This was the case with Belgrade and Sofia beginning in the early decades of the 20th century (Belgrade: 1910 – 90,000, 1948 -398,000; Sofia: 1910 - 103,000, 1946 - 530,000). The population growth of the two capital cities has accelerated, particularly since the late 1960s and 1970s and this was the general reason for growth in suburban areas. From 1948 to 1991 Belgrade grew from 398,000 to 1,168,000 residents (by 193.5%). From 1946 to 1985 the population of Sofia grew from 530 to 1,202,000 residents (by 127%). For comparison, during the same period, Rome grew from 1,652,000 to 2,844,000 residents – by 72%. Industrialisation was the major reason for the population growth in all three cities, yet in the two SEE capitals, it was more intensive than in Rome. The particularly high rates of growth in former socialist countries were generated by the so-called *accelerated socialist industrialisation*. It, in turn, resulted in socialist urbanisation, which was associated with industrial methods of construction – prefab housing. This is how the socialist suburbs emerged.

With the transition from communism, the nature of the processes in peri-urban areas changed significantly (Nedovic-Budic and Tsenkova 2006, Slaev and Nikiforov 2013). The prevailing type of suburbanisation became the so-called "western type," (Hirt, 2007a) generated by new suburban settlers moving to the suburbs from central city areas (Fielding, 1989; Fishman, 1987, Jackson, 1985). However, the processes were much more complex: other types of suburbanisation also existed, such as growth due to rural-to-urban migration and waves of refugees or internally displaced people as the result of conflicts in former Yugoslavia.

The changing roles of planning and the market in Sofia and Belgrade in the course of the past decades

To examine the roles of planning and the market in the development of Sofia's and Belgrade's suburbs, a specific approach will be employed that has been explained in the methodological section. This approach will focus on situations in suburban development, in which only one of the two alternative mechanisms of social coordination – either planning or the market – had been in place and the other one had been missing. This will help mitigate any confusion about which of the two mechanisms is responsible for the observed results.

Concerning the planning-market relation, the former socialist countries had a very specific experience. Whereas in the period of communism planning had an overwhelming priority, the Yugoslavian political system was proclaimed to be "market socialism" and in the urban development of Belgrade, market has been present in a more or less significant form, even

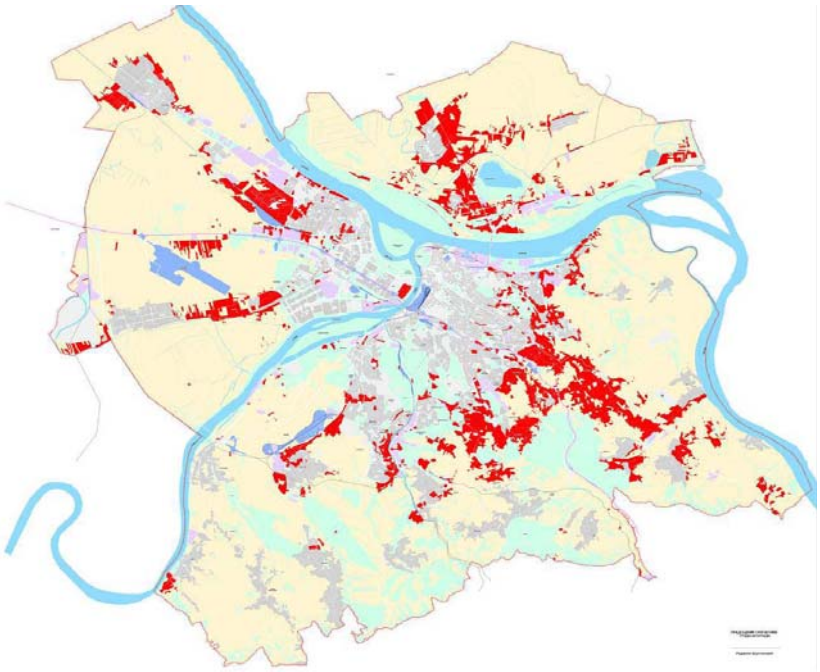
in the period of the so-called "societal agreements", but often in the form of "black"-illegal or "gray" market. In Bulgaria the societal stage was claimed to be the "first market phase of communism", but markets were, in fact, heavily suppressed, especially in the area of property development, housing and urban affairs. Thus, it may be considered that in this period, planning was the only mechanism of social coordination in the field of urban development and that the market was absent. To study the implications of this situation, it is instrumental to examine the 1961 plan of Sofia. A competition was held between two teams of planners who presented alternative proposals, as one of them envisaged compact development, while the other planned for considerable expansion (Kovachev 2003a, Nikiforov 1982). The compact variant was chosen, but only three years later, the plan was amended, because the forecasted number of population – 800,000 was reached only 5 years after the adoption of the plan. Despite that, the number of the population was controlled by the instrument of fixed citizenship (a person could work only in the town where he/ she was registered), still immigrants from the country found their ways to settle in Sofia – for instance, citizenship was granted for a number of professions that were needed in the capital city. Thus the 1961 compact variant was soon abandoned. Estates of prefab housing were developed on the urban fringe and thus the "socialist suburbs", known for the poor quality of housing, emerged (Kovachev 2003b, Hirt and Kovachev 2006). In the next decades, Sofia followed the expansionary trend of development. One reasonable way to interpret this fact is that even in the socialist period, when the central planning system enjoyed plenty of instruments and mechanisms of enhanced central powers, it still could not compel all decentralised agents to comply with central policy.

Despite that the communist regime of the former Yugoslavia was more open and flexible, central planning in Belgrade exercised considerable powers (similar to Sofia). However, it still failed to regulate urban growth efficiently. The accelerated population influx created intense pressures on Belgrade's housing stock, which was partly developed by means of state companies or state organs that were entitled to develop flats for their employees (average 10,000 flats/per year). While this effort resulted in creation of model settlements on vast vacant peri-urban sites, e.g. Novi Beograd, it solved the housing problem only partially. The rest of the incoming population to the city, such as commuting industrial labour force, had to seek for accommodation in the rural communities in the lands surrounding Belgrade, which often turned into "dormitories". Therefore, planning policy resulted in the development of two peripheries and two types of suburbs – a relatively well-serviced one, characterized by organised housing estates and an autonomous, often illegally developed, "wild" periphery, comprised of private built houses, but largely devoid of infrastructure. Thus, though suburban development of Belgrade was quite different from that of Sofia, central planning still exhibited similar insufficiencies. In fact, Belgrade and Sofia were just two more cases supporting the observation that central planning, even if exercising overwhelming powers, could not perform its role to steer urban development properly when market forces were ignored (Holcombe 2013).

From the start of the transition in the early 1990s the balance between planning and the market changed dramatically. The 1990s were "the dark age of planning" in all post-communist countries, including Bulgaria and Serbia, because any form of planning was considered a form of communist approach (Hirt and Stanilov 2009, Nedović-Budić 2001, Slaev 2012). The radical changes occurred somewhat faster in Sofia and this resulted in a major collapse of the system of planning. Due to the political situation in the 1990s the 1961 master plan was still in force and a new plan was not on the agenda. Therefore, in this period only the market was in place and planning should be considered missing. Still, any new development had to be approved by the planning authorities and for this purpose new small scale amendments (for just one plot and the neighbouring) were easily proceeded and realised. Such changes were informally called "piecemeal" developments, because they compromised any general planning vision. In suburban areas they resulted in substantial loss of open spaces, land for public uses and, especially, loss of green spaces (Kovachev 2003b, Nikiforov 2008). In general, this period of the development of Sofia was a good example of the action of market forces unconstrained by planning and it was particularly evident in suburban areas.

In Belgrade the collapse of planning in the 1990s seemed to be less abrupt, probably because the master plan was less obsolete (adopted in 1986) and changes occurred a little slower (Nedovic-Budic 2011). But, as consequence of interplay between untransformed urban planning and impact of market forces in Belgrade area in period 1980-2003 around 20,000 ha of agriculture land was converted into construction land (WB, 2004). Parallel with that, urban development experienced a considerable shock due to the wave of war refugees from the former Yugoslav republics and internally displaced people from Kosovo and Metohija. Because of the refugees' urgent housing needs, most of them settled in suburban areas where land was available, though not in the *proper* legal form of construction land. The planning system could not adapt quickly enough to this major impact and informal construction escalated (Figure 1). According to UNECE (2009), in the broader Belgrade area these settlements represent the key form of urban sprawl, covering 22% of the land for construction and taking up to 40% of residential areas. Illegal buildings in the Belgrade region are around 200,000 . Despite the specific conditions and needs, this development was generated by the decisions of numerous decentralised agents who solved their housing problems by decentralised actions. Therefore, such actions should be considered of market type. As for planning, as already stressed, it could not react in due time and was, actually, missing.

Figure 1 - Illegal and informal settlements in Belgrade



(red represents illegal and informal settlements, Source: UN-HABITAT, 2006)

To conclude this section, the roles of planning and the market in suburban development can be summarised as follows. Market forces are the generator of suburbanisation, whereas the role of planning is to improve and refine the action of the market. As the generator, markets never stop "working" – even if planning is absent like in the case of the informal/ illegal settlements of Belgrade or in "the dark" age of planning in Sofia. Still, when planning is absent the development of urban environment, especially in suburban areas, fails to meet reasonable standards – either due to loss of greenery and open spaces like in Sofia's suburbs, or due to deficiency of infrastructure, like in Belgrade's illegal suburbs. Or, alternatively, the results are even worse, if planning ignores the market like in the socialist suburbs of Sofia.

The role of planning in balancing market forces in suburbanisation processes in Sofia and Belgrade since the beginning of the 2000s

The new master plan of Sofia

Accounting for the action of the market

The preparation of the new General Urban Development Plan (GUDP) of Sofia started in 1998 and completed in 2003. Regarding the role of the market in suburban trends it should be stressed that the new GUDP of Sofia did not identify any issues relating to suburbanisation as a trend observed and in many parts of Europe and the world.

GUDP did try to study relevant aspects of market processes including the role of the land market, but this was not investigated systematically, not by following relevant methodologies. Still market forces and factors were examined on a number of occasions concerning the development of the city's economy, the issues of its competitiveness, the land and property market, the housing market, the availability and the allocation of investments, the labour market, etc. Concerning suburban areas, GUDP observed some relations between the levels of amenities and provision of infrastructure, the levels of the prices of land and the levels of investment activity (Metropolitan Municipality 2003, p 62). The plan tried to account for some aspects of the impact of the market and observed that it threatened the conditions in some territories. Another important observation regarding the balance between the development of central and suburban areas was that market trends maintained very high levels of investment activity in the city centre and within the compact city as a whole (Metropolitan Municipality 2003, p 2).

Objectives of the new GUDP of Sofia concerning the development of the suburban areas

As stressed above, the new master plan did not analyse the existing suburbanisation trends as such. Despite that GUDP accounted for the drop of the population in the central areas and identified slow but steady positive trends in several suburban districts (Metropolitan Municipality 2003, p42-43).

GUDP defined its main objectives concerning Sofia's suburban areas based on two key factors. The first factor was the forecast of the growth of the city's population and the development of habitation. The second factor was the perceived optimal balance between the development of central areas, the compact city and the suburban areas. Regarding the first factor the plan envisaged a growth of population by 140,000, so very high needs of housing units were perceived (Metropolitan Municipality 2003, p136, SOFPROEKT 2009, p25), but the forecast was that only 25 percent of the new housing construction would be outside the compact city. Concerning the second main factor – the "balance centre/periphery" – the goal of the plan was to improve the residential conditions in the city by unburdening central areas and decentralisation of habitation by providing better access to more attractive housing in the suburbs. The plan observed that the city was very compact and only 7.5 per cent of its population lived in suburban areas. It noted that in many European cities this share is 30-35 per cent, implying suburbanisation was needed. One of the main objectives of the plan was to redistribute "urban functions to achieve a better balance of all urban activities" (Metropolitan Municipality 2003, p103) and to remove "the overload" from the compact city. Initially, GUDP did not oppose urbanisation trends in the southern territories, but emphasised the threat they presented to the large green edges. However, the policy of containment of the development of the southern areas gained momentum and was dominant in the Amendment of GUDP of 2009. Both the initial plan and the Amendment emphasised that the northern suburban areas were the main reserve for future development. Thus, concerning these territories GUDP objectives were more definite – the goal was to stimulate the development of both housing and industries (Metropolitan Municipality 2003, p136).

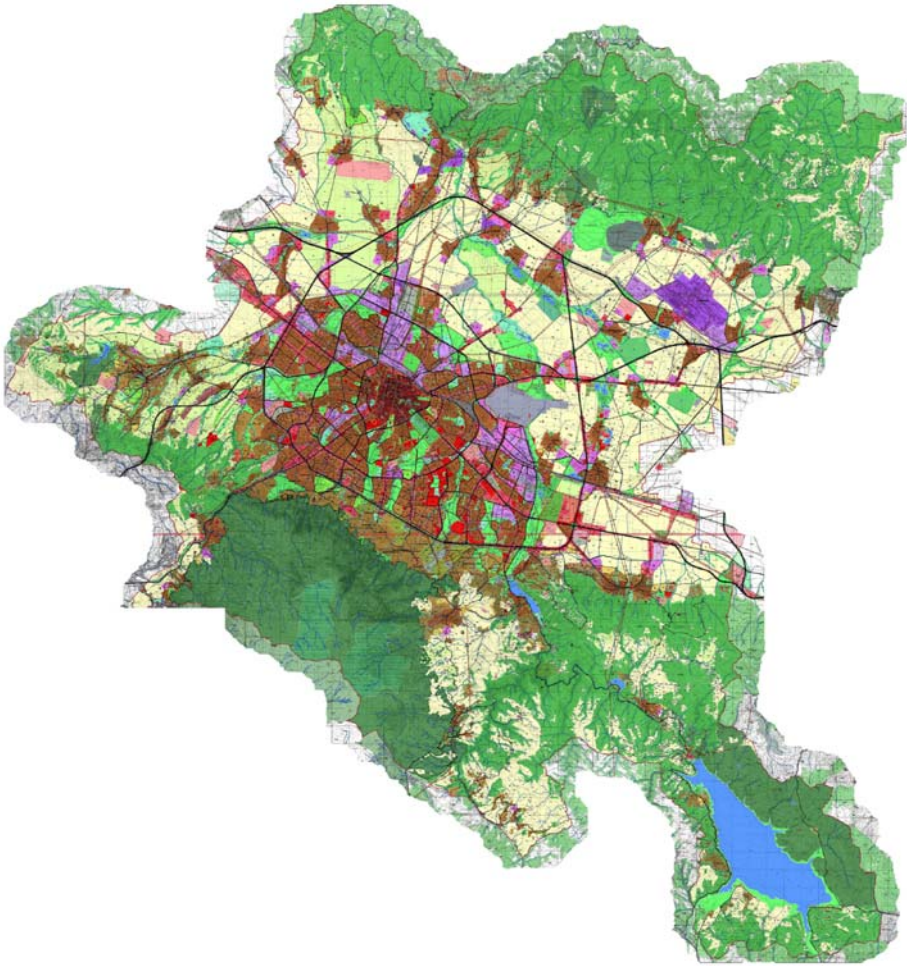
To make the issue with the objectives of GUDP in suburban areas even more confusing, another consideration should be added too. While aimed at accelerating the development of suburban areas, the plan also aimed to provide for economical use of land. This goal was defined most explicitly in the ecological section, which stated that the territorial expansion of the city and all other settlements of the municipality should be limited. It stated that land and water resources should be considered an "absolutely limiting factor" (though the meaning of this term was not made clear).

Measures of the new GUDP of Sofia concerning the development of the suburbs

The essence of any spatial plan is in the spatial measures/ solutions that the plan uses to realise its objectives. Above all, these measures comprise the zoning regulations and the development of the infrastructure – mainly the transportation networks (Bertaud, Holcombe).

Regarding the zoning structure of the territories, GUDP stipulated a reduction of agricultural lands from the then 49,340 ha down to 41,208 ha, and to 36,112 ha according to the 2009 Amendment of GUDP. This decrease in agricultural land was offset by an increase in urban areas (+8580 ha) and in forest and green lands (+8170 ha). The biggest increase went to habitation (+1900 ha) and to the zones for mixed-use developments – mainly residential and service functions (+4920 ha). To note, vast areas of agricultural lands reserved for housing by the previous master plan (1961) mainly in the southern outskirts remained with the same designation. Furthermore, considerable parts of the green edges were restituted and also assigned for residential use.

Figure 2. - GUDP of Metropolitan Municipality, 2003 (adopted 2007)

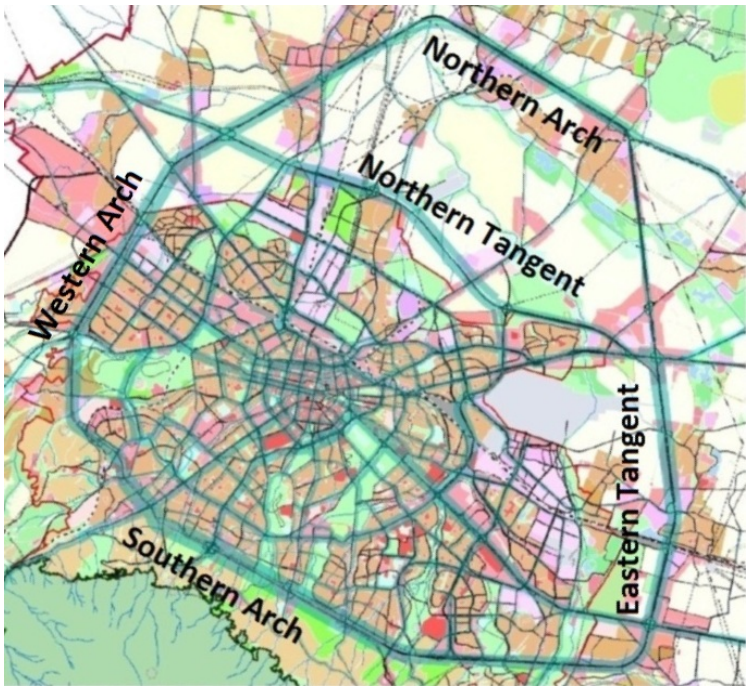


Thus in practice the biggest increase in residential areas was planned in the southern suburban areas. In line with the concept of GUDP (and especially the 2009Amendment) that urban development had to be directed northwards considerable portions of land to the north of the city were designated for "long term reserve" for urbanisation. These were rural lands that were meant to be converted to urban, mainly residential, when needed in the long term – e.g. in 20 years. They can be converted earlier, but that would require extra procedures.

Regarding the transportation networks it is reasonable to start with the forms of mass transport. Because the focus was on the metro railway system, GUDP did not plan for a considerable development of the other forms. In just 5-6 years the enlarged metro network drastically improved the access to the peripheral areas in the south-eastern and north-western territories of the compact city, but this did not influence the access to the suburbs. Extensions of 24 km of the tram network and 53 km of the trolley networks were planned in peripheral and suburban areas, which is less than 10 per cent of the total length of these networks. As for the railway network no development was planned concerning the passenger transport. GUDP thus did not stipulate for any significant improvement of the mass transport access to suburban territories.

The main element in the development of the road network of the municipal territories outside the city of Sofia is the ring road. By the moment of the adoption of the master plan almost the entire ring was a two-lane road. According to GUDP it has to be upgraded to a 6-lane set. According to the forecast of the future traffic loads (Figure 3), the ring road has by far the greatest role in the transportation system. The ring comprises four sectors – southern, western, northern, and eastern. In Sofia, the southern and the northern sectors have major importance for the development of the suburban areas. However, the northern sector comprises two routes –one called the Northern Arch that passes through the suburbs and another one - the Northern Tangent adjacent to the compact city (see Figure 2). Respectively, the Northern Arch would have a major impact on suburban development and the Tangent would hardly have any.

Figure 3. – Traffic loads on the main street routes of Sofia



Early results of the implementation the 2007 GUDP of Sofia

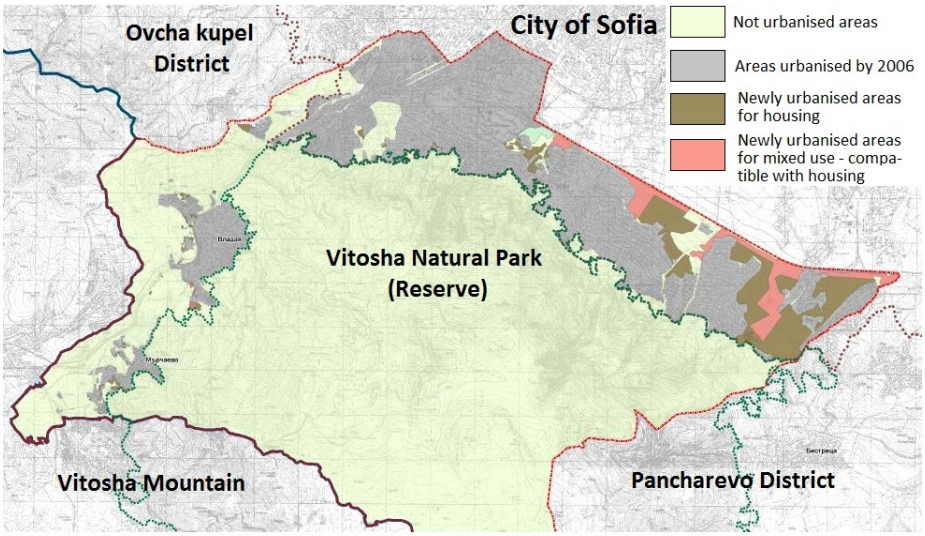
This paper argues that so far GUDP is failing to achieve its objectives concerning suburban areas – namely, to contain the development of the southern and promote the development of the northern. Indeed, the period of implementation had been very short by now, only 6 years, and, besides, the economic crisis had been a major factor to delay all urban changes. Despite that certain facts would allow for early conclusions. Observations will be based on a study conducted by SOFPROEKT (the municipal company for planning) and data provided by the Cadastral Agency. The study investigated the changes in the urbanised area in three suburban districts of the city of Sofia – one southern – Vitosha, and two northern – Novi Iskar and Kremikovtsi. As obvious from Table 1 just like in the period before the adoption of the new master plan, the southern suburbs have attracted the largest share of new development. The expansion of the urbanised area in Vitosha (Table 1, Figure 3) in the period 2006-2013 was twice larger than that in Kremikovtsi and more than 5 times larger than that in Novi Iskar. Therefore, so far suburban development is following the same directions as before the adoption of GUDP. The plan failed to save even what was left of the green edges (the newly urbanised areas on Figure 3), neither could it encourage population growth in the settlements to the north of Sofia – in 6 years the number of the inhabitants of Novi Iskar and Kremikovtsi raised by only 650, which is close to a statistical error (NSI 2012).

Table 1.- Changes in the urbanised area in three suburban districts

characteristic/ indicator	Vitosha	Novi Iskar	Kremikovtsi
Urbanised area in 2006 [ha]	2514.43	2751.44	3405.68
Urbanised area in 2013 [ha]	3131.27	2806.42	3707.55
Change in the urbanised area 2013/2006 [ha]	616.84	54.98	301.87
Change of urbanised area in percentage [%]	24.5%	2.00%	8,86%

The results of the implementation of GUDP so far in the area of infrastructural development suggest that there would hardly be any change in suburban trends in foreseeable future. The construction of the southern sector of the ring road, called the Southern Arch (see Figure 2), started in 2007 and was completed in 3 years. Second was the Western Arch and third – the Northern Tangent. The construction of both sectors had to stop because of problems with the acquisition of land. When, the Eastern Tangent is built (planned for 2018) and the ring is closed, then, apparently, the Northern Arch will be next, but this will hardly happen before 2020, but in view of the shortage of funding it may continue till 2022- 2025 or longer. And, of course, this will be crucial for the development of the northern suburban areas.

Figure 4 – Newly urbanised areas in the district of Vithosha 2006-2013



Summary of the findings concerning the 2007 GUDP of Sofia

The analysis and the early results allow for some early conclusions concerning the objectives, the measures and performance of Sofia's GUDP in suburban areas in view of the cooperation with market processes. Concerning the second research question, the plan paid special attention to market trends in the preliminary study. However, while this market analysis was extensive, but not systematic, it was not carried further in the next phases of the plan. When defining its objectives GUDP did not consider how these objectives related to the market trends and the market interests of the population and other players. The plan stated that the compact city had to be "unburdened", that growth in the southern suburban areas had to be limited and growth in the northern areas boosted and did not examine why residents did want to move to the northern suburban areas, but moved to the southern, thus creating considerable market pressure on the latter.

Next, when defining respective spatial measures Sofia's GUDP stipulated spatial solutions that were often irrelevant to its objectives. For instance, the growth of the northern suburbs required improvements in the mass transit connections, but no improvement was planned. The vast territories designated for urbanisation in the southern districts did not correspond to the objective to contain their development. The territories for "long term" needs in the northern districts were a much less efficient tool to boost the growth of population and local economy. However, these spatial solutions turned to be relevant to the market trends and the results, if not meeting the objectives of GUDP, served the market interests of Sofia's residents, businesses and participants in urban development.

Finally, an important reason why GUDP so far has failed to achieve its objectives in suburban areas is because it could not influence or cooperate with the market, in turn because planning did not employ efficiently instruments of cooperation. This is obvious in the development of infrastructure: the construction of the Southern Arch had a major impact on the development of the southern territories. In contrast, postponing the construction of the Northern Arch by at least a decade will, no doubt, postpone the development of the northern areas by at least the same period of time.

The new master plan of Belgrade

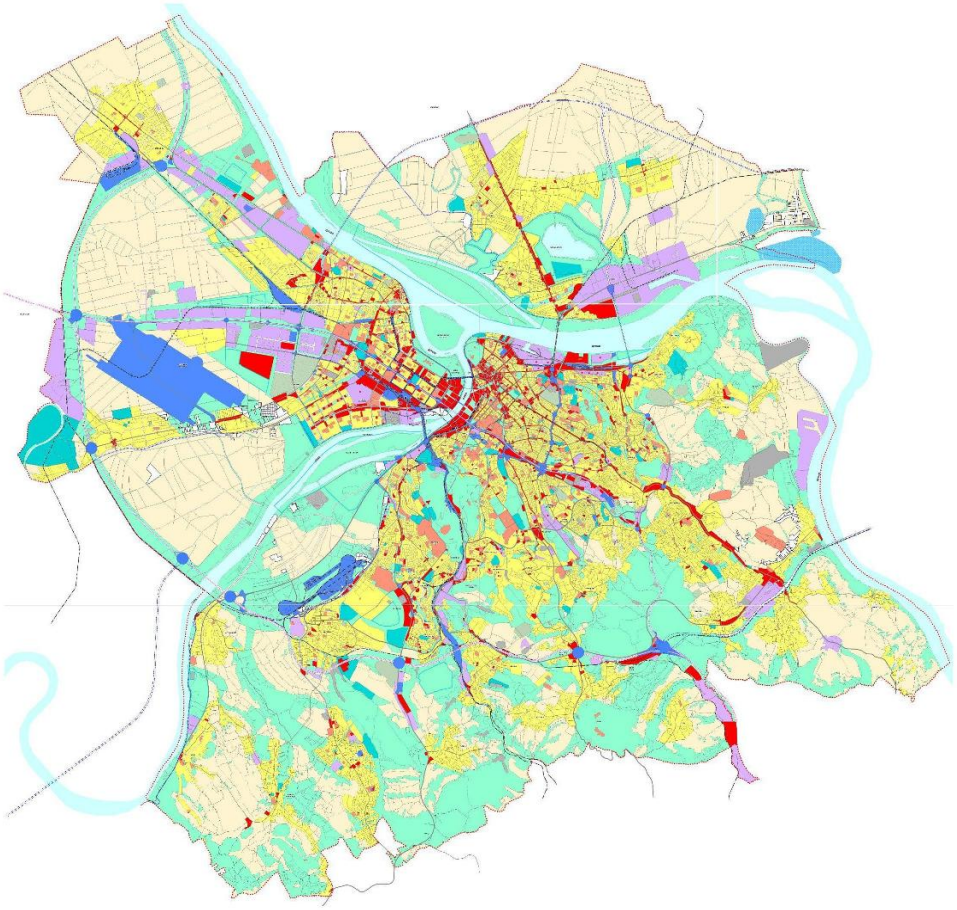
Accounting for the action of the market

In 2003 the new MUP of Belgrade was adopted, 17 years after the previous came into force in 1986 (compared to Sofia were the new plan was adopted 46 years after the previous). Its main aim was transformation of the urban planning system in accord to socio-economic, political, institutional and organizational changes, which were market-led by the neo-liberal discourse. In the sphere of urban land management the plan sought to establish a new governance model, based on market principles. Therefore the issues of the coordination with the market in MUP were given a priority. MUP aimed to promote the available advantages and enhanced competitiveness of the city to attract investments of all forms of foreign capital.

MUP foresees large structural transformation of river waterfronts, with important market dimension. Together with creation of business "City", this illustrates significant impact of market demands on MUP propositions. Application of contemporary market-based instruments in land-use policy also illustrates connection with market processes. Direct impact of market and specific investor interests is, for e.g., present in urban rezoning of the Port Belgrade proposed by MUP Amendment (2006), as well as in the latest initiative for the implementation of "Belgrade Waterfront" project.

Policy of construction land and communal economy have not been transformed yet, although there is evident the strong influence of market mechanisms, intensive development of the "gray" market and still existing policy of social prices of utility services.

Figure 4. – Master Urban Plan of Belgrade



Objectives of the new MUP of Belgrade concerning the development of the suburbs

Specific strategic aims referring to the development of suburban areas were defined as:

- denationalisation of both the ownership and management of urban (construction) land, correction of marketisation, mainly in social respect
- de-metropolisation putting into effect more dynamic development of other parts of Serbia than the Belgrade metropolitan area, and thereby lessening its population and economic burden.

The importance of the following aims should be emphasized: 1) urban reconstruction, 2) registration of illegal construction, 3) completion of built residential area in terms of function, 4) providing new surfaces for housing, 5) enabling distribution of the planned activities and jobs in suburbs, etc.

Locations planned for new housing are in the compact urban tissue and peri-urban areas (in settlements with lower densities). According to MUP, initiated policy of urban change should be directed to "reduction in residential and commercial suburbanization" (which is in opposite to the main aim of MUP). MUP foresees measures for stopping semi-legal and illegal upgrade, construction of illegal buildings, etc. Summary of key measures to improve the informally created suburb settlements implies improvement, change of density and construction of infrastructure.

Measures of the MUP concerning the development of the suburbs

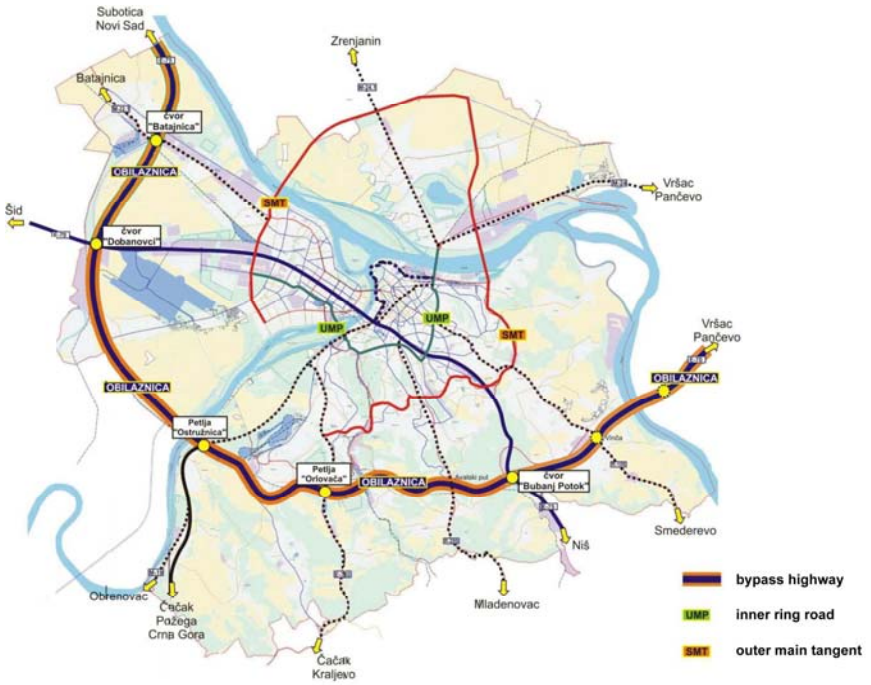
The MUP of Belgrade planned for substantial changes in the structuring and zoning of the territory of the city/ municipality. According to the plan the biggest decrease in the period 2001-2021 will be of agricultural land, from its share of 51.1% to 27.8%, mostly conversion to industrial parks along the key transport routes, followed by the increase of green surfaces

of various kinds. In result, a sharp increase of total green surfaces is predicted. In absolute terms, the largest changes go to economic zones, transport zones, housing zones and commercial zones and centres: 3,155ha, 2,269ha, 1,888ha, and 1,336ha, respectively. In terms of spatial distribution and organization, four broad areas were defined by the MUP (Figure 5), out of total of 77,602ha, viz.: 1) Central zone (3,706ha); 2) Intermediate zone (8,532ha); 3) Outer zone (21,962ha); and 4) Fringe zone (43,902ha). MUP points out the main development directions as well as short-term and long-term solutions (till 2021) for suburban areas designed for urban development.

Concerning the large-scale illegal housing construction, Belgrade MUP has presented the informally developed settlements and areas in the category "housing and housing tissue", as well as "economic activity and economic zones". Among the priority suburban areas for rehabilitation of informally developed tissues, MUP designated the settlements Altina and Padina, as well as the settlements on the Banat side of Belgrade.

Concerning the primary transportation network the MUP of Belgrade is planning for development of the tangential and ring traffic routes aimed at connecting the continuous built-up area in periphery with central area (Figure 5). A key element is the outer route – *the bypass highway*, which is connected with the international road E-70. Other key elements are the outer main (magistral) tangents (SMT) and inner roads (UMP) planned within the continuous urban fabric around the Central zone. The total length of the planned new construction and reconstruction of the main ways is 72.2km. In suburban areas MUP envisages an increase of the surfaces under the transport infrastructure by 39% (from the existing 2,319.7ha to 3,216.65ha).

Figure 5. – Traffic routes of Belgrade planned by MUP 2003



The mass public transport system accounts for 52.85% of the total number of trips in Belgrade. The connections of the suburban municipalities with the city rely exclusively on bus transport. Suburban rail Beovoz, with total length of tracks 100km and 42 urban and suburban railway stations, accounts for 2.5% of passengers (Bugarinović and Ristić, 2009) and 1% of the milage. MUP envisages the introduction of the light rail transit system (LRT) and the activation and improvement of the urban and suburban railway. There is a long-term controversial issue of Belgrade metro system. The issue was raised in 1950s; a famous study from 1976 envisaged five urban metro lines and four regional lines. In the 2003 MUP the idea of metro was abandoned in favour of LRT, but raised up again in the latest draft of a

new master plan (2012)– 3 basic lines (26.36km). MUP has not proposed substantial improvement of access to suburban areas by public transportation

Early results of the implementation of the 2003 MUP of Belgrade

In the absence of adequate systemic mechanisms and indicators for monitoring and evaluation of MUP realization, we applied method of preliminary expert evaluation in combination with available partial data, limited primary sources (statistics, cadastre), and the available data on strategic projects.

Realization of MUP is mostly according to short term priorities. Implementation strategy depends largely on the adoption of a five-year development program of the city capital infrastructure and the annual program for development of construction land. MUP states that initiated urban policy changes should be directed to completing privatization of housing and office space. The privatization of the housing stock is completed (1999-2006), while the privatization of commercial space has been partially achieved.

Measures of the city's jurisdiction supported the policy of encouraging the development of propulsion business sectors (mainly services and agriculture), securing favourable location and financial conditions for the development of entrepreneurship and new SMEs (mainly as green-field investment along highways and main roads). Due to the global economic and financial crisis implementation rate of strategic directions and projects defined by MUP is slowed down. Nevertheless, the highest level of MUP realisation was in the field of capital infrastructure. Many projects have started in this field and some have been already completed: i.e., the bridge at Ada Ciganlija on the river Sava (as part of Main inner ring), and the bridge on the river Sava near Ostružnica with the bypass. Construction of waste water collector (which will solve evacuation of waste waters from Belgrade in the next 50 years) started in 2005, and more than 50% has been completed.

Concerning the response of the market, the interests of investors were not targeted to larger use of brown-field locations in urban tissue, mainly due to the lower land prices and arrangement in the peripheral, still undeveloped (green-field) areas on the urban fringe. Thus peripheral urban and suburban areas along corridor X attracted major part of new housing and industrial developments.

Summary of the findings concerning the MUP of Belgrade (2003, amendments 2006, 2009)

The provisions of the MUP (2003) were more precisely formulated in Amendments of 2006 and 2009, especially on strategic urban development and planned land use.

Some goals of MUP have contradicted each other. For example, urban renewal was strongly stipulated for; but at the same time an increase of ca. 50% of built urban land has been planned. Also, there are controversies between adopted aims and insufficiently researched planning solutions.

Concerning suburbanisation and sprawl MUP has not identified them as specific issues and has not explicitly stipulated any respective measures. With regard to the issues relating to the widespread of illegal housing development in suburban areas, they had been studied by the plan and measures had been outlined; however, one may argue that these issues deserved greater attention and more elaborated sets of measures and tools. The policy of MUP concerning suburban areas comprised (1) better control of this process, (2) better equipping of peri-urban zones with technical infrastructure and public services, (3) better control of environmental aspects of development, and (4) better control of illegal construction. In the recent years, following the introduction of pertinent overall legislative changes, two more aspects have been put high on this agenda, that is, (5) controlled and partially approved legalization of illegal construction and (6) conversion of urban land ownership and leasehold.

Zoning was the main instrument of the master plan to regulate the development of suburban areas, but apparently with insufficient success. One factor is that MUP zoning is not the basis for determination of development fees or any fiscal instruments.

Like in Sofia the development of infrastructure was seen as an important tool of planning policy, but was not employed to solve the issues of suburban growth. The planned development of the railway network in the suburban areas of Belgrade was greater than that in Sofia's peri-urban territories. Nevertheless, the role of the transit system for the mass transport communications of the Serbian capital, as perceived by MUP, is still quite insufficient

In result of the explained role of planning and its interaction with the market, there are two prevailing processes on the main urban development axes: spreading of constructed tissue to periphery and suppressing production and housing by services. In conditions of unconsolidated democracy, weak market and privatization, insufficiently developed civil society and limited public insight in procedures of planning decisions, majority of actors behave accordingly to dominating norms that favour individual on the account of public interest. Despite some weaknesses of the applied approach in MUP (weak public control, insufficient protection of public goods), lack of coordination and planning of market elements, it is estimated that the role of free market discourse prevailed in relation to planning postulates. Planning has not sufficiently acknowledged the key market interests, mechanisms and arrangements.

Conclusions

After a transition of more than two decades markets play a key role in the development of cities in South-Eastern Europe. Thus, to answer the first research question the paper has found that the current processes of suburbanisation in the cities of Belgrade and Sofia are generated mainly by market forces. The role of planning is to improve and refine the action of the market and it is even more important when processes of suburbanisation and, particularly, sprawl are observed (EEA 2006). It should be noted, though, that planning in Sofia and Belgrade so far has not identified suburbanisation and sprawl as distinct urban processes that require special urban policy. Because market led suburbanisation is usually associated with certain negative side effects, planning should assume a key role in these processes to regulate and mitigate the actions of the market and to steer suburban development. However, so far and especially since the start of the transition the role of planning in the two SEE capitals had been limited, as it had usually failed to influence the market.

To answer the second research question, the conclusion of this paper is that planning in the two cities has made efforts to account for the role of the market, but this is done in a very unsystematic way. The master plans of the two capital cities have tried to analyse the impact of the market, but market studies had focused on aspects and components that had little relevance to each other. Furthermore, markets are examined only at the phase of analysis and the action of the market factors and market players is not considered in the phase of policy development. Thus, as a rule, the market is ignored by planning when the latter is defining its objectives and developing its systems of measures and spatial solution.

In answering the third research question, this research concludes that planning in the two SEE capitals is still too far from being able to influence or cooperate with the market for the purpose to efficiently steer and regulate the development of suburban areas. Based on experience of the development Sofia and Belgrade this research has found that to perform its basic role in suburban areas planning should to be able to influence and cooperate with the market. For this purpose it must fulfil three major requirements. First, as already stressed, planning should consider the trends of market processes, the interests of all market participants, and the impact of market factors. Second, planning should be based on clear and relevant objectives and should develop a concise and coherent structure of measures

and instruments to achieve the objectives. This paper has observed serious discrepancies between many objectives, measures, spatial solutions and instruments of implementation of the master plans of Sofia and Belgrade. Third, to cooperate efficiently with the market planning should employ instruments of cooperation, such as zoning regulations, taxes and fees and the development of primary infrastructure (Bertaud 2003). The poor use of these instruments so far has been at the basis of all failures of planning in Sofia and Belgrade. An outstanding example is the zoning of the southern districts of Sofia. Whereas the objective of planning was to contain suburbanisation in this area and protect the green edges, zoning followed the opposite direction. Both in Sofia and in Belgrade zoning is not used to determine the development fees. All planners are, in principle, well aware of the impact of the other key instrument – the development of infrastructure. Still this tool is not efficiently utilised by the master plans in managing the development of suburban areas, particularly the mass transport networks.

Finally, this paper argues that all its findings support the conclusion that planning may not achieve its goals, it may not work unless it cooperates with the market. Any failure of planning to cooperate with the market results either in poor performance of the former, or in distortions of the latter.

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8. Paper 5

Types of planning and property rights[4]

Aleksandar Slaev

Introduction

At the beginning of the post-socialist transition, East European cities could be differentiated The global demise of socialism as an economic system is, no doubt, associated with the failure of central planning. Still, planning of many other types continues in both the public and private sectors of all developed democracies. In addition, over the past few decades, the "rise of the regulatory state" (Majone, 1994) has become the new paradigm in macroeconomic governance. Therefore, it is not surprising that the debate about the essence of, the need for, and the role of planning is no less intense now than it was throughout the 20th century, though many authors (Archibugi, 2004; Levi-Faur, 2010, etc.) claim that the debate has led to no clear conclusions. A key issue of this debate concerns the types of planning. In the last few years, one of its major focuses has been the two types of planning distinguished by Moroni (2010), who used Hayek's (1976) terms 'teleocratic' (planning based on direct provisions aimed at specific ends) and 'nomocratic' (planning based on rules aimed at general rather than specific ends).

This paper examines certain aspects of these two types of planning, regulation and the market by analysing forms of ownership. Since the 1960s, the theory of property rights has contributed significantly to progress in important fields of social science, including the theory of planning (e.g., Webster and Lai, 2003). By analysing property rights, Barzel (1997) has been particularly successful in explaining economic and social actions. In the same vein, this paper proposes an explanation of the relationships between alternative types of social coordination by emphasising the configurations of property rights over the resources involved in any given activity.

Methodological notes and key assertions

This paper examines planning, regulation and the market as basic ways of coordinating and organising social activities. They are all mechanisms of social relations, though their internal structures are, of course, very different.

This paper makes two key assertions. First, regulation plays a special role in distinguishing between the two types of planning mentioned above: the nomocratic approach to planning and governance comprises the teleocratic approach and regulation. The second key assertion is that the different forms of property rights play a fundamental role in coordinating any social activity, and they actually determine which of the mechanisms will be employed to arrange the actions of the engaged agents. I support this assertion by investigating the role of property rights in social activities. Ultimately, the main goal of this paper is to explore the usefulness of property rights analysis in theories of planning and regulation.

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For this purpose it is also necessary to clarify the essence of governance as well, because it too is closely connected to forms of social coordination, especially planning. Governance may be defined as the intentional management of the development of a system towards a desired state. As such, it is nothing more than developing and implementing plans (in the broadest sense).

In this research, I take an interdisciplinary approach by comparing different types of planning and regulation in various areas of social life: in economic (general, macroeconomic and corporate) and urban management and development.

Teleocratic and nomocratic planning

Even now at the start of the 21st century, the nature of planning is not completely clear. Archibugi (2004) found that "in spite of the geometric progression in the quantity of scholars" in the area of planning theory, "a diffuse, creeping uneasiness has pervaded all the participants of this discipline". One key problem that theories have not been able to explain clearly and concisely is how planning could be pervasive in all branches and levels of the market economy but fail at the macroeconomic level. One reasonable explanation is based on the theory of complexity. The "classical" rational principles of planning are efficient in a "simple" system of the activities of a single person, household, or company, but a complex system requires different principles and methods. Any social system made up of even a small number of individuals or entities is complex, let alone entire societies and macroeconomic systems. Thus, it can be concluded that the performance of planning in a complex social system is, in the least, related to issues like the interaction with the market and the coordination of numerous participants' activities.

To address coordination issues, different theoretical approaches have developed to provide space for all participants to defend their interests, to enhance their ability to participate in the organisation of social, economic and urban activities. These approaches emerged with 'advocacy planning' (Davidoff, 1965) as early as the 1960s; in the 1980s and 1990s, 'communicative', 'collaborative' and 'participatory' planning approaches pursued similar goals (Healey, 1993, 1997; Innes, 1995; Forester, 1999). Other trends sought to improve the performance of planning by clarifying its purposes at the societal/ macroeconomic level, as well as its general internal principles and mechanisms (e.g., Faludi, 1973). Some scholars have proposed more flexible approaches, which were often (though not always) meant to provide better opportunities for citizens, local groups, and market actors to participate. Thus Healey juxtaposed flexible 'policy planning' and detailed and rigid 'blueprint plans': in contrast to the latter, the former allowed communities and businesses to provide input through a "negotiative process, involving exchange and bargaining among a range of actors" (Healey, 2003: 103).

Over the last couple of decades, the theory of complexity in planning has come to the fore and gained topical importance. Arguably central to this theory is the view that governance of complex social systems should rely on their self-organising abilities and/ or emphasise rules and regulations over direct provisions. This trend is evident in the works of a number of scholars like Alfasi and Portugali (2007), Holcombe (2013), Innes and Booher (2010), Portugali (2011), and Webster and Lai (2003), to name but a few. Probably the most promising approach is the theory of teleocracy and nomocracy developed by Hayek (1968, 1972, 1976) and by a number of theorists in different sectors of social science in the past few decades (e.g., Harrop, 1992; Llewellyn, 1990; Offe, 1996). The most significant contribution to this theory in recent years was made by Moroni (2007, 2010, 2014), on whose works I draw extensively in this paper.

The terms 'teleocracy' and 'nomocracy' were introduced by Oakeshott, a professor at the London School of Economics in the 1960s. Hayek (1973, 1976) discussed teleocracy (made

order) and nomocracy (grown order) as two alternative approaches in the fields of governance and politics. Moroni (2010) was the first to use these terms in the field of urban/spatial planning. Moroni (2010: 138) defined teleocratic planning as "rational, deliberate intervention necessarily via a *plan*, itself in turn a directional set of authoritative rules established with the end of achieving a desired overall state of affairs through deliberate coordination of the contents of the (private) independent urban activities". Moroni (2010: 146) defined nomocracy as the approach needed to deal "with complex systems such as the city" by utilising "indirect ways of reaching an order, methods based on (non-directional) rules that are *simple*, *abstract* and *general*, *purpose-independent*, and prevalently *negative*: that is, basic and plain rules that refer to general *types* of situations or actions, not to specific ones". Recently Moroni (2014: 9) has further developed his theory by stating that teleocracy is an ordering system "in which 'patterning-instruments' are the main tools used by the state to regulate (not only its actions but also, and in particular) the actions of private parties". In contrast, nomocracy, he claimed, is "a form of government in which only 'framework-instruments' are used to regulate private actions; whereas patterning-instruments are introduced solely as means to discipline and guide public actions".

To summarise, there are several key differences between the two types of planning. The nomocratic approach is most relevant to complex social systems made up of independent individuals or individual entities, so nomocratic planning is aimed at "general *types* of situations or actions" (Moroni 2010: 146). In contrast, teleocratic planning is most relevant to "simple" systems – i.e., systems with a strong hierarchy, where the lower-tier participants must strictly fulfil the detailed orders of the centre; thus, teleocratic planning is targeted at strictly defined objectives. I have drawn a similar distinction between "planning in the broader (general) sense" and "planning in the narrow sense" (Author, 2014) in order to study the relationships between the two types of planning, governance, regulation and the market. The key factor is that "planning in the general/broader sense" is aimed at broad goals, whereas "planning in its narrow sense" is aimed at strictly defined objectives. While Oakeshott's, Hayek's, and Moroni's terms 'teleocracy' and 'nomocracy' are scientifically rigorous, on many occasions I use the terms 'planning in its narrow (or broad) sense' because I think that they are more meaningful to those who are not acquainted with Hayek's and Moroni's theories and therefore easier for planning practitioners and the general public to understand.

The role of regulation in distinguishing between teleocratic and nomocratic planning

The first key assertion of this paper is that the role of regulation is essential in distinguishing between the two types of planning. More specifically, planning in the general sense incorporates both planning in the narrow sense and regulation. By regulation, I mean what Moroni called a 'framework instrument'. Thus, in other words, nomocratic governance incorporates teleocratic governance and framework-setting – a conclusion that one can infer from the works of Moroni (2014) and other scholars (e.g. Holcombe, 2013). Still, certain aspects and details of this relationship require clarification, and I should explain why I think it is useful to introduce the term 'regulation' into this system.

To make my point, however, I will start by emphasising the role of this element of the system (whether framework-setting, regulation or else) that distinguishes between teleocracy and nomocracy. As explained above, teleocracy is relevant to simple systems with strong hierarchies, whereas the purpose of nomocracy is to manage complex social systems made up of a number of individuals or individual entities. A key point in this logical structure is that nomocratic planning should allow all individuals and entities who are members of a complex system to participate in its development not as "servants" obliged to fully obey the plans of the centre (as Coase, 1937, quoted Batt), but as independent agents

capable of making their own plans and following their own goals within the limits of the rules. According to the first key assertion of this paper, regulation (or framework-setting) is the element of nomocracy that provides freedom for all members of the system to act as independent (though regulated) agents.

Regarding the role of framework-setting Moroni (2014) found that teleocracy employs mainly patterning instruments; "if framework-instruments are employed as well, they have only a secondary, less relevant role". But most importantly, as discussed in section 1 of this paper, Moroni (2014: 9) defined nomocracy as "a form of government" which utilises both framework-instruments and patterning-instruments. He also stated that his "perspective recognises that both nomocracy and teleocracy are particular mixtures of both framework-instruments and patterning-instruments".

To my understanding, and as I demonstrate later in this paper, teleocratic planning does not include regulation/framework-instruments. Of course, in reality there is no perfect phenomenon, so there is no "pure" teleocracy. Systems of planning, even the most teleocratic, always incorporate some regulation, but this imperfection does not invalidate the principle. Bertaud (2003) distinguished the role of the state (as teleocratic planner) in a socialist economy from the role of the state (as regulator) in a capitalist economy as follows:

> I could compare a socialist economy to a ballet where everybody is acting according to a prearranged script; there [are] really no regulations for the way a ballet should be executed, but there is only a script, and everybody follows the script, and the script is under the control of the director. ... In a market economy, there is no script. It's more like a soccer match, rather than a ballet. You need rules and you need a referee, and the referee, in the case of market, is the government. The government is the referee, and the referee has to follow the rules.

Therefore, I stick to a definition of the relationships between teleocracy, nomocracy and framework-setting implicit in the works of Moroni and defined unambiguously as follows: teleocracy utilises only direct provisions (patterning instruments), whereas nomocracy comprises teleocracy and regulation (framework-setting). To analyse this assertion, it is first necessary to define regulation *for the purposes of this paper*.

Definitions of regulation

The main reason I prefer the term 'regulation' to 'framework-instrument' is that, much like planning, regulation is an established and widely practiced instrument of governance. As such, also like planning, it is the subject of major theories and a separate branch of social science. In fact, it is surprising that there has not been more research on the relationship between planning and regulation to date. Still, work on the theory of regulation is probably less voluminous than the work on the planning theory because the former is relatively newer. Theoretical studies in this sphere emerged after World War II from the works of Bernstein (1955), Friedmann (1959), Lowi (1964) and others. Although it is a relative newcomer, regulation theory has proliferated over the past three decades, and today it is a major branch of social studies like politics, sociology and economics. Regulation theory experienced its most significant breakthrough in the area of governance widely referred to as the "rise of the regulatory state" (Majone 1994). This phenomenon also goes by many other names, such as "regulatory explosion" (Levi-Faur, 2010), "age of governance" (Jordana and Levi-Faur, 2004) and "mega-regulation" (Scott, 2012). Perhaps not surprisingly, the term 'regulation' can be even more confusing than the term 'planning'.

Much of this confusion arises because 'regulation' has a variety of meanings articulated in a number of definitions. In the area of macroeconomic governance, the term carries an abundance of meanings. The earliest popular definition is usually considered to be that of Selznick (1985: 363), according to which "regulation is sustained and focused control by a public agency over activities that are valued by a community". Later definitions have, almost as a rule, provided wider and narrower meanings. For example, Baldwin et al. (1998) identified "three main meanings for the notion of regulation: (a) targeted rules; (b) all modes of state intervention in the economy; and (c) all mechanisms of social control, by

whomsoever exercised". These three definitions of 'regulation', according to Jordana and Levi-Faur (2004), vary with respect to the broadness of their meaning. Christensen and Lægreid (2005) suggested that while Selznick's definition reflected the narrow meaning of regulation, the term could "be defined more broadly as all types of state intervention in the economy or the private sphere designed to steer them and to realize public goals". Black (2002) saw regulation as "the sustained and focused attempt to alter the behaviour of others according to defined standards or purposes with the intention of producing a broadly identified outcome or outcomes, which may involve mechanisms of standard-setting, information-gathering and behaviour-modification." Prosser (2010: 4) made "a major distinction … between regulation as infringement of private autonomy and regulation as a collaborative enterprise".

Definitions of regulation are scarce, however, in the areas of urban development and corporate governance. A huge number of studies examine corporate regulations, land-use zoning, and urban development codes, but most of them focus on the effect of regulation on firms' or local economies' efficiency, corporate management performance, environmental issues, property markets, social segregation, etc. (Bertaud 1992; Skaburskis 1995; Knaap 1998; Author 2010, 2012, to name but a few). Here I cite only one definition meant for use in the area of urban development – that of Kaza and Knaap (2011): who stated that "regulation … is the application of the police power (either by the state or by some other third party)." Using this definition, they found that zoning is "the application of regulations and, thus, the application of the police power of the state".

To summarise, the most popular meanings of regulation are as follows: (1) rules that members of a group have to comply with, and (2) any kind of intervention intended to change the behaviour of the members of a group (including individuals, households, firms, etc.). Because it is important in this paper to distinguish between regulation and planning, I use the term 'regulation' only in the first sense – i.e., rules of conduct. This meaning can be directly connected to Moroni's term 'framework-instrument', associated with nomocracy based on rules. This connection highlights the importance of drawing parallels between the theory of 'regulation' and the theory of teleocracy and nomocracy. There is strong analogy between reasons to replace teleocratic planning based on "authoritative" orders meant "to introduce a finalized coordination, in details" with nomocratic planning based on "relational rules" (Moroni, 2010), and reasons to replace governance based on direct provisions with governance based on regulation (which is what scholars mean by the "rise of the regulatory state") (Jordana and Levi-Faur, 2004; Prosser, 2010; Scott, 2012).

Thus, for the purpose of this paper, 'regulation' should be defined as norms, principles, laws or, more generally, rules of conduct with which all individuals and entities within a group, a firm or a society must comply. Social rules differ from natural rules in that they are intentionally developed and imposed by a centre exercising coercive (police) power (Hayek, 1973, 1976). In this paper I use regulation exclusively to mean rules, sets of rules, the process of setting rules, or, more specifically, what Hayek (1973: 45) termed *deliberately made rules*.

Relationships between regulation, nomocratic and teleocratic planning

As the preceding definition suggests, there is a close connection between regulation and nomocratic planning. This connection between rules and nomocracy was first identified in the theory of governance by Hayek (1976: 31-61), who emphasised that rules create a spontaneous order. Hayek found that spontaneous order emerged from rules regardless of whether the rules themselves were of spontaneous origin or were "the result of deliberate design" (Hayek, 1973: 46).

To analyse the mechanism of regulation, its relation to teleocratic planning and to nomocratic planning will be examined in greater detail. First, with respect to centrality, both regulation and teleocratic planning are forms of centralised governance. Of course, if a single person is planning his or her activities, the term "central planning" is not relevant. But since

this paper focuses on the organisation and coordination of social activities, for such purposes teleocratic planning is top-down and centralised. As for regulation, some scholars debate whether it is necessarily centralised or not, because in some situations regulatory powers are exercised by a decentralised institution (Black, 2002; Jordana and Levi-Faur 2004). Nevertheless, closer examination of such situations reveals either that the state has transferred centralised powers to the regulating institution, or that the institution has assumed a central position by itself. In either case, the coercive powers exercised by the regulator are central powers.

However, centralised organisation is not the only feature that planning and regulation share. Kaza and Knaap (2011) note that planning is "thinking before acting", whereas regulation is "exercising police power", so they are "entirely different". Although the two definitions proposed by these authors are no doubt correct, the conclusion that the mechanisms are *entirely* different is not. In fact, the two definitions identify essential similarities. "Thinking before acting" means that (a) planning is purposeful – it has goals, and (b) it considers steps and methods to achieve its goals – the "path from here to there", from point "A" to point "B" (Intriligator and Sheshinski, 1986; So and Getzels, 1988). Regulations in a social system are purposeful as well (Baldwin et al. 1998). Governments develop regulations based on specific considerations, analyses and, mainly, purposes and objectives. And while regulations do indeed "exercise police power", central planning is also coercive and requires even stronger central power to compel all elements of the system to fulfil a plan.

The main difference between teleocratic planning and regulation is actually related to the fact that planning means getting from point "A" to point "B". Points are usually defined by their coordinates. If "B" is the objective, planning (particularly teleocratic planning) would require the coordinates of "B" to be defined as strictly as possible – otherwise, one could not get to "B". In contrast, regulations do not aim to achieve a strictly defined "B". Regulations have a purpose; therefore, they too have a target, but it is not a point: for regulations, target "B" is an area.

This characteristic of regulation requires further explanation. It is well established that regulations define activities that are either mandated or prohibited, but they are not targeted at any specific aim. Hayek (1973: 97) found that the rules of *nomos* are 'abstract' and 'independent of any particular result aimed at'. Moroni (2010: 146) stressed that rules should be 'purpose-independent'. Alfasi and Portugali (2007) argued in support of rules 'disconnected from specific policies'. Black (2002), however, defined regulation as "the sustained and focused attempt to alter the behaviour of others according to defined standards or purposes with the intention of producing a broadly identified outcome or outcomes…." Therefore, according to Black, regulation as a human activity is intentional and purposeful. Selznick (1985: 363) also defined regulation as *sustained* and f*ocused*—and therefore intentional—control. It, thus, becomes clear that social rules (regulations) are 'independent of any ***particular*** result' or ***specific*** ends, but as Hayek has repeatedly asserted, they still are intentional, they can be 'entirely the result of deliberate design'(1973: 46), and they follow their own purpose and ***abstract*** (i.e. not specific) aims (1973: 88-93, 97-102, 112-118). So they are indeed aimed at '***broadly*** *identified* outcomes' (Black 2002; also Christensen and Lægreid, 2005; Levi-Faur, 2010; and Scott, 2010). Therefore, the broadly identified goals of regulations do form an 'area' and the role of rules is to frame that 'area'. A few examples will help to illustrate this relationship.

In manufacturing, regulation defines only some of the parameters of a product, e.g., standards relating to the defence of consumers' rights or ecology. Such regulation establishes the framework within which the producers will develop their own detailed plans defining all specifications of the output (the exact point within the framework). In urban development, regulation lists land uses that may create nuisance, thus establishing the framework for land use, whereas the work plans will determine the exact land use within the established framework. Similarly, regulation defines the maximum height of a building, whereas the design plan will determine the actual height of a house within the framework defined by regulation. Finally, the speed-limit regulation defines the maximum speed, but

the driver will determine the exact route and the actual speed of travel through the teleocratic planning of her or his journey.

Insofar as it is confirmed that regulation is a framework-setting activity, its relation to *nomocratic* planning can also be confirmed. Empirical studies support the observation that planning in its broad sense may seek to accomplish both broad and narrow objectives (Author, 2007, 2010). Narrow objectives are accomplished through patterning instruments (i.e., teleocratic planning), and broad objectives are accomplished through regulation. Moroni (2014) clearly demonstrated that nomocratic governance employs both patterning and framework-instruments. Holcombe (2013), who has analysed some practical aspects of Moroni's theory, has demonstrated that governance in market conditions should employ detailed planning to develop the transportation network and to impose rules to *regulate* private actions (e.g., the "law of nuisance in preventing incompatible uses of land"). It can be therefore concluded that nomocratic planning comprises both teleocratic planning and regulation.

If only because I define regulation as "deliberately made rules", the first key assertion of this paper rests firmly on Moroni's conclusion that nomocracy comprises 'patterning' and 'framework-instruments'. While I acknowledge this debt, I build upon Moroni's work by drawing connections between definitions of regulation and planning that thus far have been used in separate strands of theory emerging from different fields of social science. This interdisciplinary approach is, thus, a means of bringing the insights of one field (say, urban planning theory) to bear on the questions and issues of another (say, macroeconomic theory), and vice versa. In this case, both areas of study seem to benefit.

To summarise this section of the paper, the main functional or technical distinction between *teleocratic planning* and *regulation* is in the broadness of the objectives that they seek to achieve. By definition, teleocratic planning uses "patterning instruments" (Moroni 2014) and is directed towards particular ends (Hayek 1968) that are narrow, specific, detailed and—most importantly–defined by the centre (the central body of the system). In contrast, regulation (that is, deliberately established sets of rules) uses "framework-instruments" and is aimed at achieving broadly identified outcomes. In fact, regulation is the instrument used to promote the freedom of the decentralised agents. The goal of the centre in this case is not to lead development to a definite target –i.e., to a point with strictly established coordinates – rather, its goal forms an area framed by the rules. In this way the lower-tier agents have the freedom to target a number of points within the framed area. Thus the ends are determined partly by the centre and partly by the decentralised agents. In other words, regulation is the main component of governance and planning that makes it possible for many agents to participate in the management of the process, though at different tiers and with different powers. Finally, nomocratic planning comprises teleocratic planning and regulation in that it is aimed at both narrowly and broadly defined goals.

Planning, regulation and property rights

My second and primary assertion is that the theory of property rights is needed to map the scopes of and exact differences between nomocratic and teleocratic planning, regulation and the market. The theory of property rights has gained and is still gaining great importance in social science. Barzel (1997) has demonstrated that the theory of property rights is exceptionally useful in explaining practically all phenomena and processes in economics such as market transactions, equilibrium, processes and adjustments, and market development in general. Webster and Lai (2003) have been exceptionally successful in employing property rights analysis in the field of urban development.

In the past, market relations were associated with private property, and planning was associated with public ownership. The connection between private property and the market was considered essential, because for two individuals or entities to exchange goods or services, they must have the goods or the resources in their possession. This connection is

emphasised by most economics textbooks (Cowell, 2004; Dilts, 2004; Reynolds, 2011, etc.) and particularly by studies that juxtapose capitalism to socialism (Marx, 1867; Mises, 1958). However, private property is not the only basis for voluntary exchange. Other forms of ownership, such as joint, communal or state property, may enter market transactions as well. In fact, with the development of the theory of property rights, there has been a shift from the perception that the market is associated mainly with private ownership to the perception that the market is based on generally well-established institutions of property rights. Similarly, the perception that public ownership was the basis of planning (Marx, 1867) has shifted to the perception that private property may serve as the basis of planning as well. This shift began in the theory of the firm and corporate management (Coase, 1937; Williamson, 1975, etc.) and continued until the theory of property rights established that all types of ownership may be subject to planning (Demsetz, 1967; Intriligator and Sheshinski, 1986; Alexander, 1992). However, although markets and market transactions require strict definitions of property rights, it has not yet been clarified how planning relates to more or less strictly defined forms of ownership.

In the theory of the "regulatory state", regulation is considered an instrument of governance used to replace "public ownership, public subsidies, and directly provided services" (Hood et al., 1999; see also Levi-Faur and Gilad, 2004; Christensen and Lægreid, 2005). As such, regulation is usually regarded as a restraint on private autonomy (Prosser, 2010) by an agent exercising police power.

Ultimately, I assert that market relations, planning and regulation as alternative forms of social coordination are indeed connected with the forms of ownership—not through the general or the prevailing form of ownership in society, but through the concrete configuration of property rights in each specific interaction between participants in economic, urban or any kind of social development. When the relationships between the forms of social coordination are examined in the structure of each specific interaction (as in the following paragraphs), it becomes obvious that property rights to the resources involved are the essential condition for both planning and market arrangements.

Central to this assertion is the understanding that the form of coordination/organisation is determined by the person or entity "in charge" – the one who sets the goals, makes the decisions, holds the interests. This person or entity takes advantage of positive results but also bears responsibility for any losses and negative outcomes. Responsibility is, in fact, a liability; thus, it is a resource (Barzel, 1997). Therefore, it is the owner of the resources who is in charge, who plans and controls the entire process, who makes decisions to combine her or his resources with others'.

Allocation of activities between planning and the market in situations of individual (private) ownership over resources

Consider the issue of property rights in the context of the production of a good. When the market transaction costs are low enough, the good is produced by the market (Coase, 1937). This means that owners of resources interact with each other through market transactions. To take part in a market transaction, a person or a company must own some of the resources involved in the process of production, because the essence of any contract or market transaction is the transfer of property rights (Barzel, 1997). If a person or a company did not own any resources (i.e., material resources, goods, capital or labour), she, he, or it would not be able to take part in any transaction.

Alternatively, when the transaction costs for the production of the good are higher than the organisational costs of a company, then the company will produce the good through its internal organisation. To do so, the company will have to buy all resources needed for the production and become their sole owner. Thus the market mechanism would be surpassed and replaced by planning (Coase, 1937). Therefore, full ownership over all resources involved in the production is a precondition for planning. In other words, for a person or a

company to exercise planning power, she, he or it must own the resources in question. It makes no sense to plan how resources owned by someone else will be used or combined.

It is essential to understand what kind of planning is employed. If a person owns all resources necessary for an activity, he or she will employ teleocratic planning, because he or she will try to get as close as possible to the desired point "B". If a company owns the resources, it will be even more necessary and unavoidable to use teleocratic planning in order to define in maximum detail what each department should produce, with what specifications, of what quality, and in what quantity. Otherwise, if a department produced too little output, the next one in the chain of production would not be able to fulfil its plan. Alternatively, if the first department produced too much, the surplus would be wasted. Therefore, the firm as the owner employs *teleocratic* planning. Nomocratic planning is irrelevant in the case of full ownership over the resources employed in the production.

If the above conclusions are correct, then they reveal further details about why and how a market system is made up of agents who plan. The agents are individuals, households, companies, clubs and other organisations that plan their activities as long as they own the resources involved. Because all individuals and entities possess certain resources, they all are planning agents. This conclusion about the mutual pervasion of market and planning (Intriligator and Sheshinski, 1986; Alexander, 2008) is in fact based on Coase's theory of the firm (1937). As Coase noted, when the market transaction costs are higher than the firm's organisational costs, then

> A factor of production (or ***the owner*** thereof) [emphasis added] does not have to make a series of contracts with the factors with whom he is co-operating within the firm, as would be necessary, of course, if this co-operation were as a direct result of the working of the price mechanism.

Therefore, if the lower transaction or organisational cost is called the *functional criterion* for the allocation of economic activities between planning and the market, then the ownership of resources may be called the *structural criterion*. It is thus a fundamental factor in the "symbiosis" between these two basic forms of social coordination/organisation. At the lowest level of a complex system, all individuals, companies and entities have to own the resources for their individual activities and arrange them through their internal organisation, i.e., through teleocratic planning. At a higher level, economic and other social activities combine resources owned by a number individuals and entities; thus, at the higher level, social activities are arranged (coordinated) by the price mechanism.

Moroni (2010: 139) explained teleocracy as a theory of planning that holds "that it is both *possible* and *desirable* to (authoritatively) plan a system composed of a plurality of private independent activities, that is, to introduce a finalized coordination, in detail, of said activities, through coordination of their contents". Moroni proved that this view of planning could not be sustained because of the major contradiction between the authoritative plan and the "plurality of private independent activities". Indeed, teleocratic planning is best suited to the simple system of sole ownership.

In conclusion, the answer to the question "who is in charge" is clear for forms of private property, including properties of individuals, companies and clubs. When all resources belong to one person or entity, it is that person or entity who develops a teleocratic plan and is in charge of its implementation. Moreover, if different resources involved in an activity are individually owned by a number of owners, then the coordination of their actions is based on the market mechanism through a number of exchanges of property rights (transactions). However, in this system of individual/private property, no nomocratic planning is needed. As the next paragraph shows, nomocratic planning is needed in the complex system of joint or common properties or in different combinations of private and common ownership.

Allocation of activities between planning, regulation and the market in situations of joint or common ownership over resources

Clearly, the problem is more complex if the resources are owned *jointly* by several or many participants, i.e., in "communal ownership", as Demsetz (1967) termed it. Therefore, the theory of property rights is required to solve such a problem. To manage the common resource/s, the owners will have to employ rules that should define who may use the property and under what conditions they may use it, who can make decisions and what procedures they must follow, etc. In short, the co-owners will have to allocate the rights to use and manage the common resource/s. This applies to societies, stock or collective companies, clubs, municipalities, and even families – they all need rules (formal as well as informal) in order to use and manage common properties. According to the definition provided in section 1, any deliberately made rules are a form of regulation. Thus, any use of the common resources requires regulation.

Indeed, the theorists of nomocracy have discussed the relation between this approach in governance and planning and the forms of ownership. Hayek (1968, 1973, 1976) has established a definite connection between the nomocratic approach and public ownership. He has also maintained that nomocracy requires imposing rules on individuals, as well as administering public resources (Hayek, 1973: 48). Moroni (2007, 2010, 2014) has stressed on many occasions the connection between public property and the need to employ rules. Alfasi and Portugali (2007) and Holcombe (2012) have supported the same position.

However, an analysis of property rights reveals many important details. If property rights are not analysed, it is difficult to explain the particular reasons *nomocracy* is needed, how the teleocratic and nomocratic tools can best be combined, what the nomocratic rules should be aimed at, etc.

Coase's theory (1960) offers major insight into the connection between public costs, externalities and property rights. However, Coase focused on public cost as the cost incurred by a third party of a market deal and did not study its public character in detail. Such a study was performed by Demsetz, who further developed Coase's insight into the theory of property rights. Coase found that the most efficient way to deal with externalities would be a proper definition of property rights so that they could be traded and thereby efficiently allocated. It is clear how trading takes place in the case of a single third party, e.g., between neighbours or between a polluter and a single victim. However, victims of pollution are, as a rule, numerous, so they need to organise if they wish to defend their property rights. Demsetz (1967: 354-359) studied in detail the problems of organisation that emerge when numerous victims suffer from pollution (or whenever a number of persons share common property). Demsetz stressed that they would have to organise to establish rules; however, the organisation should be headed by a central body to manage the common interests and communal property. As Demsetz has put it, "a delegation of authority for most decisions takes place and, for most of these, a small management group becomes the *de facto* owners." Thus, the common interests are institutionalised and transformed into communal (common/joint/collective) property, which requires the establishment of rules and a central body with police power to impose and implement rules – clearly a type of organisation that should be termed *regulation*, according to the terminology adopted in this paper.

The logic described above applies to any resources owned jointly or collectively. In the real world, a large part of the resources are inevitably owned collectively/publicly because they are too costly, because their supply is *naturally* limited, or because the value consumed by one consumer is too small to maintain its provision (supply). Traditional examples include national defence, police services, utilities and road networks, and staircases in apartment buildings. Thus any system of common ownership requires regulations that govern how the common property should be used by multiple co-owners. Regulations are, therefore, associated with transfer of rights to manage, i.e. transfer of property rights.

It is essential that co-owners only partially transfer property rights to the joint entity. They retain individual property rights over other aspects of ownership or parts or items of

property. In fact, two different options are possible when individuals or individual entities transfer property rights to a joint entity:

First, if they transferred all their property rights, then the result would be a new individual entity managed through teleocratic planning.

Second, if they transferred only part of their property rights, two sub-options are possible:

- If the co-owners transferred property rights over *parts* of their properties that jointly form *an individual object*, then the central body would act as the *de facto* (full) owner of *this object* by employing teleocratic management and planning.
- If the co-owners transferred property rights over specific aspects of their property, then the central body would impose regulations and exercise police power.

The second option (comprising the two sub-options) results in a nomocratic system of governance. Thus, analysing the transformation of property rights has yielded two important insights. First, it has revealed that the configuration of property rights is the criterion by which to distinguish "simple" and complex social systems. A simple system is one in which property is owned by an individual or an individual entity, whereas a complex system is one in which property or properties are owned by multiple owners.

Second, analysing property rights has also revealed why the system of nomocracy, as defined by Moroni (2014), comprises teleocracy and regulation: because the partial transfer of property rights is twofold – i.e. comprises two sub-options.

It thus follows that three configurations of property rights are possible in the system of any concrete economic or social activity:

- an individual or a legal entity combines resources over which she, he or the entity has full or exclusive property rights;
- a number of individuals and/or entities combine resources, products and services that they possess individually;
- individuals and/or entities combine resources owned jointly/collectively.

Basing my arguments on the conclusions made so far, I will now propose definitions of planning, regulation and the market *for the specific purpose of this paper*:

Teleocratic planning (planning in the narrow sense) is the organisation of social activities based on full property rights to all resources employed, i.e., all resources belong to a single owner, whether a person or an entity. The goals of the activities in this system reflect the interests of this single owner. If it is a company or a club, then the goals are defined by the central body. The owner of the resources predetermines the parameters of the results in detail.

Regulation is the organisation of economic/social activities based on common ownership over the resources employed (or a part of them); i.e., a number of individuals or entities have transferred property rights over certain resources to a joint organisation. The activities in this case reflect both the interests of the central body and the interests of the individuals or entities. The parameters of the results are similarly predetermined.

Market is the coordination of economic/social activities based on exchanges between individuals or entities that individually hold full property rights over resources employed by each one of them. Therefore, the goals of activities reflect the interests of individuals and decentralised entities, and in turn, the results of each activity are predetermined by the parties of each single act of exchange.

Nomocratic planning (planning in the broad sense) is the organisation of economic/social activities based on the mixture of private and common ownership over the resources employed in an activity. The activities in this situation reflect both centralised and decentralised interests and the ends are likewise predetermined.

Some characteristics of the relations between property rights and the forms of coordination / organisation

One aspect or component of property rights is the right to manage property. Some juridical systems consider property rights to comprise the right to use and the right to manage. In fact, any regulation results in reallocation of rights (powers) to manage the subject of property (Prosser, 2010). Thus, imposing regulation results in transferring property rights. Speed limits restrict how drivers may use their cars; minimum wage regulations restrict how employers may use their funds to pay their employees. In a number of examples, Barzel (1997) has clearly shown that any central control on prices of goods and resources (including the price of labour) results in a reallocation of property rights, because a part of the value is transferred to the public domain due to the price control.

The transfer of property rights from the members of a social structure to its central body is by no means always voluntary. In this respect, the level of democracy in a group or a society has major implications. The more democratic the group or society, the closer the transfer of property rights to the optimal state of the system will be. In a feudal society, the royal institution possessed property rights that in a democratic system should belong to private persons. Communist rule also expropriated all economic properties; in this way the government assumed the role of the *de facto* owner of the entire economy and was able to (teleocratically) plan socio-economic development. Even in a well-developed democracy, because of the inevitable—though perhaps lower—coerciveness of regulation, the centre often acquires certain property rights that should belong to citizens.

The possibility of coercive transfer of property rights is a reason to consider the nature of the distinction between regulation, teleocratic and nomocratic planning from another point of view. According to the definitions proposed above this distinction is analytical, insofar as it is based on an objective factor – the configurations of property rights. Thus, in a system of *established* property rights the criterion for allocation of social activities between planning, regulation and the market is, indeed, analytical. But a system of property rights is established in result of human interactions. According to Coase (1960) property rights will be, ultimately, optimally allocated, but this may take years as well as centuries, because it is up to the interests and the powers of all parties in a system where the centre, as a rule, exercises certain coercive powers and tends to acquire more property rights than relevant. Moreover, any system of human interactions is changing constantly, so is the *optimal* allocation of property rights. Thus the criterion for allocation of social activities between regulation, teleocratic and nomocratic planning and the market is also normative – reflecting an *optimal* or '*ideal*' state of a constantly changing system.

Finally, I should stress the strong links between the alternative mechanisms of coordination/ organisation of social activities due to their essential similarities and differences. Central planning and regulations are similar insofar as they both require a central body that exercises central management, but they have different relations to the market. Markets, regulation and nomocratic planning have similar property bases – mixed individual and common property rights; therefore, in principle, they are complementary. Private ownership of all resources is possible in an artificial or idealised market system, but not in a real one. Thus common property is the reason "free" markets need regulation (i.e., framework arrangements; Moroni, 2014) and central governance (Webster and Lai, 2003).

In summary, when a system of regulation emerges to help the members of a group or a society manage their common resources, a central body will be needed and the members will have to place certain resources under its control. Some of these resources will be under the central body's partial control (managed by regulation), and some will be under its full control (managed by teleocracy). Ultimately, a market system needs regulation because of the use of common property, but a system of regulation "produces" nomocratic and teleocratic planning. Thus all forms of coordination/organization are strongly interconnected. I have already outlined similar conclusions drawn by Alfasi and Portugali (2007), Holcombe (2013)

and Moroni (2010, 2014), but the following example may illustrate more practically the connections between the types of social coordination.

Typically, in a capitalist democracy, the bulk of urban land is privately owned by local citizens, so the market is the main mechanism of urban development. However, citizens also share common resources like microclimate, air quality, infrastructure (streets, utilities), etc. Thus, while retaining exclusive ownership over their individual properties, the citizens convey full property rights over common resources and spaces to the municipality. They also grant some aspects of ownership (i.e., partial/limited property rights) of their own private plots and premises by agreeing to abide by government regulations. Through this "delegation of authority" (Demsetz, 1967), the local government steers local urban development through nomocratic planning. This means that the local government as full owner employs teleocratic planning to define in detail the development of public spaces and public infrastructure by preparing detailed blueprints and design plans (architectural, structural, etc.). For private plots, the local government cannot employ equally strict planning tools, because it does not perform the role of the *de facto* owner of these plots; instead it employs regulation by imposing rules, norms and standards.

Thus, because of the use of common resources such as streets, utilities, public space, and air quality, any market situation requires a system of regulations. In turn, any system of regulations inevitably creates a system of planning, although in principle the latter should be much more limited than the former.

Conclusions

In this paper I have made two main assertions. The first one was that nomocracy (planning in its broad meaning of intentional development of any kind of plan) comprises teleocracy (planning in its narrow meaning of preparation and implementation of strictly detailed plans) and regulation (framework-setting). In fact, in the field of urban planning, this relationship between nomocracy, teleocracy and framework-setting has already been investigated by several authors who have come to similar conclusions (most notably Moroni, 2007, 2010, 2014). My first goal in this paper was to draw a connection from this line of thinking to the theory of regulation, taking an interdisciplinary approach in order to show that the same relationship is characteristic of governance and planning in general.

The second assertion is that planning, regulation and the market as forms of coordination of social activities are based on the configurations of property rights over the resources employed in each concrete activity. In fact, my support of this assertion employed nothing more than analysing property rights in the coordination/organisation of human actions.

I have also tried to show that the analysis of property rights and their transfers and changes can be useful in the theories of planning and regulation. Such analysis could provide explanations of the following issues:

- what factor distinguishes simple and complex social systems
- why nomocratic planning necessarily employs regulation (framework setting) and teleocracy
- why the criterion for the allocation of human activities between the two types of planning and the market is partly analytical and partly normative.

Of course, it is impossible to fully develop such an analysis within the limited space of a single article. The main goal of this paper was to show that the theory of property rights can be a useful vehicle for exploring the nature of planning and regulation and their internal connections. Moreover, property rights analysis can be used to investigate in depth how teleocratic and nomocratic tools can best be combined, what kind of goals nomocratic rules should be aimed at, and what their content should be in order to best regulate a specific system. These issues represent promising opportunities for further research in several important directions.

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9. Paper 6

Property rights, objectives and methods of planning

Aleksandar Slaev

Introduction

The challenges facing planning theory at the end of the 20th century were many and diverse. Planning theory was confronted by practical questions such as "how to balance planning with markets?", "how to plan for multiple end users who harbour different and often contradicting interests?", "how to plan in the context of constant social and economic change and high levels of uncertainty?", etc. Such questions emphasised the complexity of social structures and, thus, the theory of planning of complex systems gained momentum over the past decades. Within this framework, the concept of nomocracy developed by Hayek (1973, 1976) and elaborated by Moroni (2007, 2010, 2014) and some other authors has thrived in recent years. However, in its turn, this concept raised difficult issues that were treated in very different ways by authors such as Alexander, Mazza (Alexander et al, 2012) and others. Apparently the nature of the nomocratic approach as opposed to teleocratic management could not be interpreted easily. In "Types of planning and property rights," I proposed an explanation of the nature of the two approaches, based on the theory of property rights, which proved to be an effective tool to that end.

This paper examines the content of planning in general and, particularly, of the nomocratic approach. By "content of planning" I mean its scope, structure, what it includes and how it works, but more specifically I will focus on its objectives and methods. To do this, I employ the same approach that was used to analyse its' nature. Namely, I will apply property rights analysis to the theory of nomocratic planning, maintaining the concept that the main goal of that type of planning is to properly allocate common and public property rights.

Methodological Notes

In the first part of this paper I argue, that the methodology of the nomocratic approach has three aspects. First, it involves the identification and proper definition of property rights. Second, it requires their respective allocation, through the definition and imposition of relevant rules and regulations. Third, this approach entails the management and the development of those common property items that are placed under the direction of the central body through teleocratic planning.

In the second part of this paper, I uphold this thesis by conducting an analysis of situations and aspects of concrete urban processes, more particularly, processes of suburbanisation. Processes of suburbanisation and urban expansion are relevant to the purpose of this paper, because, on one hand, urbanisation of new areas exhibits basic characteristics of urban development and, on the other, the conversion of rural or natural land into urban is associated with considerable increase in value, which reflects the emergence of new property rights, whose proper allocation is of critical importance.

To prove the above assertion in the practice of urban management, this research will examine in some detail the paper "Planning and the Invisible Hand" (Holcombe 2013). This work is a particularly useful example of applied nomocracy, although it does not employ any

property rights analysis. When such an analysis is performed, the findings are quite different. Holcombe's main argument is that nomocratic planning must be an *ally* to the market. He criticises smart growth and new urbanism movements for trying to override the market by imposing compact urban development with high densities and recommending a shift from automobile to more sustainable transport options.

This discussion is closely related to topical issues of contemporary urban practice, such as suburbanisation and urban sprawl. In this paper the observations made by Holcombe will be compared to the findings of a study conducted within a research project funded by the Seventh Framework programme of the EC. The research concerned the suburban trends in Sofia, Belgrade and Rome. The findings of this paper underline the critical importance of property rights analysis for studies of urban processes. If property rights are not analysed, they are often poorly defined and not properly allocated, which distorts both the market and the planning systems. In result of this distortion, suburban settlers *capture* (to use Barzel's, 1997, term) property rights for which they have not paid in full and thus consume land and infrastructure resources in excess. In order to prove this, the paper investigates some aspects of the planning systems of Sofia, Belgrade and Rome and their impact on urban development.

Objectives and methods of planning of complex systems as treated in planning literature

The goal of this section is to examine the objectives and methods of planning approaches and to identify their specific characteristics, especially those employed for the management of complex systems. The research will show that the theory of nomocracy, which is relevant to complex systems, has not yet identified the specifics of nomocratic rules, which distinguish it them from other rules in human activities.

Rules/ regulations, relevant to the management of complex systems

According to Portugali (2012: 228), simple systems are "closed, entropic, equilibrium-tending, linear", whereas complex systems are "open", "far from equilibrium" and "exhibit phenomena such as chaos, fractal structure, non-causality, non-linearity, self-organization and the like". Evidently, the two types of systems require different planning methods. The classical rational planning method, which is top-down, with clear hierarchal structure of goals, sub-goals, measures and instruments of implementation, is, obviously, relevant to simple systems. In contrast, the planning of complex systems requires a very different approach.

A complex system comprises a great number of diverse elements and sub-systems, it is not organised in a single hierarchal structure and its behaviour is non-linear, so the classical rational approach is inapplicable. The question is, then, what methods are relevant to complex systems? In recent years many researchers (Alfasi and Portugali 2007, Moroni 2010, Portugali 1999, Webster and Lai 2003) have supported the view that complex systems in principle are self-organising and should be managed by rules, not by detailed plans. Alfasi and Portugali (2007:169) asserted that the governance of self-organising cities "should not be based on prediction, but on planning rules". Concerning the methodology of planning, Alfasi and Portugali (2007) proposed a system of implementation based on laws and rules (instead of statutory plans) that should be implemented by "judge-planners". In his further works, Portugali (2012: 236-238)proposed a three-layer system, made up of legislative planning authorities producing *qualitative* planning laws, planning judiciaries and executive systems and agents.

The proposition that complex systems require the use of rules instead of highly specific, detailed planning provisions has been best supported by the theory of nomocracy. This approach has been developed by Hayek in the field of governance and in recent years by Moroni – in the field of urban and spatial planning. By opposing nomocracy to teleocracy, Hayek (1973, 1976) maintained that the nomocratic approach is relevant to social relations

and democratic rule. The nature of these two, divergent approaches determines in large part their objectives and methods. Teleocratic planning, as relevant to simple systems, is strictly *rational* and has to solve *technical* or *technological* issues. Its methods are based on "deliberate intervention necessarily via a *plan,*" "with the end of achieving a desired overall state of affairs" (Moroni 2010: 138). In contrast, nomocratic planning, relevant to complex systems, employs methods "based on (non-directional) rules that are *simple*, *abstract* and *general*, *purpose-independent*, and prevalently *negative*" (Moroni 2010: 146). Hayek (1973: 97), too, defined nomocratic rules as abstract and "independent of any particular result aimed at."

But does that mean that any kind of *abstract* and *general*, *purpose-independent* rules can be qualified as nomocratic? What makes nomocratic rules different from any other rules, governing human activity? In fact, the above definitions are not exhaustive, because they do not distinguish between different types of rules. They define the general difference between rules and direct provisions, but do not specify any distinctive features of the rules of nomocracy.

One useful way to study the specifics of nomocratic rules is by drawing parallels between nomocracy and the theory of regulation, which has enjoyed rapid development in recent decades, particularly in the area of macroeconomic governance. In "Types of planning and property rights" one of my goals was to establish a close connection between nomocracy and regulation (in society). This was achieved through defining regulation with the term "deliberately made rules," as termed by Hayek in "Rules and Order" (1973: 45).

It can be said that macroeconomic regulation theory is thoroughly oriented towards the practice of governance. Naturally, the area of application determines regulation's objectives and methods. Christensen and Lægreid (2005) defined regulation "as all types of state intervention in the economy or the private sphere designed to steer them and to realize public goals". Black (2002) identified five fields of regulation: state institutions, non-state institutions or actors, economic forces, social forces, and technologies. Majone (2010) outlined other areas like the environment, nuclear safety and consumer protection. Ogus (2009) noted specific regulatory sectors such as "health and safety at work, consumer and environmental protection, town and country planning, banking and insurance". In the practice of governance, regulations are classified in two major groups: economic and social (Litan 2007). Economic regulation usually refers to entry control and price control. It also includes the regulation of financial firms (Litan 2007, Taylor 2000). Social regulation is meant for correction of externalities. There are five areas of government intervention: environmental controls, health and safety regulations, restrictions on labelling and advertising, employment and labour, and privacy (Taylor 2000). To summarise, research on regulation has been particularly extensive in the outlined fields and has resulted in well-developed practical methodologies. However, it remains at the level of applied studies and satisfactory conclusions about the general objectives and methods of socio-economic regulation have yet to be drawn.

Such general conclusions can be drawn when regulations are regarded as "framework instruments" (Moroni 2014). On this basis, I have argued (Slaev 2014) that by creating a framework of an area of options, central planning is able to nomocraticly, i.e. democratically steer the development of a system. As stressed by Hayek (1973), nomocracy is a method of *democratic* rule. Instead of compelling all individuals to strictly fulfil its direct provisions, a central authority would use regulation to create a framework within which the individuals may operate according to their individual interests (Moroni 2011). Thus, a teleocratic, or rational, plan would define precisely what building should be built in a plot and leave no space for individual choice. In contrast, zoning regulations create a framework of maximum built-up area, maximum number of floors, etc., so that private owners have the freedom to specify these parameters in accord with their individual interests within the framework. Herein, at least one key characteristic of nomocratic rules as regulation is identified – they provide for co-ordination of the interests of decentralised agents with the objectives of the central authority.

Two forms of planning for the two "sub-areas" of nomocratic governance

When discussing the goals and the methods of nomocracy, it is essential to stress that rules/ regulations are not the only form in this approach. It is particularly important to note that Moroni (2014) has found that nomocracy may make use of teleocratic approaches for specific purposes – namely to manage public property. As Moroni (2014). has put it – nomocracy employs rules for "regulating others" but also employs teleocratic methods for 'planning for itself'". Except for Moroni, Alexander and Mazza (Alexander et al 2012) too, have supported the view that nomocracy is not comprised only of rules. Holcombe (2013) has been more specific and has maintained that local governments

- should rely on nomocratic law for private entities to avoid nuisance
- must be much more focused on the management of "their own activities".

Similar findings in different forms are found in many sources. Bertaud (2003) has defined three main groups of instruments of planning to ensure cooperation with the market: the development of primary infrastructure, the regulations and the local taxes and fees. The first is, as established, a teleocratic tool, whereas the latter are nomocratic. Adams and Tiesdell (2010) asserted that spatial planning affects market processes through three types of policy instruments: *market-shaping, market regulation* and *market stimulation instruments*. A closer look at these three types of instruments infers the conclusion that they comprise both teleocratic and nomocratic tools.

To summarise this section of the paper about the methods of planning of complex systems – the theory of nomocracy supports the view that such systems (and social systems, in particular) should be governed by employing rules, not by direct provisions. However, government should use direct provisions (teleocratic approach) to manage "*its own*" responsibilities – the development of infrastructure and public properties, in general. Many researchers, especially in the area of the theory of regulation, claim that rules/ regulations must be reduced and minimised. A reasonable conclusion is that some rules/ regulations are useful, but many others are not. This raises the question what rules/ regulations are needed. The theory of nomocracy provides a basis to answer this question: rules/ regulations should serve as an instrument of cooperation between the goals of the central body of a system and its decentralised agents. My assertion, which will be discussed in the next section, is that for a more detailed answer to this question the theory of property rights is needed.

Objectives and methods of planning of complex systems (nomocratic planning) in the light of the theory of property rights

To analyse the objectives and methods of nomocratic planning in the light of the theory of property rights, it is necessary to begin by emphasising the significance of ownership over the resources involved in a human activity. Clearly, an activity is only possible, if the resources necessary for its execution are provided, including any and all materials, labour, energy, etc. Thus the feasibility of activity is determined by the owners of resources, which emphasises the key significance of property rights. Barzel (1997:3) distinguished between economic and legal property rights. He defined economic property rights as "*the individual's activity, in expected terms, to consume the good (or the service of the asset) directly or to consume it indirectly through exchange*". Economic property rights are, thus, "the end (that is what people ultimately seek), whereas legal rights are the means to achieve the end". Webster and Lai (2003, p214) have proposed similar definitions and have specified that legally protected rights be achieved through *private contract rules, common law* and *statutory law*.

The connection between economic and legal rights should be examined further. Even when a property right is not fixed in written form, such as in a contract or a law, it should still be

recognised by the parties of a market deal. Otherwise, a voluntary exchange is impossible. In general, for the right of an individual to exist, it must be recognised by society or, at least, by those involved in related activities. But, also, for an individual right to be recognised, it should be based on some merit or service to the subject of the right, or some contribution: the individual should have either paid for the good's value, sacrificed effort and time or have provided some other kind of relevant input - social power or position, family ties, etc. Without such merit or service, the right would not be recognised and would cease to exist.

When individuals are individual owners of a good, then, the allocation of property rights is most often and best allocated through market mechanisms (Coase 1960). When people share common property, then property rights are allocated through central governance either voluntarily (through democratic procedures) or coercively. Market re/allocations are also possible in systems of shared/common property, but only under special arrangements and, what is more, these arrangements too are established through a system of management. Central governance is exercised through planning – by developing and implementing plans (Slaev 2014). The key point is what kind of plans are to be employed. According to the theory of complex systems (Moroni 2010, 2014) it should be nomocratic-type of planning.

The property analysis developed in "Types of planning and property rights" (Slaev 2014) has led to the conclusion that teleocratic planning "is the organisation of social activities based on full property rights to all resources employed, i.e., all resources belong to a single owner, whether a person or an entity". Regulation ("deliberately made rules") "is the organisation of economic/social activities based on common ownership over the resources employed (or a part of them); i.e., a number of individuals or entities have transferred property rights over certain resources to a joint organisation". Market, respectively, is "the coordination of economic/social activities based on exchanges between individuals or entities that individually hold full property rights over resources employed by each one of them". Finally, nomocratic planning "is the organisation of economic/social activities based on the mixture of private and common ownership over the resources employed in an activity".

Methods of teleocratic planning

According to the theory of nomocracy, simple systems are managed through teleocratic approaches. When property rights analysis is applied, it is established that in a simple system, all property rights belong to a single owner – an individual, a firm or any other kind of juridical entity. And because all resources (including labour, administrative powers, etc.) belong to one owner he, she or the entity defines all goals in the system and is able to plan all actions in detail with a maximum level of certainty. Regarding methodology, the conclusion is that the owner *has to solve only technical problems and the relevant method of planning is rational planning*.

Methods of nomocratic planning

In a complex social system, the property structure is much more complicated, as social activity involves more than one individual. The main feature of a complex social system is that inevitably, some resources are owned jointly -- they are subject to shared/joint, common or public ownership (e.g. space). Because the co-owners have different interests, different needs and different goals, such resources cannot be managed by simply employing rational planning. The first thing that the owners need to agree about is how, when and which of them are entitled to use the joint property, or any part of it, within what limits, under what conditions, etc. – hence, the first thing is to allocate property rights.

This is **the key assertion** of this paper: that the main goal of nomocratic planning is to allocate property rights. While the goal of teleocratic planning is to solve technical issues – to identify all rational steps needed to achieve the objective/s defined by the single owner, nomocratic planning must first guide the allocation of property rights, e.g. rights to use and rights to manage the resources, respective liabilities, etc. The role of nomocratic planning is

thus similar to the role of the market as defined by Coase (1960). Coase has shown that property rights of all resources tend to be allocated optimally as a result of market function (despite that this will take time because of the existence of transaction costs). Therefore, the first condition for effective, market driven allocation is the proper definition of property rights, enabling their trade and exchange. Still, there is another factor for trade to take place – each party should be the single exclusive owner of her/ his resource/s – otherwise she/ he may not take part in the exchange. Therefore, Coase theorem is valid for the allocation of property rights over privately owned resources. Conversely, in situations of co-ownership, co-owners cannot trade their property rights freely – since they are either in monopolistic/ monopsonic relations (if the co-owners are only two) or the rights of the rest co-owners limit their own, individual rights. Thus, the proper allocation of property rights in situations of joint ownership cannot be achieved through market transactions. The allocation of property rights over jointly owned resources can only be achieved through nomocratic planning. In fact, this is its main purpose.

However, there is a categorical difference between the allocation of property rights in the two main forms of nomocratic planning. As it has been emphasised in the first section of the paper, nomocratic planning is comprised of two basic forms – 1) regulation imposed on private properties to coordinate the actions of individuals and private entities and 2) teleocratic planning to manage the resources in the property domain of the central body. Obviously, these two forms of nomocracy require different procedures of allocation of property rights.

Actually, concerning the first form (regulation imposed on individuals and private entities), nomocracy is nothing more than the allocation of property rights. In this case, regulation is *defining and imposing rules of conduct* (Slaev 2014) and thus, defines the rights of use of resources as well as the rights of management and control, owned by each party in respective actions. Regulation allocates property rights among the decentralised agents and also between the decentralised agents and the central body. For instance, regulations imposing ecological requirements limit the rights of companies to use their resources in ways that create pollution. Control powers, which are a form of the right of management, are transferred to the government, a state agency or a third party. Another example is zoning (Fischel, 1985). When zoning regulations prescribe certain uses or prohibit others, rights of management of the private owners are transferred to the local authorities.

Many regulations have monetary dimensions. These may be fees due upon certain permits. A formal permit or a license for an activity is, in fact, a kind of resource. Thus, the payment of the fee is equal to a purchase of the permit – the licensee receives property rights over the license and transfers property rights over the money value. The same goes for fines for breaching regulations. Taxing is not any different. Taxing is, in fact, reallocation of ownership rights over a portion of income received from economic activities or any kind of resources.

The allocation of property rights is also the main task of the second form of nomocracy, which deals with the management of public properties placed under the direction of the central body. As stressed already a couple of times, when managing public resources, the central body employs teleocratic measures within the nomocratic approach. The teleocratic plan in this case, just like any such plan, is of a rational type and solves technical issues. Nevertheless, the teleocratic/ rational plan comes second – after the re/allocation of property rights. If the residents of a new suburb need a new water-supply main or a new sewer, they will have to agree about the provision of necessary land resources and funding for construction. They will have to transfer property rights over respective strips of land and they will have to raise respective funding. Fund-raising in such cases is, as a rule, realised by taxing, but providing the strips of land is always an issue. It is an issue for several reasons. First, because land is of great value, second because individual contributions should be based on a fair solution, third because the pieces of land should be in relevant locations and so on. Compared to the issues of funding and provision of land, the problems of the technical (teleocratic) plan are, apparently, much easier to solve.

This section thus leads to the conclusion that the primary and immediate goal of nomocracy in planning of any activity is to properly allocate property rights over jointly/ commonly owned resources. For this purpose three methodological steps should be followed:

- first, all involved parties, with their interests and property rights, should be identified and their rights,' adequately defined, especially the more difficult joint/ common/ public property rights,
- second, the defined individual and common property rights must be properly allocated,
- third, the items of property that are placed under the control of the central body should be teleocraticly managed, i.e. through rational, detailed planning.

It may be said, that these three steps are easy to identify (though very difficult to implement). Nevertheless, planners typically overlook the property rights issues. For instance, when elaborating a master plan of a city, as a rule, they plan for what they believe should be the "best" or the "proper" development of the city based on their professional expertise. However, they tend to rely on wrong type of professionalism, often ignoring the market (Bertaud 2003, Adams and Tiesdell 2010). Genuine professionalism would be the proper allocation of property rights and the facilitation of favourable conditions, in which these rights can be exercised. Professionalism that ignores property rights and attempts to impose technical solutions on private owners, because of planners' popular belief that they as professionals "know better," is misguided, at best. This is, of course, pointless, because even the best solutions are meaningless, if not accepted by the owners of property rights. Without property rights analysis, planners are unable to elaborate viable plans. This omission is the reason why it is hardly possible to find a single case of urban planning that is assessed positively by all participants in the process. Since different groups or social strata have different property rights, they therefore have divergent interests in development, which often results in critical assessment. A "planning failure" Google search on October 14th, 2011, produced 4.7 million results and on August 31st, 2014 – 92.4 million results. As I will show in the next section, even the most reasonable nomocratic approach may result in misguided planning directions, when a property rights analysis is neglected.

Property rights and goals and methods of nomocratic planning in the context of specific issues of urban development

This section will discuss in some detail Holcombe's (2013) paper "Planning and the Invisible Hand", because that paper is a particularly useful example of the application of the theory of nomocracy to topical issues of urban development. Furthermore, it elucidates the impact of property rights analysis, because when the papers' results are subjected to such an analysis, the conclusions prove to be quite different. Below I will briefly outline the main findings of Holcombe's paper and then apply a property rights analysis on the papers' results, in order to make the difference.

Holcombe's main argument is that teleocratic or top-down planning attempts to override the market, so teleocracy and markets are adversaries. In contrast, nomocratic planning is bottom-up and suitable to decentralised activities; thus it should be an ally of the market. To Holcombe, the main criterion for relevant nomocratic planning is whether it facilitates the performance of the market. In the same vein, he found that governments tend to plan "too much of the affairs of market participants, but at the same time" they "have insufficiently planned their own activities". Regarding the activities of private owners, Holcombe repeatedly asserted that governments should not employ zoning. Instead, "[t]he invisible hand mechanism is – or rather, used to be – augmented by the common law doctrine of nuisance, which dictates that people can use their property any way they want, as long as they do not create a nuisance for their neighbors" (Holcombe 2013:202). Concerning "their own activities," governments' main role should be to plan and develop the infrastructure networks and, especially, the transportation corridors. In this way governments would be

successful nomocratic planners, facilitating private decision-making, creating an optimal framework for market development.

Indeed, Holcombe's work is a well-developed case, demonstrating the relevance of the nomocratic approach and/in the market. The connection between the two is implicit in Hayek's perception of grown or spontaneous order (Hayek 1973, 1976). It is implicit in the idea that complex social systems are self-regulating, and market society is such a system (Alfasi and Portugali 2007, Moroni 2010Portugali 2012,). In "Types of planning and property rights" (Slaev 2014), I have emphasised the common property basis of markets and nomocracy and have proposed an explanation why nomocracy is indeed an ally of the market – because it is the instrument to manage commonly owned resources. As Webster and Lai have observed, markets need the state (2003: 52-61). It is in fact nomocracy that they need as an ally. Without nomocracy, markets cannot employ commonly owned resources.

Many of Holcombe's other conclusions are no doubt correct, as well. The governments, because of their coercive powers, do tend to overplan the use of resources (e.g. the development of lands), owned by private persons and entities. Such interventions limit the freedom of decentralised agents, thus they are detrimental to markets. On the other hand, when a government manages the development of its own property properly – infrastructure, above all, it is beneficial to the market, as it improves the access of decentralised entities to all kinds of resources – private, jointly owned or public. Planning is thus the best ally of the market. However, if property rights are not properly defined, the improved access is not necessarily beneficial to the market. What if a theif gains access to a museum and robs a painting? If Barzel's terms are used – the thief has *captured economic property rights* over the painting, because he has become *the residual claimant*, as he may *consume* the good *indirectly through exchange*. Luckily, property rights over the painting, as a rule, are properly defined and this will be qualified as a theft, so it is not a market transaction. But as Barzel has noted, for many other goods, especially public goods, property rights are not defined. Then they can be captured and improperly privatised; yet not registered as theft. Who is in charge of defining jointly owned resources? Is the market? Note that Coase stressed that markets can allocate property rights efficiently ***if*** they are properly defined, but he did not suggest who is in charge of their definition. Markets cannot do that, especially, concerning common properties as is explained below. Rather, planning and more precisely – nomocratic planning – ought to carry out this function.

To point out some shortcomings of Holcombe's findings due to missing property rights analysis; I would start with discussing his criticism on zoning. Holcombe finds that "[z]oning has several drawbacks compared with the law of nuisance in preventing incompatible uses of land". He asserts that the first drawback is that sometimes "zoning may allow incompatible land uses" and the second drawback is that "it gives everyone in the political jurisdiction" (i.e. the planning authorities) greater power than that of the private parties. To my understanding, zoning is not totally/principally different from nuisance law. Both are nomocratic forms of governance, both define rules and do not specify detailed orders (direct provisions) – e.g. they do not specify precisely what building should be built, how many and how large apartments, the number of bathrooms, structural details, finishing, and other specifications. As Kaza and Knaap (2011) have observed zoning too is a form of regulation. The "principal" difference between zoning and nuisance law that is usually brought forward is that zoning is attached to an area of land. But legislation, too, often defines specific areas of application and always refers to the area of a jurisdiction.

In my view the essence of both law and zoning is the "doctrine of nuisance", which, as Holcombe noted, "dictates that people can use their property any way they want, as long as they do not create a nuisance for their neighbors". In reality, not creating a nuisance is the exception (e.g. an individual living on an island) and creating nuisance is the rule, so property rights need to be properly allocated. Holcombe quoted Coase (1960) that such optimal allocation should be achieved through market transactions. But for this purpose, individual owners should have full ownership over the resources or amenities traded. Alternatively, sunlight is common property, as is in the example given by Holcombe (2013:204) with New York City zoning. Trading of sunlight (as proposed by Coase) may not

happen in the precise situation of the New York example, because one neighbour ("co-owner" of sunlight) may bid price much higher than the price bid by another neighbour. For properties owned commonly, it is not possible for "individuals to bargain", as suggested by Holcombe based on the Coase theorem, because one may agree to trade space and allow high-rise construction at some price, but her/his neighbour/s may disagree, at least at the given price. Apparently, for this type of trading to happen, the "co-owners" of sunlight have to co-operate, organise and agree about a fair price through nomocratic planning (Slaev 2014). Nomocracy thus allocates the shares between co-owners and, also, the values.

It should be concluded that the allocation of property rights is conducted by the market for private resources and by nomocratic planning for common properties. Hence, zoning is a proper tool of nomocracy. As long as it assumes the role of an mediator between the interests of urban owners, zoning is not harmful, but is in fact useful and necessary in the market of urban development.

In urban practice however, zoning is typically implemented by planners, who often adopt a teleocratic instead of a nomocratic approach. When preparing zoning regulations, they tend to impose their (more or less) professional visions, often opposing the interest of the owners, rather than of working towards the proper allocation of property rights. In such cases, indeed, Holcombe's view of the negative impact of zoning is no doubt correct.

Holcombe also focused on several key issues relating to modern urban trends. In his paper he was particularly critical to the smart growth/ new urbanism movement aimed at "creating more compact urban development with higher population density, mixed use development, and shifting individuals from automobile travel to alternative means of transportation". It should be stressed that these issues are directly related not only to the concept of smart growth, but also to major and problematic trends of urban development such as suburbanisation and sprawl. Holcombe discussed in detail the collision that each of the smart growth aims had with the "*invisible hand*" of the market. He argued that "[a]s people's incomes increase, one of the things they want to buy with their increased incomes is more living space. Thus, with the exact same constructed environment, population density will tend to decline as incomes rise." Similarly, people prefer to use their private cars rather than public transport and bikes. Because automobiles are "normal" goods, "people want to buy more of them as their incomes and wealth rises". Therefore, Holcombe predicted the failure of smart growth planning initiatives, as they would be hard-pressed to override the market.

My view concerning the treatment of those smart growth/ new urbanism issues is that the approach in "Planning and the Invisible Hand" is well grounded on the theory of nomocracy, but, again, some of the conclusions are not relevant. This is because the property rights analysis had not been applied. To prove this, I would focus on the development of infrastructure, just as Holcombe focused on it, because it is a key element in urban development, with a major impact on the three smart growth issues, which were commented on. More specifically, the subject of analysis will now be the transportation network in suburban areas, where problems of low density, mono-functionality and car-dependence are most evident. One factor causing confusion among planners is that the planning of infrastructural development employs nomocratic, as well as teleocratic methods – i.e. the elaboration of rational technical plans, as it was established in the second section of this paper. This fact, as a rule, is misleading to planners and they focus on technical planning only. But, as it was stressed in the same section - the allocation of property rights comes first and, actually, is more difficult and much more important than the technical plans.

An important goal of property rights analysis is to identify the owners involved in the specific activities and specify their inputs and gains. For this purpose, the structure of ownership at the entrance and at the exit should be assessed. Apparently this is not easy in the context of complex social activity, which employs both private and commonly owned resources and whose products are consumed individually as well as publicly. The consumers of the residual value become economic owners (Barzel 1997). But as already established in this paper, to gain proper ownership status, i.e. to be recognised as owner, an individual must have either paid for the consumed value or must have provided some other adequate contribution. To

put it clearly, those who consume the transportation network must pay for its development. Obviously, this poses a number of issues to property rights analysis.

The transportation network is a public resource and, as a rule, it is funded by the central budget, i.e. by all tax-payers of the community. There are different reasons as to why it is not funded by its direct users. First of all, establishing a system of direct payments would require a lot of extra funding. To use once again Barzel's (1997) terms: assigning property rights would be too costly, so they are left in the public domain. However, this is not necessarily always the case with transportation networks. It should be emphasised that there is a major difference between the use and, respectively, the funding and the allocation of property rights over infrastructure in traditional urban areas, in new suburbs and in the country (outside urban areas). On motorways outside urban areas tolls are common. The toll systems are the most often proposed remedy to congestion (Brueckner 2001, Anas and Rhee 2006). In contrast, in traditional urban areas such measures are not viable, because it is impossible or too costly to identify how intensively the network is used by each one of the citizens. This is the main reason why transportation networks in urban areas are funded by taxes. Still it should be stressed that in Singapore (http://www.lta.gov.sg, http://app.mot.gov.sg/), for instance, the use of the primary network is priced and paid by the direct users, even within the urban areas.

The application of road pricing systems like the one in Singapore in present-day European and American cities seems inconceivable. Clearly, establishing a toll system would not pay back, even if modern electronic technologies were used. Nevertheless, if property rights emerge, they should be paid for. When discussing the Wal-Mart example, Holcombe (2013:205) concluded that local residents should have priority in determining local urban affairs. Clearly, they have higher interest in local development, but it means that they possess larger shares of property rights than the others. An important consideration is that in traditional urban areas, streets are indeed used by virtually all city residents, whereas in suburban areas, residents from other parts of the city use streets quite rarely. It should be kept in mind, that suburban settlers are typically middle class or affluent citizens (Muller, 1981; Fishman, 1987). Suburbanites are tax-payers, so they too pay for the development of the network, but for only a fraction of the due cost. Local taxes that provide the funding of the network are collected from all citizens. Thus all taxpayers, including socially weak ones, pay for the development of the suburban street networks, which chiefly serves well-off and wealthy residents. The failure to account for the proper allocation of property rights is socially unsound. It is also economically unsound, since the suburbanites who use the infrastructure have not paid sufficiently for it, which distorts the market system.

To summarise, I would once again emphasise the importance of property rights. Just like Holcombe, many urban economists (Bruekner 2000, Holkcombe 2001) and market-oriented planners (Bertaud 2014) assert that planning and zoning regulation must not interfere with market processes. But hardly anyone would argue that markets would thrive when property rights are distorted. In fact, properly defined and established property rights are essential for functioning of markets. In any process of urbanisation, the street networks are extended in peri-urban areas and this raises the price of land – an indicator that new property rights emerge when land is urbanised. Opposite to the assertions of urban economists, the "no planning" option will not result in "free" market, but in distorted market, because markets by themselves are unable to properly allocate property rights over commonly owned and public resources like infrastructure. To suburbanites infrastructure is underpriced, that is why they use it excessively. Furthermore, the price of infrastructure determines the cost of access to suburban land and, thus, influences the price of the land. Therefore, underpriced infrastructure results in underpriced land. This, in turn, is a reason for the latter to be consumed excessively, as well.

What follows from these findings is that suburban residents must pay for the transportation networks they consume. "Remedies" of that kind have been proposed in the form of toll charges by some researchers, but mainly as a tool to temper traffic congestion (Brueckner 2000, Anas and Rhee 2006). According to this paper, the main reason why such *remedies* are needed is not to temper congestion, but to avoid distorting the basis of the market

system. Because of the patterns of street networks in suburban areas, toll charges are not applicable. Nor are taxes very suitable, because fund-raising is too slow. Charges imposed when a building permit is issued and when development is granted a permit for use are most relevant, because they reflect the reason of financing infrastructure: it is financed in order to adapt the area for new development.

Allocation of property rights in the process of suburbanisation induced by the development of the transportation networks in Sofia, Belgrade and Rome

The connection between planning regulations and property rights has been emphasised by many authors, particularly regarding land-use zoning (e.g. Fischel 1978, 1985, Lewis 2007, Lai 1997). Drawing such a connection to the development of infrastructure is more difficult. Clearly, the main purpose of transport networks is to provide spatial access to any kind of areas. Because, in principle, all individuals and social groups need access to all areas, transport infrastructure is under public ownership. However, it has been emphasised in the third section that different types of transportation networks have different roles in the system of communications. An important consideration is that the road networks are used both for private and public transportation, whereas the railway as a rule is used only by public operators, especially concerning mass transit. On the other hand, the role of suburban infrastructure is specific and if property rights analysis is applied it appears that residents of different parts of the city have different interests and gain different usage of suburban transportation networks. Extending suburban infrastructure enhances the value of private properties and thus local owners capture extra property rights. However, the provision of suburban infrastructure is particularly expensive, so the proper allocation of property rights should require that local consumers pay for the cost of its construction. Because local governments represent the interests of all city residents, their main concern should be the public transit and the primary road network, whereas suburban road networks may be developed upon specific demand and provision of working mechanisms of fund raising – e.g. imposed systems of development fees. Therefore, a proper allocation of property rights requires: 1) providing priority to the development of public transit options and 2) collecting adequate fees from residents and businesses, who settle in suburban locations.

Next, a key characteristic of managing the development of infrastructure, emphasised already several times, is that it employs, except for nomocratic planning, also (teleocratic) rational/ technical plans. Thus it is concerned also with technical issues, such as the following. The capital expenses in the road network are almost twice higher than the capital expenses in light rail (Litman 2014). The average occupancy of the light railway vehicles is 2.3 times higher and the average trip distance is twice longer. Obviously, when investing in suburban road networks the local governments not only provide infrastructure to private users for free, but also pay twice higher price for half productivity of public transit.

To support the above assertions I will compare specific planning measures, regulations and practices of urban planning and the development of the road and railway networks in Sofia, Belgrade and Rome in the last couples of decades. The study will show that the planning system of Rome, which has longer experience in dealing with market-led suburbanisation and is more sophisticated regarding the allocation of property rights, has adopted measures aimed at precisely the outlined objectives – priority development of the mass transit network (over the development of the road network) and imposing development fees offsetting the cost of infrastructure.

The study will also show that planning works only as far as it affects the allocation of property rights. Any planning solutions that have no impact on property rights fail.

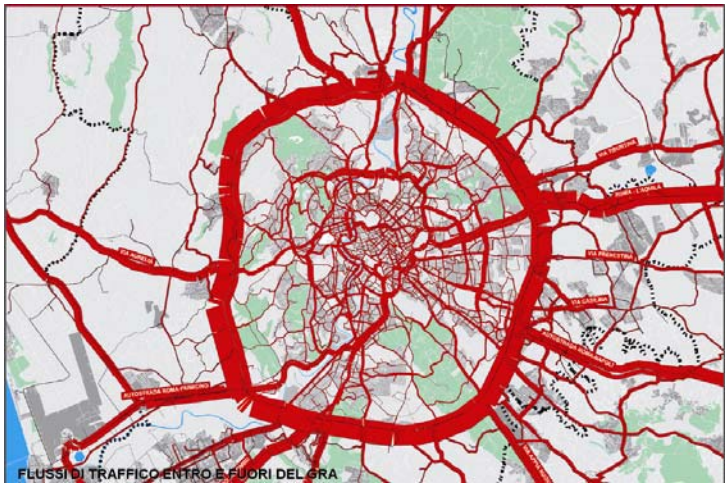
Before the analysis, it should be explained why Sofia, Belgrade and Rome will be studied. Concerning Sofia and Belgrade the reason is because countries in SE Europe have faced

issues of market-led suburbanisation and sprawl only since the start of the transition so these issues are increasingly topical in this part of Europe. Rome will be studied for the purpose of comparison, because urban development traditions in SE Europe are closer to those in Southern Europe, than in Western Europe.

Development of the primary transportation networks of Sofia, Belgrade and Rome in relation to trends of suburbanisation

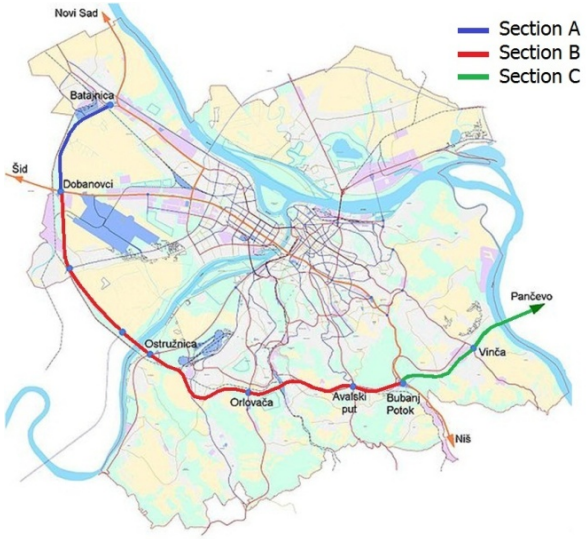
The ring roads of big cities have greatest impact on suburban development, because their role in improving the access to suburban areas is critical. Rome's ring road was competed (the ring closed) in 1970, but an upgrade to a 6-lane set started in 1983 and finished in 2011. Diagram 1 illustrates the current traffic loads on the street network of Rome. The load on the ring Road – Grande Raccordo Anulare (GRA) is by far the greatest – much higher than that on the A24/ E80 motorways and several times higher than all other loads.

Diagram 1 – Traffic loads on the road network of Rome[5]



Different parts of the of the Bypass of Belgrade (the ring road – Diagram 2) have been build for 16 years by 2005 when the construction intensified. Section A was completed in 2008. The construction of Section B may be said to have been completed by 2012. Section C is scheduled for completion in 2017.

Diagram 2 – Belgrade Bypass (the ring road of Belgrade)[6]



[5] Diagram 1 provided by The City of Rome (Roma Capitale) – partner of TURAS WP5

[6] Diagram 2 downloaded from WIKIMEDIA COMMONS on 2.09.2014

A large, probably the largest part of suburbanisation in Rome and Belgrade had been spontaneous (illegal housing), so the processes did not comply with any plans. Zoning has no influence on such processes, but the development of infrastructure does. The importance of the ring road and other primary routes of the transportation networks can be traced on the maps of the spontaneous settlements of the two cities (Diagram 3 and Diagram 4).

Diagram 3 – Informal (illegal) settlements in Rome[7]

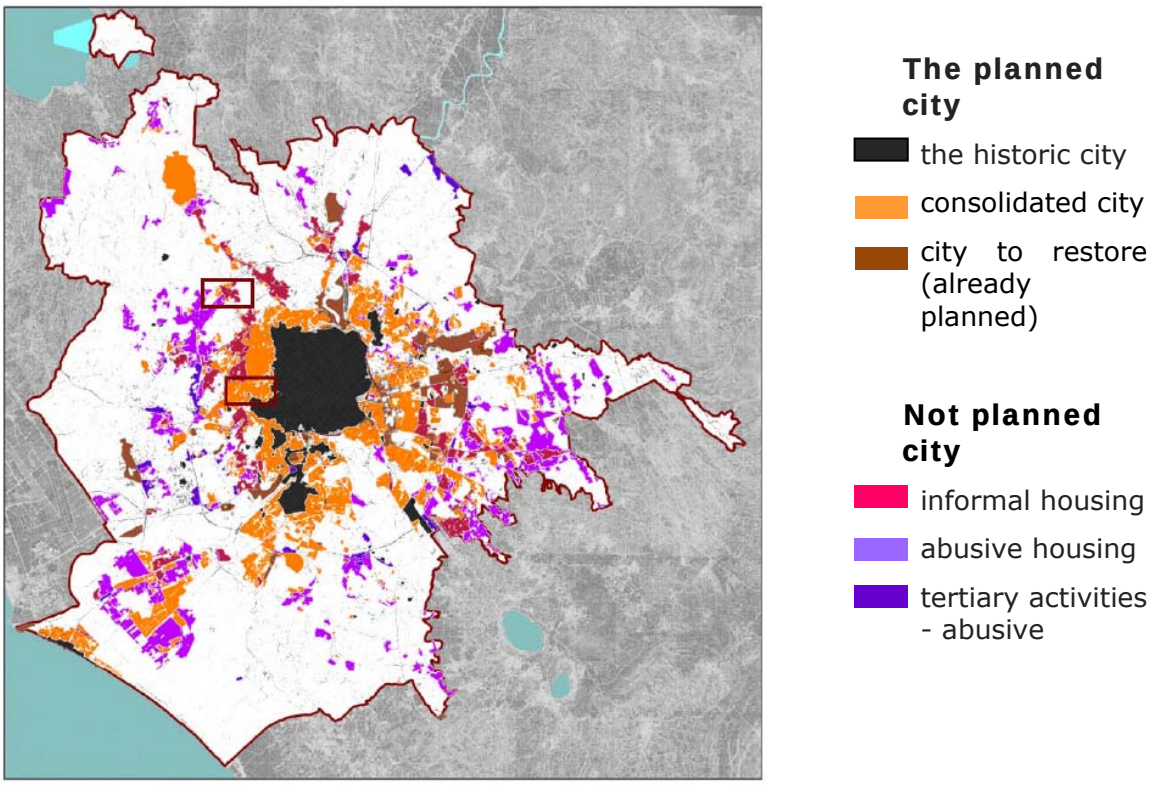
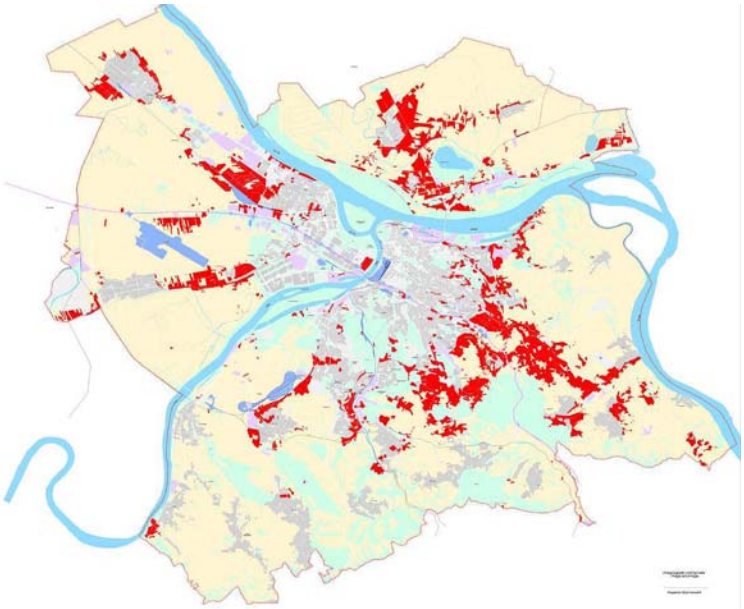


Diagram 4 – Illegal and informal settlements in Belgrade (Source: UN-HABITAT, 2006)[8]



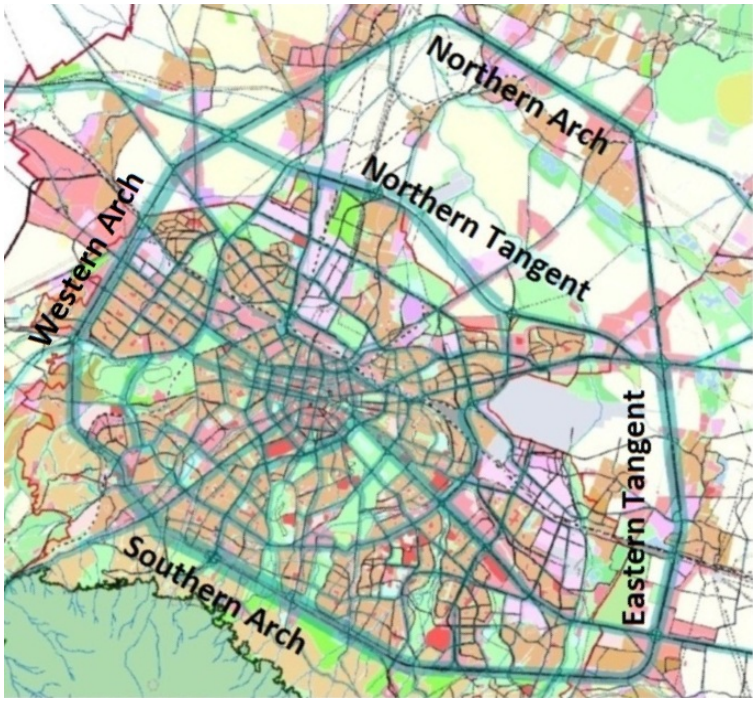
[7] Diagram 3 provided by The City of Rome (Roma Capitale) – partner of TURAS WP5

[8] Diagram 4 provided by the Institute of Architecture and Urbanism of Belgrade - partner of TURAS WP5 – see Figure 1 on p.74 – Paper 4 of this document

The observation that there is a close connection between the development of the transportation network and urban sprawl is not new. Still, it should be stressed that the owners or buyers of land in suburban areas had been able to change its use to housing and, thus, enjoy an extra value of land and extra property rights only because public investment in the network had provided better access to urban areas. Such allocation of property rights is acceptable only if this was the intention of planning – e.g. to follow a social policy and support suburban settlers, who may be, probably, socially disadvantaged. But evens so, a much more relevant policy would be the provision of public transit options.

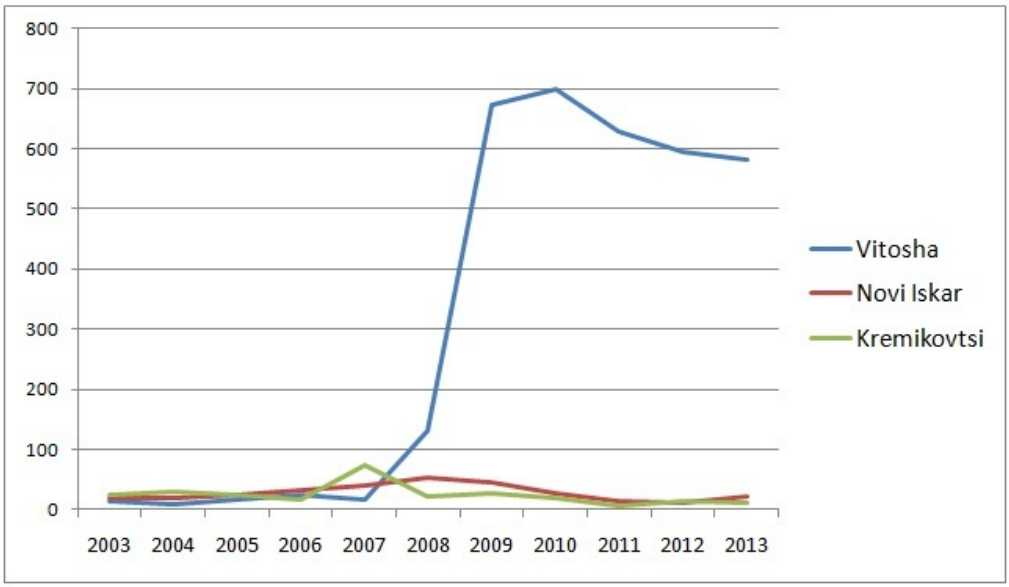
More details relevant to the analysed issue can be provided in Sofia, so the situation will be examined a little closer. To outline the existing trends of development during the 1990s and at the beginning of the 2000's it should be stated that definite, but far from strong processes of suburbanisation were observed in the picturesque southern outskirts of the city – in the foot of Vitosha mountain, an area known as the Vitosha collar (NSI 2012). The General Urban Development Plan (GUDP) that was elaborated in 1998-2003 intended to stimulate the development of suburban neighbourhoods, because a need was perceived to "unburden the city" (Metropolitan Municipality 2003). GUDP aimed to encourage the urbanisation of this area within definite limits – namely, to preserve the large green edges, which were considered of key importance to the green system of the city. At the end of the 1990s these edges were threatened by development interests. The plan also intended to stimulate expansion northwards of the city and gradually this goal was given higher priority. Thus, because of the explained intentions, as well as because of the pressure by the owners of land in the southern outskirts and market demand, land for development was made available both to the south and to the north of Sofia. It was available, so to say, juridically – by zoning, but availability of suburban land is also *physically* determined by the access provided by the road network in the case of Sofia – mainly by the ring road. All sectors of the ring were 2-lane by the time when GUDP was prepared and the plan stipulated the ring to be upgraded to a 6-lane set. The southern and the northern sectors of the ring road of Sofia have greatest importance in providing access to suburban lands (Diagram 5). The construction of the southern sector of the ring road, called the Southern Arch, started in 2007 and finished in three years. Second was the Western Arch and third was the Northern Tangent, but the works in both sectors had to stop because of problems with the acquisition of land. Meanwhile, the realisation of the Southern Arch already had a major impact on suburban development.

Diagram 5 – Forecasted traffic loads on the road network of Sofia



The southern suburban areas, as stressed, had been more attractive during the last couple of decades, but now the difference in the rates of development of between them and the northern areas escalated. Data from the Registry Agency show that the number of sales in the southern districts of Sofia (e.g. the district of Vitosha - see Diagram 6) after a very sharp increase in 2008-2009, fell by only about 20 percent in the period of the economic crisis and remained still very high, whereas those in the northern districts dropped from 3 to 5 times – e.g. in the districts of Novi Iskar and Kremikovtsi.

Diagram 6. – Number of sales of real properties per year in the districts of Vitosha, Novi Iskar and Kremikovtsi in the period 2003-2013



It is, indeed, difficult to measure precisely what the contribution of the Sothern Arch was to this growing disparity and one may claim that it was all due to the attractiveness of the scenic southern outskirts. However, a comparison can be drawn to the areas at the foot of the Balkan mountain in the northern areas, which are not less picturesque and have better (southern) exposure, but still have failed to attract residents.

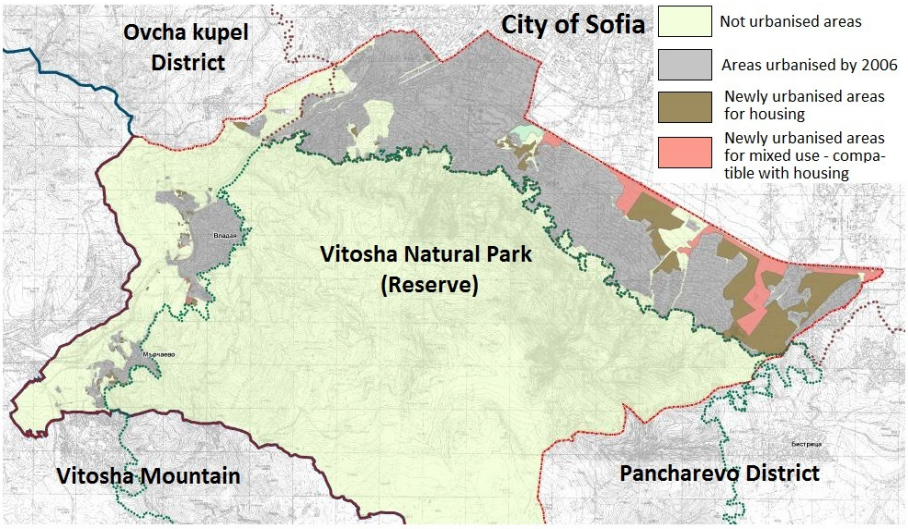
It is important for the purpose of this section to stress that so far GUDP has not managed to realise its objective to steer urban expansion northwards. Table 1 draws a comparison between the trends in one southern and two northern suburban districts. Obviously, both the growth of the population and the urbanised area demonstrate that the city has grown southwards, not northwards. On average the increase in the population in the southern suburban districts was 6.4 times higher and the increase in the urbanised area – 4.3 times.

Table 1 – Change in the number of the population and the urbanised area in one southern and two northern suburban districts 2006-2011

Suburban Districts	**2006**		**2011**		**Change in %**	
	Population, pp	Urbanised area, ha	Population, pp	Urbanised area, ha	Population	Urbanised area
Vitosha (southern)	52210	2514,43	61467	3043,15	17,73%	21,03%
Novi Iskar (northern)	27768	2751,44	28991	2798,57	4,40%	1,71%
Kremikovtsi (northern)	23447	3405,68	23641	3664,43	0,83%	7,60%

Also, concerning the other important goal of the master plan to protect the green edges, the failure of GUDP was yet more obvious. Diagram 7 demonstrates the loss of green areas in the district of Vitosha.

Diagram 7. - Expansion of the urbanised area in Vitosha district – 2006 - 20013



To summarise, this study of specific goals and solutions of the GUDP of Sofia and the resulting developments has found evidence in support of the assertions of this paper. The GUDP intended to encourage the development of the northern suburban areas and to contain the development of the southern at least as to preserve the green edges. But planning was unable to interfere with the rights of management exercised by land owners and they exercised their own planning and management powers. Only a very small percentage of the properties in the northern districts were developed, whereas housing construction in the southern areas boomed. In fact, the property rights of land owners were promoted in result of the construction of the Southern Arch. Still it may be argued that this promotion of property rights did not have negative impact by itself. Rather, if the municipality was, indeed, to preserve the green edges, it should have compensated the owners of land for the loss of property rights (rights of management) that they suffered, or, more appropriate - should have bought through compulsory purchases the plots needed to preserve the green areas. In this way property rights would be reassigned in support of the planning goals. Therefore, the structure of property rights is essential for the realisation of a planning policy, particularly in suburban areas. In other words – planning fails to meet its objectives, if it was not aimed and had not achieved a relevant allocation of property rights.

So far the analysis of urban development in suburban areas of the three capital cities was focused on the planned and realised development of the road networks and its influence on suburban expansion. Now, the development of mass transit networks and particularly, railway will be outlined. The application of the property rights approach has earned the conclusion that, in fact, the mass transit must be the key priority of planning among all types and components of the transportation networks.

Though the Metropolitan Municipality of Sofia comprises, except for the capital city, also 3 towns and 34 villages, between 2007 and 2012 the total length of the railway network has decreased by 17 km, which is a decrease by 8.4%. The new master plan was focused on the metro railway system, which no doubt was of greatest significance for the city. Thus, GUDP did not plan for any significant growth of other types of mass transit. In about five years the expansion of the metro network dramatically improved the access to several outlying areas within the compact city, but that does not affect access to the suburbs. GUDP planned increase of 24 km of tram network and 53 km trolleybus network in the peripheral and suburban areas, but it makes less than one-tenth of the total length of these networks.

Concerning the railway network GUDP did not plan for any significant increase in passenger traffic. So GUDP actually did not stipulate for considerable improved access of mass transit to suburban areas.

The situation in Belgrade with planned improvement of access to suburban areas is not different than the situation in Sofia, because it, obviously, is not considered a priority. The development of a metro or LRT system is more topical, but the local government has switched between the two options several times. Like in Sofia the first phases of the development of a metro or LRT do not aim to provide access to suburban areas. However, a suburban railway system Beovoz is functioning in Belgrade. With total length of 104 km and 42 urban and suburban stations it connects the central area of the city with several suburban settlements, but is used by only 2.5% of city passengers. MUP envisages extension of a new line to Pančevo and another one to Belgrade airport.

In contrast to Belgrade and, especially, to Sofia, the new master plan of Rome (Piano Regolatore Generale - PRG) emphasised the development of the railway network. PRG plans to change significantly the type of urban mobility and to promote public transit, which is essential for the integration of suburban areas and is most efficient for public access to the suburbs and from the suburbs to the city centre. The objective of PRG is to create a large subway-railway network by increasing the length of the railroad by 598 kilometres with parallel increase in the number of stations by 289 with subway/ railway interchange. Along with that reserved corridors with total length of 140 kilometres for on-grade public transportation will be developed mainly in peripheral areas to improve the service with light subways or trams and electric or ecological buses.

Obviously, Rome has planned for the most significant development of the metropolitan railway network. As suggested at the beginning of the section, the reason for the different approach compared to those of the master plans of Sofia and Belgrade is, most likely, that Rome's planning system has longest experience with market forms of development.

Finally, the systems of local fees relating to property development in the three cities will be examined. This study will demonstrate that the planning system of Rome, as the most advanced among the three particularly concerning the allocation of property rights, is also the most sophisticated regarding the tariffs of development fees. This tariff in Rome is apparently meant to provide for those who settle in suburban areas pay for the development of suburban infrastructure.

Concerning the costs of the development of suburban infrastructure in Sofia, it should be stressed that no fee is imposed intended directly to offset such costs. This role is, actually, performed by the fee payable for the issuance of a building permit. The building permit fee varies for different urban areas of Sofia, however, these areas are not based on the master plan. For central parts of the city building permit fee is 14 Levs (€ 7), for the southern suburban areas is 10 Levs (€ 5) and for the northern territories 6 Levs (€ 3). Expenses for roads, transportation, utilities and any other infrastructure (incl. waste treatment, sanitation, eco- and environmental measures) in Sofia Municipality in 2013 amounted to 439,2 million Levs. The taxes that have relatively direct relation to the development of infrastructure and urban areas are: taxes on vehicles, on real property, on acquisition of real property through market transactions, on inheritance, and fees for technical services (which include mainly fees for building permits issued). Aggregate revenue from these taxes for 2012 totalled 215.1 million Levs, and for 2013 237.3 Million Levs total revenues were planned. This amount is not sufficient to cover even only the spending on water treatment, and the development of the water supply and sewerage networks and for these purposes European funding is needed to cover the shortage. Thus nothing is left for the development of the road infrastructure and maintenance.

This situation has two major implications. First, there is a major problem with funding the development of infrastructure. Second, because in central areas the fee is on average twice higher than in suburban areas, the developers are, in fact, "encouraged" to undertake new developments in the southern suburban territories, where fees are much lower than in

central areas and the compact city, but selling prices of residential properties are almost the same.

The situation in Belgrade is not different than that in Sofia, only the charges are much higher[9]. Like in Sofia, the development fees are determined per square meter of the total floor space of the new building. For housing this fee varies from 8.6 EUR/m2 for the outer-most areas (zone VIII) to 358.48 EUR/m2 in the city centre (zone I extra). Apparently, in Belgrade too, the developers are stimulated to undertake developments in attractive suburban areas, because the fees 40 times higher in the centre.

In Rome, the development of suburban infrastructure is covered by the urbanisation fee[10]. Two parts of the fee are distinguished in order to determine its value – cost of primary and cost of secondary urbanisation. The share of the contribution relating to the primary urbanisation costs (OUP) is aimed to cover the development of service streets, parking lots, sewers, water mains, electricity and gas distribution network, public lighting, green spaces, equipped electronic communications infrastructure, shafts and ducts for multiservice switching telecommunication networks. For new residential developments it varies according to the number of inhabitants per hectare – from 18.63 EUR/ m3 for more than 250 inhabitants/ha to 51.06 EUR/m3 for less than 50 inhabitants/ha. The share of the contribution relating to the secondary urbanisation costs is aimed to cover the development of kindergartens and nursery schools, schools of obligation as well as structures and complexes for the high school, neighbourhood markets, municipal delegations, religious buildings, neighbourhood sports facilities, parks, community centres and cultural and health facilities. Its value is 42.49 EUR/ha regardless of the number of inhabitants per square metre.

Conclusion

As Holcombe has concluded, nomocratic planning is, indeed, an ally of the market. In fact, many theorists support the idea of the connection between planning and the market in contrast to the perception that the two are adversaries. Almost four decades ago Schultze (1977: 30) noted that "the free enterprise system [i.e. the market], therefore, carries the label 'made by government'". But as a handful of authors claim in their works in recent years – it is the nomocratic planning that that has really close and positive connection with the market.

I would extend Holcombe's conclusion by saying that *proper* nomocratic planning is the main and, even, the only ally of the market. The reason for that nomocracy is the only mechanism to allocate property rights over commonly owned resources, which is the key condition for these resources to be employed in market deals and processes. However, this paper was focused on issues relating to the attribute "proper". Proper nomocratic planning must employ genuine nomocratic methods and tools. Such are the rules/ regulations that allow co-owners of common properties to allocate between themselves rights of management and use, as well as other types and components of property rights. Zoning is a form of regulation and, therefore, it, too, is an ally of the market. But not any economic or social rules or zoning regulations are proper forms of nomocratic approach. Planners tend to develop and impose regulations reflecting their individual professional vision of the perfect urban development. Such zoning regulations rarely support the nomocratic approach and in principle, as Holcombe noted, are adversaries to the market, not allies. The proper economic and social rules and zoning regulations are not meant to present the preferences of the planner, but rather, to properly allocate property rights between all co-owners.

[9] Data provided by The City of Rome (Roma Capitale) – partner of TURAS WP5

[10] Data provided by the Institute of Architecture and Urbanism of Belgrade - partner of TURAS WP5

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