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COORDINATING PLANNING WITH THE MARKET IN POST-SOCIALIST SOFIA, BULGARIA

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Although the interaction between planning and the market in urban development has been the subject of extensive research, its treatment in the literature is still problematic and controversial. Issues regarding this interaction remain topical for post-socialist urban planners, who are still lacking sufficient experience with planning in market conditions, especially when it comes to practice. The contribution of this study is that it identifies two practical approaches, through which urban planners can coordinate plans with markets. First, when setting planning goals, planners must critically assess the relationship between these goals and market demand. If market demand is distorted by market deficiencies, planning must look for opportunities to counteract and rectify distortions, but if market demand properly reflects the interests of stakeholders in urban development, planning must critically reassess its definition of the public interest. Second, when developing urban plans, planners must employ fiscal (financial, monetary) and market-oriented tools for their implementation. To study these relationships, the paper explores different aspects of development in Sofia, the capital of Bulgaria, as Sofia is a relevant example of the urban trends in post-socialist cities.

***Key words*: planning-market relationship, post-socialist development, value capture tools, market-based instruments, fiscal zoning.**

INTRODUCTION

For decades, the problems of the relationship between planning and the market in urban development have been discussed extensively by numerous researchers (e.g., Alexander, 2002, 2008; Bertaud, 2004, 2018; Lai, 2005). Yet despite this impressive body of literature, these problems remain topical, arguably because of the major difficulties that urban planners face when implementing plans in market conditions. This indicates a significant gap between planning theory and practice – an insufficiently developed link between theoretical research on the market nature of urban development and planning practices, especially with regard to the two key phases of the methodology of planning: the elaboration and implementation of plans (Taylor, 1998). This fully applies to the situation in post-socialist countries, where urban planners have insufficient experience with market processes (Vujošević *et al*., 2012; Slaev and Nedović-Budić, 2017). Unfortunately, planners tend to view the market as a vicious mechanism generating various negative urban trends and major threats to sustainability (e.g., Asparuhov, 2020; Yanev, 2019). Many planners fail to distinguish between properly functioning markets and market failures (Adams and Tiesdell, 2010). This often indicates issues of institutional capacity (Čolić *et al*., 2021), including a lack of specific knowledge of the functioning of urban land markets (Zeković *et al*., 2015) and cooperation through the market mechanism (Bengtsson and Kock, 1999). As a result, the public interest (Alexander, 2002; Moroni, 2004) and the goals of planning will be inaccurately defined (Slaev *et al*., 2017). Furthermore, poor knowledge of the planning-market relationship is a major reason for the insufficient use of market-oriented tools – the most effective type of planning policy instruments (Alexander, 2012; Huxley, 2009; Peterson, 2009). In short, two of the main problems faced by planners in market

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conditions are neglect of the need to coordinate planning with market demand, and the lack of knowledge of practical methods to achieve such coordination. This article works towards filling the gap.

The contribution of this study is that it identifies two practical approaches, through which urban planners can coordinate plans with markets. First, when setting the planning goals, planners must critically assess the relationship between these goals and market demand. If market demand is distorted by market deficiencies, planning must look for opportunities to counteract and rectify the distortions, but if market demand properly reflects the interests of stakeholders in urban development, planning must critically reassess its definition of public interest. Second, when developing urban plans, planners must employ fiscal (financial, monetary) and market-oriented tools for their implementation.

To justify the two approaches, this study identifies two key questions that planners must investigate:

- When should the operation of the market be corrected and when should the planning goals be adjusted according to market demand?; and
- What tools should planners use to coordinate planning with the market or regulate the action of the market when needed?

The following section provides a theoretical justification of the two practical approaches that follow from the two questions. To illustrate these approaches, we shall present characteristic aspects of the development of Sofia, the capital of Bulgaria, over the past 14 years. Sofia is a good example because it clearly demonstrates the issues relating to the planning-market balance in a post-socialist context. Then we shall discuss the extent to which the case study of Sofia confirms the findings of the theoretical framework and sets the basis for the final conclusions.

THEORETICAL FRAMEWORK

In this section, literature sources are reviewed to identify key aspects of the coordination between planning and the market. In principle, urban planning and the urban market should "work" in the same direction (Alexander, 2008) – towards satisfying the needs of the participants in urban development. But in practice, their directions are often conflicting. In the general methodology of planning (Taylor, 1998), we identify two stages in which planning may conflict with the market mechanism:

- first, when identifying the main goals of development. For example, planning may aim to establish certain development densities, but market demand may stimulate completely different densities. To mitigate this conflict, planners need to conduct in-depth analysis of market demand; and
- second, when developing tools for implementing plans. For example, the establishment of urban standards is a popular planning tool, but their effect on market demand is often inverse – e.g., if low development standards are established in an attractive residential area, market demand in the area will remain high or even rise further. To mitigate this conflict, planners need to develop relevant market-based implementation tools.

The following subsections explore these two planning issues.

Determining the goals of planning in correlation with the market

Planners are often sceptical about the functioning of the market (Balaban, 2012; Asparuhov, 2020). This is characteristic of most urban planners in post-socialist countries. Among them, the prevailing perception is that the market mechanism primarily reflects the developers' aspiration for profit and that this aspiration inevitably contradicts the normal, positive and sustainable development of the urban and natural environment. But there are at least two reasons why planning needs to consider the market mechanism when defining its goals. First, planners must recognise that, in urban development, the power of the market mechanism is often greater than that of planning. This is because urban development is an extremely costly process, and the market tends to generate larger financial flows than planning (Daskalova and Slaev, 2015). Second, the market mechanism is dominated by market demand that reflects the interests and preferences of consumers, who, in urban development, are the residents, households and businesses (Alexander, 2008). Therefore, at least in theory, planning and the market should "work" in one direction – to meet the needs of residents, households and businesses.

There are two possibilities in which the direction of the goals of planning is different from the direction of market demand. The first possibility is that the market does not function properly. This is due to market failures such as externalities and shortages of public goods (Adams and Tiesdell, 2010). The second possibility is that the goals of planning are not properly formulated due to a poor definition of the public interest. The point is that in a pluralistic society, different social groups have different and sometimes conflicting interests. In urban processes, some social groups may benefit, and others may be disadvantaged (Bajić *et al*., 2016). The problem, then, is to define the public interest as a balance between the interests of different groups (Slaev *et al*., 2019). In principle, if the interests of the different social groups are properly presented in the marketplace, market demand reflects the balance between these interests, that is, the public interest. To assess whether the market is distorted or functions properly, planners need to study market demand in more detail and analyse thoroughly the motives of stakeholders (Bertaud, 2004; Anderson *et al*., 2012; Slaev and Nedović-Budić, 2017). Unfortunately, such analyses are often conducted superficially, as planners consider primarily (or only) the motives of developers. Developers, however, do not generate market demand, they just follow it. To identify market distortions, planners should consider primarily the motives of social groups who generate market demand.

In brief, planners should conduct market analysis to decide when the operation of the market should be corrected and when the planning goals should be adjusted according to market demand.

Appropriate tools for implementing plans and better planning-market correlation

Modern cities are complex socio-economic systems generating complex problems. To deal with the problems of complex systems, most urban planners tend to rely on information and computer technologies to improve central management (Bakardjieva and Gradinarova, 2004; Bakardjieva and Gercheva, 2011). However, according to many researchers, planning complex systems requires the application of self-regulating mechanisms (Alfasi and Portugali, 2007; Moroni, 2010; Moroni *et al*., 2019; Cozzolino, 2020), such as the market system. In cases of urban market failures, planners can regulate them by adjusting the market framework (Needham, 2000). Alain Bertaud (2004, 2018) defines three types of tools, through which planning determines the market framework of urban development:

- urban standards and rules;
- financial (fiscal or monetary) levers – i.e., local fees and taxes; and
- the development of primary infrastructure.

In fact, urban planners are well aware of the importance of their role in defining urban standards and rules, but usually overlook their relationship with the market mechanism. Urban planners also understand the role of infrastructure as well as that of financial instruments, but very rarely focus on the latter.

However, financial instruments (fees and taxes) are critical not only in cases of market failures (Chauvet and Ferry, 2021). There are two reasons why fees and taxes are essential in all situations and forms of urban planning. First, the implementation of urban plans inevitably requires huge investments, otherwise plans will not be implemented. Second, if the "positive role" of financial instruments is to fund and thus realise beneficial urban activities, they also have a "negative role" that is no less useful and important – they charge, and thus help to limit activities that cause public inconvenience, costs, and losses (Fischel, 1985). When the aim of planners is to limit such activities, fees and taxes are much more reliable and effective tools than "traditional" standards and bans. The problem with bans is that they do not change the motivation of the participants in urban development. Consider, for instance, a private owner who is interested in building a house in a valuable natural area. Establishing a ban on this activity does not change the motivation of the owner, on the contrary – violating the ban may earn higher profits, maybe even higher than eventual fines. The market participants' responses to administrative command-and-control tools are difficult to predict. Nevertheless, if high fees are set for this activity, the owners' interests change radically. By employing financial tools, urban planners can predict the response of participants in urban development with much greater success (Bertaud, 2018).

Developing a set of efficient financial tools is difficult though. To this end, it is important:

- which activities should be stimulated/funded and which functions should be restricted;
- who should provide the funding and to whom it should be paid; and
- how funding should be provided.

For example, financing recurring or continuing activities (such as infrastructure maintenance) requires funding at regular intervals and the taxes that raise funding should be collected annually or monthly. In contrast, because many other activities are carried out by individual projects, funding for such activities should be provided accordingly – on respective occasions rather than regularly. In this case, fees are usually more appropriate than taxes. Timing is crucial for the effectiveness of financial instruments.

To this group of planning tools, we must add various types of market-based and value-capture instruments (Alexander, 2012; Huxley, 2009; Peterson, 2009) – such as impact fees, Transferable Development Rights (TDRs) and Floor Space Area bonuses. Usually developed by the local government (in contrast to "traditional" fiscal tools established by the state), value-capture and market-based instruments are more specific and innovative, and are usually tailor-made. These instruments often include non-monetary components; thus, they are much more accessible to local authorities.

In brief, to facilitate the desired market response and achieve planning goals in market-driven urban development, planners should use relevant fiscal/financial and market-based tools.

CASE STUDY AND RESULTS

Goals of the 2007 GUDP

This section describes an empirical example which will serve to check the relevance of the theoretical framework developed in the previous section. It explores the application of the General Urban Development Plan (GUDP) of the Bulgarian capital Sofia, adopted in 2007 and updated in 2009. Sofia is a suitable example for the purpose of this study because it is a typical post-socialist city which demonstrates the typical characteristics of the transition from socialism to a market economy. The GUDP's role in all aspects of Sofia's development is evident – in the morphology of the urban structure (Slaev and Kovachev, 2014), the structure of the public service (Ivanov, 2018; Georgieva, 2015, 2016; Davcheva, 2015), the transport system and forms of mobility (Nozharova and Nikolov, 2019; Slaev *et al*., 2019), and the aesthetic organization of the built environment (Davchev, 2013). In this paper, we emphasise a key objective of the GUDP – facilitating the socio-economic transition in urban development from state socialism to a democratic market society. One of the GUDP's main priorities was explicitly defined as synchronisation between planning and the market in urban development. However, the plan adhered to the prevailing critical view of the impact of markets on urban trends. With the plan's implementation, this perception grew even stronger, as the market mechanism was and still is considered the main source of urban problems and failures (Yanev, 2019).

To illustrate the applicability of the theoretical framework, this and the next sections examine the planning goals and

results of implementing the plan in four respects:

- the general characteristics of the development of central areas;
- urban trends in suburban areas;
- changes in urban form towards monocentricity, polycentricity or dispersion; and
- the development of green areas in suburban territories.

As the plan is dominated by the understanding that the central city areas are already too "congested", it aims to reduce the city's degree of monocentrism, unburden the centre and stimulate polycentric and dispersed development. The main objectives of the GUDP regarding the four outlined aspects are defined as:

- unburdening the urban centre from some urban functions and reducing the degree of monocentrism of the urban structure;
- stimulating low-density and single-family housing forms in all suburban areas;
- establishing a polycentric structure of service centres in the northern suburban areas and boosting their development; and
- developing a green system in the capital city and integrating green areas extensively along the entire periphery of the capital, with a particular focus on protecting the open spaces planned as green areas in the southern suburban territories.

Importantly, the 2007 plan did not consider sprawl a threat to urban development. Neither did planners realise that by stimulating low-density and single-family housing forms in all suburban areas they were encouraging urban sprawl. Regarding the green system, the GUDP has planned for an ambitious development of the city's green infrastructure. In the plan, the total area of all parks and green spaces is almost 3800 ha, but more than half of these spaces are not yet realised (just planned), and nearly all new land for greenery is under private ownership. That is, to implement the plan the municipality has to buy about 2000 ha of private land – that is, expropriate the land, but compensate the owners at the market price. It seems, however, at the time, nobody considered it necessary to assess what costs this compensated expropriation would incur.

Implementation of the plan: Is Sofia's development a case of coordination or a conflict between planning and the market?

Since 2000, the development of Sofia has accelerated due to economic recovery and the influx of numerous new residents. Under market pressure, the 2007 GUDP allowed higher development densities in almost all city areas. During the construction boom between 2004 and 2009, the rates of development were highest in the central and southern suburban areas. After the burst of the property bubble, the trends slowed down and revived after 2012. Development densities in central areas grew substantially, but large territories in the southern suburban areas were also subject to market pressure and were built up with multi-family housing of medium density/intensity, while only less than 5% of the new areas were developed with single-family houses (Daskalova and Slaev, 2015).

To answer the question of whether Sofia's development is a case of coordination or a conflict between planning and the market, we refer to the findings of a study funded by the 7th Framework Programme (Slaev *et al*., 2017; Slaev *et al*., 2018). This study found no indication of trends towards polycentric or dispersed development; instead, an increase in the degree of monocentrism is observed. Table 1 summarizes the results of the study on the balance between the goals of planning and market demand concerning the four aspects studied, and the actual results of Sofia's development over the past 14 years.

The observations reported in Table 1 support the inference that whenever planning conflicted with the market, planning failed. This emphasises the crucial need for planning to coordinate with the market.

Of the four aspects of urban development considered in the case study of Sofia, the protection of green areas in the southern suburbs is probably the most serious. In the last

Table 1. The balance between planning and the market in the development of Sofia since 2007

Type of area	Goals of the GUDP	Market demand	Actual results
Central city areas	Need to "unburden" the central areas, and limit the intensity of new developments as much as possible	Very high demand for housing, commercial, and service properties	Increase in the intensity of new developments. Many new urban functions accommodated
Southern suburban areas	Dispersed development of low-density high-quality housing, incl. single-family	Very high demand for housing and most types of retail and service properties	Large housing areas developed with low-to-medium (largely medium) density
Northern suburban areas	Polycentric structure of service centres and dispersed low-density (largely single-family) housing	Poor housing and industrial property demand	Very few housing units and industrial premises developed
Open and green spaces	Preservation of open and green spaces	High development demand, esp. in the southern periphery	Loss of open spaces, threatened green areas, esp. in the southern periphery
Urban form	Reduced monocentrism, increase of polycentrism, dispersed low-density sub-urban development	Not applicable	Increase in the degree of monocentrism, compact suburban development

decade, the municipality has purchased less than 1% of the private land that it must acquire for constructing the planned public parks. According to a decision by the Constitutional Court, the deadline for these purchases expired in 2017.

DISCUSSION

The discussion aims to check whether the development of Sofia under the 2007 plan confirms the findings of the theoretical section. This discussion first draws some general observations on the relationship between planning and the market in the development of Sofia, and then provides answers to the two questions.

When should the operation of the market be corrected and when should the planning goals be adjusted according to market demand?

Regarding the need to coordinate planning goals with market demand, the application of the 2007 GUDP offers examples of both cases of market distortions and poorly defined goals due to erroneous assessment of the public interest. As pointed out in the theoretical section, in both cases, urban planners must explore the interests and roles of the social groups involved in market-driven urban development processes and assess whether these interests are properly reflected by market demand.

Regarding the development of the central areas of Sofia, a key question is: Whose interests does the highly intensive development of these areas reflect? The popular answer both among planners and citizens is that this trend is driven by the interests of developers striving for maximum profit. Yet in the market, developers have no choice – they must build housing and retail and service premises where demand and profits are highest. If a developer does not follow market demand, he/she will fail against the competition and go bankrupt. If developers build housing in central city areas, the reason is that city residents want to live in these areas and are willing to pay the highest price for housing there. Urban planners try to keep development densities as low as possible in these areas, because this is better for residential zones. But in this way, planners only promote the interests of the residents who have already settled in central areas and newcomers are unwelcome. Hampering newcomers' access to attractive urban areas would result in social segregation and the potential emergence of deprived communities in suburban areas (Bajić *et al*., 2016; Petrić, 2017). On the other hand, any thriving city attracts immigration flows. In the period 2001-2019, Sofia's population grew by 13.49% (National Statistical Institute, 2012, 2022) and so did population densities, although at a lower rate. As many Bulgarians prefer central and semi-central city areas (Daskalova and Slaev, 2015), the demand for housing in these areas is highest. When many residents are willing to settle in central city areas, market demand drives a powerful market mechanism that raises the already high degree of monocentrism. However, according to Bertaud (2004, 2018), convenient access to central areas guarantees the high efficiency of the monocentric urban structure. "Burdening" the city centre with urban functions creates jobs, improves the performance of the labour market, and raises the level of commercial and cultural activities. Therefore, the growing intensity of development in central urban areas may contradict the interests of already established residents, but it serves the interests of newcomers and all other citizens. Therefore, market demand properly reflects the public interest. This observation supports the conclusion that when the market mechanism is not distorted, planners should "learn" from the action of the market.

The assessment of the issues faced in Sofia's suburban territories leads to opposing conclusions. While accelerated market-driven growth is evident in the southern suburban areas in the attractive scenic foothills of Vitosha Mountain, growth is much slower (if at all) in the agricultural suburban areas to the north. This imbalance does not in itself jeopardize the public interest, except in one critical respect – the loss of land designated for greenery. As this too is a result of market demand, we should analyse the interests of social groups involved in the market process (Slaev and Collier, 2018). Private landowners form an important group. Their interest is to develop their properties to earn high revenues. Considering next the developers, we have already explained that their interests are determined by the interests of the buyers – new settlers in the suburban areas. According to Hirt (2007a, 2007b), the new settlers in the southern suburban areas are mainly well-off and well-educated city residents. Due to the high market pressure, development densities have grown and become medium (not low, as predicted by the GUDP). In principle, such densities are not harmful to the city. But the loss of open spaces, no doubt, harms the interests of all Sofia's residents. This situation is a typical case of market failure, due to the inability of the market to supply sufficient public goods, such as open and green spaces. Planners thus face a major challenge – how can they adjust the functioning of the market? In the absence of sufficient funding, how can the municipality protect the public interest and preserve the "green lungs" of Sofia? As the municipality has purchased less than 1% of the land needed for the construction of public parks, evidently, the 2007 GUDP has failed to provide an effective solution to this problem. Some possible solutions are discussed in the next subsection.

What tools should planners use to coordinate planning with the market or regulate the action of the market when needed?

The development of Sofia under the 2007 GUDP is a good example of how the lack of efficient financial and market-based instruments hinders coordination between planning and the market, thus distorting urban processes. Three types of taxes are the primary funding sources for the development of Bulgarian cities: real estate tax, vehicle tax and property transfer (property acquisition) tax. The three taxes make a similar contribution to the funding of urban development – i.e., each tax funds about 1/3 of the development costs (Sofia Metropolitan Municipality, 2021). As stressed in the theoretical section, to perform their role effectively, fees and taxes must be properly defined: they should restrict harmful urban activities and stimulate/fund (the most) beneficial functions. Furthermore, fees and taxes should be collected from the actual users. For example, the real estate tax and vehicle tax are collected from property and vehicle owners on an annual basis. Thus, these two taxes are appropriate tools for funding the maintenance

of transport and social infrastructure (schools and kindergartens); however, the funding raised by these taxes is insufficient to finance the development of important urban functions, such as green infrastructure. In Bulgaria, like in other post-socialist countries (e.g., Romania and Lithuania), the real estate tax is less than 1/10 of the level in Western Europe (Taxation and Customs Union, 2021). Another major problem relates to the property transfer tax, which is used to fund urban development, despite this tax having little to do with urban development. This tax is collected at each property transaction, although only the first sale of a property (e.g., house or apartment) can be linked to an act of urban development. Newly built property items require infrastructure and for them the tax is reasonable, but when that property is sold for a second, third or fourth time, this does not represent an act of urban development, and then the tax on the transaction is irrelevant and distorts the market system.

While in the above case the local government collects taxpayers' money for an irrelevant purpose, another major problem arises when the relevant taxes and fees are insufficient to raise funding for infrastructure development. The problem is particularly challenging when land is being urbanised, that is, being converted to building land. In Bulgaria, the fee for land conversion is only 0.5-0.8% of the land's market value, paid as compensation for the loss of agricultural land to the Ministry of Agriculture (2012). In Sofia (and in Bulgaria in general) urbanisation fees for infrastructure development are not charged. In the municipal ordinances, fees related to the urban environment are exclusively fines, providing a negligible share of the finance for urban development. The only fee directly relating to urban development is the building permit fee, but its value is also negligible. While the current market prices of building land in Sofia's attractive suburban areas vary from 200-300 and 600-800 €/sq. m, depending on the permitted density/intensity of construction (Imot.bg, 2022), the building permit fee in suburban areas is 1.5-2.5 €/sq. m. In central city areas, the price of land may be as high as 1500 €/sq. m and even higher, but the fee is only 7 €/sq. m. In contrast, in Western Europe, the fees for urbanisation and building permits are many times higher. In Rome, for instance, urbanisation fees amount to 61 to 94 €/cub. m, i.e., 180-280 €/sq. m (Roma Capitale, 2017).

Another fundamental problem is that none of the fees relating to urban development, construction or building design (including the building permit fee) are linked to the provisions of the master plan, despite the plan defining the development of infrastructure and funding needed for this purpose. The lack of such a relationship is evident from the comparison in Figure 1. It means that the GUDP has deployed only command-and-control measures to steer urban development in the desired directions, while economic instruments, such as fees and taxes, have been ignored as a means to achieve the plan's objectives. That is, on the one hand, the GUDP is not providing incentives for the participants in urban development (residents, households and businesses) to follow the directives of the plan, while, on the other hand, substantial sources of funding for implementing the plan have been missed. We maintain that funding raised through the collection of fees could be crucial for the provision of green areas.

Undoubtedly, low development fees stimulate private initiatives, but the fees must be sufficient to provide funding for infrastructure development (Aghion *et al*., 2016). Taking Rome once again as an example, urbanisation fees in that city are directly linked to infrastructure costs – for streets, landscaping, and social infrastructure (e.g., schools). In Sofia, in contrast, funding is lacking, because of the low development fees. As already noted, in the 2007 GUDP, parks occupy almost 3800 ha, of which about 2000 ha is land that Sofia Municipality should buy from private owners. According to the municipal planning company Sofiaplan (Georgiev, 2021), the value of private land needed for green development is about €2 billion, at the lowest estimate. Due to the lack of finance, 14 years after the adoption of the GUDP, the municipality has expropriated only 0.06% of the needed land. Despite planners' scepticism of the market mechanism, they must employ financial and/or market-based and value capture tools to serve the public interest through the market mechanism, as suggested below.

Issues and opportunities related to employing financial or market-based tools for Sofia's development

To emphasise the need for financial and market-oriented tools, we should start with taxes and fees. Generally, collecting high fees and taxes slows down economic growth, but this is a complex issue (Chauvet and Ferry, 2021). To define the proper level of taxes and fees, the relevant criterion is the value of the public resource: fees and taxes higher than the value of the resource create deadweight loss and distort the market (Fischel, 1985; Needham, 2000). However, so do fees and taxes lower than the resource value – underpaid resources are undersupplied (Aghion *et al*., 2016; Chauvet and Ferry, 2021), and all related economic and urban activities suffer. This is precisely the problem with road, social, and green infrastructure in Sofia's suburban areas. The urbanisation of new territories, for instance, generally occurs through the conversion of agricultural into urban land. In agricultural areas rural roads occupy 2-3% of the territory. Urbanisation requires a significant increase in public land – for transport, schools, theatres, other public facilities, as well as parks and street greenery infrastructure. According to Bulgarian law, to provide the necessary public land, up to 25% of private property can be expropriated in the process of urbanisation without compensation. When more land is needed for public uses, owners must be paid at the market price. In Bulgaria, however, municipalities lack funding and seek to expropriate land at the lowest possible prices. Respectively, private owners oppose the expropriation of more than 10-15% of their land and file lawsuits. Thus, municipalities can satisfy only the most urgent needs for public land – for streets with a minimum width, while land for public parks is particularly scarce.

In such situations, planners should consider not only local taxes and fees, but also the use of various market-based instruments (MBIs) and value capture (VC) tools for the implementation of planning measures that lack funding. Because any VC tool has advantages, disadvantages and specific context requirements, different MBIs and VC tools

a) Sofia's 2007 GUDP (Source: Sofiaplan (public document))

Legend:

- Central areas
- Housing areas
- Public areas
- Green areas
- Industrial areas

b) Urban zones defining the building permit fees (Source: Sofia Metropolitan Municipality (public document))

Legend:

- Zone 1 - 14 lv./sq. m
- Zone 2 - 12 lv./sq. m
- Zone 3-10 lv./sq. m
- Zone 4 - 8 lv./sq. m
- Zone 5 - 6 lv./sq. m

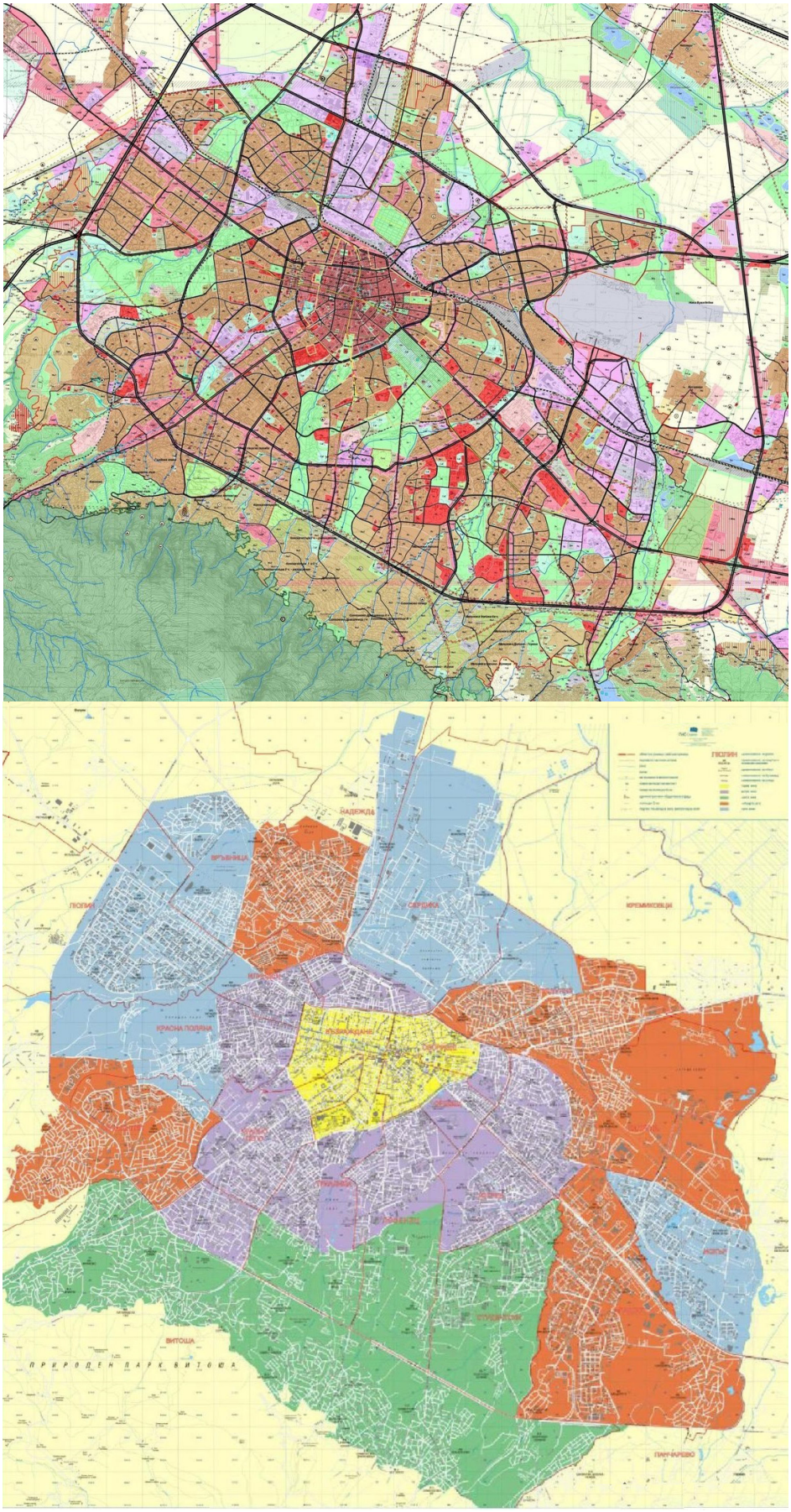

Figure 1. Comparison between the GUDP and the structure of the zones determining the level of the development fees (Source: Sofiaplan (public document) and Sofia Metropolitan Municipality (public document))

will be relevant in different situations and for different purposes. Consider first density/floor space bonuses, also termed FAR (Floor Area Ratio) bonuses. In many countries, this tool is used in various situations, probably because of its essential advantage – it is a tool consuming virtually no financial resources. In addition, through this tool, various benefits can be provided to the community or specific social groups. While it does not consume public funding, it provides to landowners "in kind" benefits that may be of very high value. For example, if an owner has a lot in one of Sofia's suburban areas with the permitted intensity of FAR = 0.6, the municipality may offer him/her an increase in the intensity of FAR = 0.8 (i.e., a FAR bonus of 0.2) provided that the owner donates an extra 10% of his/her land for public use. Thus, the value of the building rights of this owner will increase, and extra area for street landscaping will be provided "for free". Similar market-based levers could also be used to provide social housing or public amenities.

However, while FAR bonuses may help provide wider streets with landscaping, it is impossible to provide large plots of land for public parks through this tool. Obviously, a relevant tool for the provision of large plots is land assembly/land readjustments. In Sofia's southern suburban areas, plots of 0.1 to 0.3 ha prevail and very few plots exceed 1.0 or 1.5 ha. In view of this relatively small existing scale of ownership, land consolidation is necessary. Still, the main problem is the form of ownership. In the master plan, all parks are public and, therefore, the municipality should still find a way to expropriate all private lands. As already stressed, expropriation is an expensive tool that the municipality cannot afford, because of the lack of funding. However, there are several other instruments for "in kind" payments to compensate the owners, apart from the already considered FAR bonuses. These are tools such as land swaps or the developer's contribution to public infrastructure development, or land transfers in leu of charges. All these can be viewed as forms of in-kind compensation – the provision of land or air rights instead of money transfers.

Another efficient instrument is the Transferable Development Rights (TDR) tool. This tool is used to "transfer" building rights from an area where development should be restricted (e.g., environmentally sensitive zones, which we term here "Type 1") to areas where high densities are acceptable (termed here "Type 2"). To employ the TDR tool for the protection of open and green spaces in suburban areas, the municipality may determine a reasonable "universal" basic development density/intensity standard in suburban territories – e.g., FAR = 0.6. Then, the municipality can prohibit new development or enforce minimal densities in the "Type 1" zones and allow high densities in "Type 2". In the "Type 2" zones, developers will be able to make extra payments for extra building rights to "gain" a FAR higher than the "universal" standard. Respectively, the funding raised from the extra payments will be used to pay compensation to the owners in "Type 1" zones for the "lost" building rights. In other words, the provision of open and green spaces in the "Type 1" areas will be financed at the expense of extra development in the "Type 2" areas.

CONCLUSION

This study aimed to draw useful conclusions for urban planners in (but not only in) post-socialist countries on the need and the possibilities with regard to coordinating planning and the market. The research findings were illustrated by key aspects of the development of Sofia during the implementation of the 2007 GUDP. The study highlights two key approaches of planning that promote its effectiveness in contemporary market societies. First is the approach aimed at reconciling the main planning goals with market demand. Urban planners must be able to assess when the differences between planning goals and market demand are due to market failures. If no significant market failures are observed, the differences may be due to an improper definition of the public interest. In this case, urban planners should have more trust in the market mechanism and study market demand in depth. Alternatively, if market deficiencies are encountered, again an in-depth market analysis will allow urban planners to find the right approach to balancing the interests of different social groups. To this end, financial and market-based instruments are the most useful tools of planning. The use of such tools is the second planning approach that is key in market conditions.

Most urban planners believe that setting local fees and taxes is not their job, but rather a job for economists. Nevertheless, planners must assume key responsibility in this activity because they are best informed about the many implications of each urban function and all kinds of externalities and indirect public costs. Planners should be fully capable of setting local fees, taxes and market-based levers, because these are the most powerful tools of urban planning. Local fees and taxes and other market-based instruments are characterized by important advantages, which:

- provide essential means for realisation of urban activities. Without funding, activities would not be possible – for example, the development of a city's green system;
- regulate and, when necessary, restrict activities that hamper beneficial urban processes;
- give high predictability and certainty of the response of the participants in the urban development;
- secure various positive impacts at an acceptable price – for example, reducing water pollution through market incentives can be many times cheaper to the local authorities than building water-treatment facilities; and
- guarantee high effectiveness and efficiency – because they change the motivation of the participants in urban development but are relatively inexpensive as a tool.

Due to these important advantages of financial and market-based instruments, further research on their application in Eastern European cities is urgently needed.

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REFERENCES

Adams, D., Tiesdell, S. (2010). Planners as Market Actors: Rethinking State–Market Relations in Land and Property, *Planning Theory and Practice,* Vol. 11, No. 2, pp. 187–207. https://doi.org/10.1080/14649351003759631

Aghion, P., Akcigit, U., Cage, J., Kerr, W. R. (2016). Taxation, corruption, and growth, *European Economic Review,* Vol. 86, pp. 24-51. https://doi.org/10.1016/j.euroecorev.2016.01.012

Alexander, E. R. (2002). The Public Interest in Planning: From Legitimation to Substantive Plan Evaluation, *Planning Theory,* Vol. 1, No. 3, pp. 226-249. https://journals.sagepub.com/doi/10.1177/147309520200100303

Alexander, E. R. (2008). Between State and Market: A Third Way of Planning, *International Planning Studies,* Vol. 13, No. 2, pp. 119-132. https://doi.org/10.1080/13563470802291994

Alexander, E. R. (2012). Institutional Design for Value Capture and a Case: The Tel-Aviv Metropolitan Park, *International Planning Studies,* Vol. 17, No. 2, pp. 163-177. https://doi.org/10.1080/13563475.2012.673738

Alfasi, N., Portugali, J. (2007). Planning rules for a self-planned city, *Planning Theory,* Vol. 6, No. 2, pp. 164–182. https://journals.sagepub.com/doi/10.1177/1473095207077587

Anderson, R. J., Hirt, S., Slaev, A. D. (2012). Planning in market conditions: the performance of Bulgarian tourism planning during post-socialist transformation, *Journal of Architectural and Planning Research,* Vol. 29, No. 4, pp. 318-334.

Asparuhov, S. (2020). *Contemporary Features of the Industrial Architecture in Agricultural Areas*. Sofia: ATL-50.

Bajić, T., Petrić, J., Nikolić, T. (2016). Fuel poverty and perception on housing and environmental quality in Belgrade's informal settlement Kaluđerica, *Spatium,* No. 35, pp. 1-9. https://doi.org/10.2298/SPAT1635001B

Bakardjieva, T., Gradinarova, B. (2004). Application of Software Agents in Information retrieval in Virtual Learning System in Bulgaria, *Advances in Information and Communication Technology,* Vol. 145, pp. 178-181.

Bakardjieva, T., Gercheva, G. (2011). Knowledge Management and e-Learning – An Agent-Based Approach, *International Journal of Humanities and Social Sciences,* Vol. 5, No. 4, pp. 360-363.

Balaban, O. (2012). The negative effects of construction boom on urban planning and environment in Turkey: Unraveling the role of the public sector, *Habitat International* Vol. 36, No. 1, pp. 26-35. https://doi.org/10.1016/j.habitatint.2011.05.003

Bengtsson, M., Kock, S. (1999). Cooperation and competition in relationships between competitors in business networks, *Journal of Business & Industrial Marketing,* Vol. 14, No. 3, pp. 178-194. https://doi.org/10.1108/08858629910272184

Bertaud, A. (2004). *The Spatial Organization of Cities: Deliberate Outcome or Unforeseen Consequence?*. Working Paper 2004-01. Berkeley: Institute of Urban and Regional Development, University of California, Berkeley.

Bertaud, A. (2018). *Order without Design. How Markets Shape Cities*. Cambridge: MIT press.

Chauvet, L., Ferry, M. (2021). Taxation, infrastructure, and firm performance in developing countries. *Public Choice*, Vol. 187, pp. 455–480.

Cozzolino, S. (2020). The (anti) adaptive neighbourhoods. Embracing complexity and distribution of design control in the ordinary built environment, *Environment and Planning B: Urban Analytics and City Science,* Vol. 47, No. 2, pp. 203-219. https://doi.org/10.1177/2399808319857451

Čolić, R., Milić, Đ., Petrić, J., and Čolić, N. (2022). Institutional capacity development within the national urban policy formation process – Participants' views, *Environment and Planning C: Politics and Space,* Vol. 40, No. 1, pp. 69-89. https://doi.org/10.1177/23996544211002188

Daskalova, D, Slaev, A. D. (2015). Diversity in the suburbs: Socio-spatial segregation and mix in post-socialist Sofia, *Habitat International,* Vol. 50, pp. 42-50. https://doi.org/10.1016/j.habitatint.2015.07.007

Davchev, O. (2013). Ot nacionalna identichnost do generativna arhitektura (in Bulgarian), *Arhitektura,* No. 2/2013, pp. 12-15.

Davcheva, M. (2015). *Alternativni reshenia na savremennite targovski centrove* (in Bulgarian). Sofia: BAN, Institut za izsledvane na izkustvata.

Fischel, W. A. (1985). *The Economics of Zoning Law: A Property Rights Approach to American Land Use Control*. Baltimore: The Johns Hopkins University Press.

Georgiev, L. (2021). Izchezvaneto na parkovete (in Bulgarian), *Capital* [online]. https://www.capital.bg/politika_i_ikonomika/gradove/2021/05/07/4206806_izchezvaneto_na_parkovete/?utm_campaign=parvonachalen [Accessed: 14 Oct 2021].

Georgieva, S. (2015). Detski zavedenia i zhiznena sreda – integracionni procesi (in Bulgarian). *Proceedings of the Sixth Scientific Conference on Spatial Planning – Problems and perspectives*. Sofia: UACEG Publishing House.

Georgieva, S. (2016). Tendencii v izgrazhdaneto na detski zavedenia (in Bulgarian). *Yearbook of UACEG, Sofia, Arhitektura i gradoustroystvo*, Vol. XLIX, pp. 83-91.

Hirt, S. (2007a). Suburbanizing Sofia: characteristics of post-socialist peri-urban change, *Urban Geography*, Vol. 8, No. 8, pp. 755–780. https://doi.org/10.2747/0272-3638.28.8.755

Hirt, S. (2007b). The Compact versus the Dispersed City: History of Planning Ideas on Sofia's Urban Form, *Journal of Planning History,* Vol. 6, No. 2, pp. 138-165. https://doi.org/10.1177/1538513206301327

Huxley, J. (2009). *Value capture finance. Making urban development pay its way*. London: Urban Land Institute.

Imot.bg (2022). *Sredni ceni na prodazhba na imoti v gr. Sofia*(in Bulgarian). Sofia: Imot.bg [online]. https://www.imot.bg/pcgi/imot.cgi? [Accessed: 15 Jan 2022].

Ivanov, V. (2018). *Socialna infrastruktura* (in Bulgarian). Sofia: UACEG Publishing House.

Kovachev, A., Slaev, A. D., Zeković, S., Maričić, T., Daskalova, D. (2017). The Changing Roles of Planning and the Market in the Processes of Urban Growth in Belgrade and Sofia, *Spatium,* No. 37, pp. 34-41. https://doi.org/10.2298/SPAT1737034K

Lai, L. W. C. (2005). Neo-institutional Economics and Planning Theory, *Planning Theory,* Vol. 4, No. 1, pp. 7-19. https://doi.org/10.1177/1473095205051437

Ministry of Agriculture (2012). *Tarifa na taksite, koito se zaplashtat pri promyana na prednaznachenieto na*

zemedelskite zemi. 2002, last amended 2012 (in Bulgarian). [online].https://www.mzh.government.bg/media/filer_public/2018/02/27/tarifa_za_taksite_koito_se_zaplashchat_pri_promiana_na_prednaznachenieto_na_zemedelskite_zemi.pdf [Accessed: 14 Oct 2021].

Moroni, S. (2004). Towards a reconstruction of the public interest criterion, *Planning Theory,* Vol. 3, No. 2, pp. 151-171. https://doi.org/10.1177/1473095204044779

Moroni, S. (2010). Rethinking the theory and practice of land-use regulation: Towards nomocracy, *Planning Theory,* Vol. 9, No. 2, pp. 137-155. https://doi.org/10.1177/1473095209357868

Moroni, S., Rauws, W., Cozzolino, S. (2019). Forms of self-organization: Urban complexity and planning implications, *Environment and Planning B: Urban Analytics and City Science*, Vol. 47, No. 2, pp. 220-234. https://doi.org/10.1177/2399808319857721

National Statistical Institute (2012). *Census 2012*, Volume 3, Book 23. Sofia: NSI.

National Statistical Institute (2022). *Naselenie i demografski procesi prez 2019 godina* (in Bulgarian). Sofia: National Statistical Institute [online]. https://www.nsi.bg/sites/default/files/files/pressreleases/Population2019_XE8MEZL.pdf [Accessed: 22 Sep 2021].

Needham, B. (2000). Land taxation, development charges, and the effects on land-use, *Journal of Property Research,* Vol. 17, No. 3, pp. 241-257. https://doi.org/10.1080/09599910050120000

Nozharova, B., Nikolov, P. (2019). Existing policy framework to support the active mobility in Bulgaria. Strategies and regulations in Varna, *Facta Universitatis, Architecture and Civil Engineering,* Vol. 17, No. 3, pp. 159-171. https://doi.org/10.2298/FUACE190320009N

Peterson, G. E. (2009). *Unlocking Land Values to Finance Urban Infrastructure. Trends and Policy Options,* Vol. 7. Washington, DC: World Bank.

Petrić, J. (2017). Neighbourhood Attachment in Central and Peripheral Areas of Belgrade: Evidence from Stari grad and Kaluđerica, *Annals for Istrian and Mediterranean Studies, Series Historia et Sociologia,* Vol. 27, No. 2, pp. 295-308. https://doi.org/10.19233/ASHS.2017.20

Roma Capitale (Rome Capital City) (2017) *Circolare esplicativa: Determinazione del contributo di costruzione: Interventi di "NE", "DR", "AMP" e "RE"*. Roma Capitale [online]. http://www.urbanistica.comune.roma.it/images/dipartimento/atti/circolari/circcoco.pdf [Accessed: 17 Jan 2021].

Slaev, A. D., Collier, M. (2018). Managing natural resources: Coasean bargaining versus Ostromian rules of common governance. *Environmental Science and Policy*, Vol. 85, pp. 47-53. https://doi.org/10.1016/j.envsci.2018.03.017

Slaev, A. D., Kovachev, A. (2014). Specific Issues of Urban Sprawl in Bulgaria. *Journal of European Spatial Research & Policy,* Vol. 21, No. 2, pp. 155-169. https://doi.org/10.1515/esrp-2015-0010

Slaev, A. D., Kovachev, A., Nozharova, B., Daskalova, D., Nikolov, P., Petrov, P. (2019). Overcoming the failures of citizen participation: The relevance of the liberal approach in planning, *Planning Theory,* Vol. 18, No. 4, pp. 448-469. https://doi.org/10.1177/1473095219848472

Slaev, A. D., Nedović-Budić, Z. (2017). The Challenges of Implementing Sustainable Development: The Case of Sofia's Master Plan, *Sustainability,* 9 (1), 15. https://doi.org/10.3390/su9010015

Slaev, A. D., Nedović-Budić, Z., Krunić, N., Petrić, J., Daskalova, D. (2018). Suburbanization and sprawl in post-socialist Belgrade and Sofia, *European Planning Studies*, Vol. 26, No. 7, pp. 1389-1412. https://doi.org/10.1080/09654313.2018.1465530

Sofia Metropolitan Municipality (2021). *Otchet za izpalnenie na byudzeta na Stolichna obshtina – Prihodi* (in Bulgarian). Sofia: Metropolitan Municipality [online]. https://www.sofia.bg/2020-financial-year [Accessed: 15 Jan 2021].

Taxation and Customs Union, EC (2021). Data on Taxation. Brussels: European Commission [online]. https://ec.europa.eu/taxation_customs/taxation-1/economic-analysis-taxation/data-taxation_en [Accessed: 16 Jan 2021].

Taylor, N. (1998). *Urban planning theory since 1945*. London: SAGE.

Vujošević, M., Zeković, S., Maričić, T. (2012). Post-socialist transition in Serbia and its unsustainable path, *European Planning Studies,* Vol. 20, No. 10, pp. 1707-1727. https://doi.org/10.1080/09654313.2012.713330

Yanev, S. (2019). *Grazhdanski organizacii nastoyavat prezastroyavaneto v Sofia da spre* (in Bulgarian). Sofia: News.bg [online]. https://news.bg/society/grazhdanski-organizatsii-nastoyavat-prezastroyavaneto-v-sofiya-da-spre.html [Accessed: 16 Jan 2021].

Zeković, S., Vujošević, M., Maričić T. (2015). Spatial regularization, planning instruments and urban land market in a post-socialist society: the case of Belgrade, *Habitat International*, Vol. 48, pp. 65-78. https://doi.org/10.1016/j.habitatint.2015.03.010

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