LEGISLAÇÃO TERRITORIAL E REFORÇO DAS FINANÇAS LOCAIS COMO SUPORTE À FIXAÇÃO DAS FAMÍLIAS A NÍVEL REGIONAL

TERRITORIAL LEGISLATION AND MUNICIPAL FINANCE STRENGTHENING TO SUPPORT FAMILTY SETTLEMENT AT THE REGIONAL LEVEL

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RESUMO

A reformulação da legislação territorial é uma importante área de intervenção no sentido de promover a fixação das famílias e a sua consequente integração a nível regional.

Considerando a revisão actualmente a decorrer da Lei de Bases da Política de Ordenamento do Território e Urbanismo - articulada com as revisões do Regime Jurídico dos Instrumentos de Gestão Territorial, do Regime Jurídico da Urbanização e Edificação, dos Planos Diretores Municipais e respectiva regulamentação, de outra legislação territorial, e da Nova Lei Cadastral - neste artigo apresentam-se os pressupostos, metodologia, resultados e conclusões de um trabalho de investigação centrado na proposta de reformulação da Taxa Municipal de Urbanização aplicada, como estudo de caso, ao Município de Bragança. Considerando o atual quadro de crise que afeta fortemente as finanças municipais, o trabalho de investigação relatado neste artigo procura contribuir para dotar os municípios de instrumentos eficazes de financiamento, que lhes permitam defender de uma forma auto-sustentada os interesses das suas populações, nomeadamente no que se refere à necessidade de assegurar elevada qualidade de vida às famílias e, assim, contribuir para o desenvolvimento das próprias economias regionais.

Nas conclusões e recomendações realça-se a importância desta nova abordagem aqui proposta da Taxa Municipal de Urbanização no sentido de clarificar as origens e as aplicações de fundos destinados à urbanização; quantificar os valores a cobrar aos promotores/construtores, de acordo com os benefícios que retiram dos serviços de infraestruturação prestados pelos Municípios; e garantir uma maior justiça e equidade na distribuição de benefícios e custos resultantes da urbanização entre a população de cada Município e entre as populações de diferentes Municípios. Esta maior justiça e equidade, juntamente com o aumento proposto da sustentabilidade económica e financeira dos municípios será, certamente, um contributo importante para a fixação das populações a nível regional e, consequentemente, para uma melhor consolidação do desenvolvimento regional

Palavras-chave: *custos e benefícios da urbanização; sustentabilidade económico-financeira dos municípios; Taxa Municipal de Urbanização*

ABSTRACT

The territorial legislation is an outstanding intervention field in order to promote family regional settlement and integration, as a necessary condition to trigger a sustainable regional development.

Considering the revision of the Land, Territorial Ordinance and Urbanism Act, currently under way in Portugal – linked together with the revision of the Juridical Regime of Territorial Management Instruments, the Juridical Regime of Urbanization and Edification, municipal master plans and respective regulations, other legislation that falls on territory, and the new Cadastral Law -, this article presents the assumptions, methodology, outcomes and conclusions of a research work focused on a proposal to reformulate the municipal development charges applied, as a case study, to the municipality of Bragança (Portugal). As the current crisis framework strongly impacts on municipal finance, this research aims at contributing to endow municipalities with financing-efficient instruments, thus reinforcing their ability to fight for the interests of their populations in a sustained way, namely in what concerns the provision of high standards of family life quality, thus contributing to the proper development of regional economies.

This new assessment of municipal development charges is stressed in the conclusions and recommendations. It indeed contributes to clear up the origins and applications of funds aimed at development activities; to quantify the values charged to developers/promoters/builders, according to the benefits they extract from public infrastructure services; and assure an increased fairness and equity in the distribution of development costs and benefits among the population within a certain municipality, and among different municipalities.

This increased fairness and equity, together with the proposed reinforcement of municipal economic and financial sustainability will, certainly, be decisive for family settlement at the regional level and, therefore, for a better consolidation of the regional development.

Keywords: development costs and benefits; municipal development charges; municipal economic and financial sustainability keywords

1. INTRODUCTION

The reform currently taking place in the Portuguese territorial legislation recognises the importance of urban development and building within municipal activities, and the need to foster them as driving forces. It recognises the current crisis framework that strongly shapes municipal finances, and expresses the concern to provide municipalities with instruments that enable them to defend the interest of their population in a sustainable way.

The research reported in this article proposes the reformulation of a specific indirect value capture instrument – Municipal Development Charges - that endow municipalities with additional funds required to support infrastructure costs, providing for the municipal economic and financial sustainability, and for a transparent and equitable distribution of costs and benefits that accrue from planning decisions. It is herein suggested its inclusion in the general legislation applicable to the whole territory - applicable upstream the municipal legislation, despite the revenues of these charges should still be allocated for respective municipality, - as well as its standardization in order to fit all municipalities. This way, it will be possible to alleviate the inter-territorial differences, devoting a more balanced treatment to all citizens, regardless of the place where urban development operations take place. It is applied, as a case study, to the municipality of Bragança.

2. THEORETICAL FRAMEWORK

Private land and property may increase their values as a result of owners´ improvements, the original land productivity, or broad changes such as population or local economic growth (Gregory and Hong, 2012, Hong and Brubaker, 2010, Walters, 2012). But these land value increases are mainly due to positive externalities that result from public infrastructure investments, provision of public services and/or land planning and regulation (Alterman 2011; Walters, 2012). As public investment in urban infrastructure improve people´s access to desired destinations, sites near those investments sharply rise their market values ("surplus-values"), what mainly benefits land owners and real estate promoters (Alterman, 2011).

A wide scientific literature has studied the impact of public investments and public land use management decisions on neighbour private land values (Ayougu, 2007; Bhatta and Drennan, 2003; Bhatta and Merriman, 2003; Canning and Pedroni, 2008; Carrol, 2008; Haughwout, 2002; Mikelbank, 2004; Moreno and Lopez-Bazo, 2007; Siethoff and Kockelman, 2002; Walters, 2012; Weber, Taylor and Brown, 2006). Special attention has been paid to the

influence exerted on those values by transportation infrastructure (Smith and Gihring, 2006; Vadali, 2008; Walters, 2012).

Many authors argue for Land Value Capture (LVC), which means that at least part of this increase in land value that stems from public decisions and not from owners´ efforts ("unearned increments") – should be recaptured and used to pursue public goals, including infrastructure funding and public services improvement (Alterman, 2011; Brown and Smolka, 1997; Rebelo, 2014b, 2014c Walters, 2012). They further notice that land-based taxes can afford most public infrastructure improvements, these taxes are economically efficient and they tend to lower land prices and reduce speculation (Gregory et al., 2009; Rebelo, 2014a; Walters, 2012).

Land value capture policies split into three general kinds of instruments, two of fiscal nature (taxes and contributions to be paid by the landowner) and a regulatory one (the land unearned increments resulting from urban regulation changes or public investments should be recovered by the public sector through money or in kind) (Gregory and Hong, 2012; Smolka and Amborski, 2003).

Within the most specific instruments for land value capture (Rebelo, 2014a), the indirect ones aim at capturing all or part of the unearned increment, thus engendering funding focused on the provision of specific public services (mainly urban infrastructure), thus joining together investment´s benefits and costs (Alterman, 2011; Nichols, 2012).

The current economic, financial and fiscal crisis has triggered the interest of local finance experts (especially in the United States of America and in some European countries) in innovative strategies such as land value capture, mainly due to the decrease in traditional income sources, on the one hand, and to the need to complement them through new funding of local infrastructure, on the other (Gregory and Hong, 2012; Ingram and Hong, 2007; Ko and Rosenblatt, 2013). Land value capture is, thus, a source of income that is efficient (because infrastructures´ recipients must support part of investment costs), and fair (because the increase in land value will be used to fund general communities´ interests) (Gregory and Hong, 2012; Ko and Rosenblatt, 2013).

The taxation of unearned increments is effective in different countries where, along time and for different reasons, many instruments have been developed and implemented leading to various results at different levels of success (Gregory and Hong, 2012; Smolka and Amborski, 2003). Those instruments have been largely applied in Latina America countries, as well as in

the United States of América (Daniels, Daniels and Lapping, 1986; Gihring, 1999), in Canada (Alshuler & Gómez-Ibañez, 1993; Amborski, 1988; Smolka and Amborski, 2003); Taiwan (Lam and Tsui, 1998); Hong Kong; Singapura (Hui, Ho, and Ho, 2004); and United Kingdom (Booth, 2003; Walters, 2012).

The success of land value capture strictly depends on its appropriate design (targeted to the recovery of specific investment costs), its near allocation to a specific project (what generally gathers public approval), and the application of the collected money according to a previously delineated plan (the amount of the tax should nearly equal the costs of infrastructure it is supposed to fund) (Walters, 2012).

3. METHODOLOGY

3.1. Proposal to reformulate the municipal development charges

The reformulated municipal development charges presented in this article founds on the municipal charges for urban infrastructures´ execution, maintenance and reinforcement proposed by the Municipality of Lisbon (Câmara Municipal de Lisboa, 2012). Its main goals consist in standardizing the computation formula of these charges, and spread its application throughout the whole national territory, in order to assure a better territorial equity among all the regions and citizens.

The values of the reformulated municipal development charges are given by the product between the gross built surface (expressed in m^2) (or increase in this surface), the coefficient C (that distinguishes development interventions according to location[1]), and the average cost/m^2 with urban infrastructures´ execution, maintenance and reinforcement. Thus the surfaces correspondent to the different types of land uses (within the categories of developed and developing land) are first pinpointed in the Municipal Master Plan and complementary applicable documents. Occupation and use indexes defined in the regulation of the Municipal Master Plan are, then, applied to these surfaces in order to point out respective maximum building capability. This capability represents the gross built surface (expressed in m^2) licensed by the regulation of the applicable Municipal Master Plan. Each type of developed or developing land accounts for a share of coefficient C, given by the product between respective percentage surface in relation to the total surface within the land category the building capability refers to. The final value of coefficient C for developed and developing land is,

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[1] This coefficient for housing, tourism, urban facilities, tertiary, industry and logistic uses in the Municipality of Lisbon (C$_3$), amounts to 3.0 in consolidating spaces, and to 4.0 in consolidated ones.

thus, the sum of the shares assigned to the different types of land within respective land category.

This methodology is complemented with the analysis of the values of these reformulated charges, and its comparison with the values of the charges currently levied, for different scenarios of alternative urban development operations. This assessment shows how the presented proposals are sustainable for the municipality under study.

3.2. Methodology to compute and render operational the reformulated Municipal Development Charges

The methodology pursued in this article – applied to the Municipality of Bragança – consists in the following succession of steps: (i) computation of the present average annual value of Municipal Development Charges per m^2 of gross built surface; (ii) computation of the average cost per m^2 required by infrastructures´ execution, maintenance and reinforcement; (iii) computation of the predictable value of the reformulated Municipal Development Charges per m^2 of gross built surface, what includes the identification of the values of coefficient C applicable to the developed land and to the land which development may be programmed (according to both categories of land assigned to urban uses proposed in the Municipal Master Plan that correspond, respectively, to consolidated spaces and spaces aimed at consolidation); and (iv) comparative analysis – for different scenarios of alternative urban development operations – between the values of the reformulated municipal development charges applicable to developed land and to land which development may be programmed, and the homologous values of the currently enforced municipal development charges, pointing out the main differences.

In order to prevent fluctuations depending on the situation (very specific temporal-focused investments), these values were computed as the annual average of four years (the latest four years provided with available data from the Portuguese National Statistics Institute and from municipal sources).

The formulae used for the computation of the current and reformulated municipal development charges were applied to the municipality of Bragança, in order to find out respective values per m^2 of licensed gross built surface. These formulae were afterwards applied to urban development operations that fit concrete division into lots and building typologies (Leitão, 2011), so to find out the total amount of the corresponding charges. Within each of these are considered, by its turn, the typologies of single-family dwellings,

multifamily dwellings, and multifamily dwellings with trade and services (that reflect different kinds of uses). Specifically, the studied typologies and respective gross built surfaces (see Leitão, 2011) were the following ones (Table 1):

Table 1: Typologies of urban operations

Typologies / Gross surfaces	Construction		Division into lots	
	Housing	Trade and services	Housing	Trade and services
Single-family dweelings	210 m^2		2 100 m^2	
Multifamily dwellings	4 200 m^2		12 600 m^2	
Multifamily dwellings with trade and services	3 150 m^2	1 050 m^2	8 400 m^2	4 200 m^2

3.3. Computation of the present annual average value of Municipal Development Charges

According to the Municipal Regulation of Urban Development, Edification and Taxes of the Municipality of Bragança (Câmara Municipal de Bragança, 2002), the municipal development charges are computed according to the following formula:

$$\text{Municipal Development Charges} = AC \times C \times K \tag{1}$$

where:

AC – building or enlargement surface (expressed in m^2);

C – cost of construction or enlargement per square meter of construction or enlargement, according to the values tabulated by the Municipality (in €/m^2);

K – coefficient of infrastructural impact, with the following alternative values: 1.0 if the operation is served by water supply network and sewerage system; 0.5 if the operation isn´t served by any of these infrastructures; and 0 for defined exceptional situations.

This expression to compute the municipal development charges is rather easy, and it uses the same computation parameters commonly adopted in other Portuguese Municipalities (Leitão, 2011). However, it is important to notice that the costs per square meter of construction or enlargement – as a function of the different types of typologies of urban development operations – are worked out by the municipality and are not clear for promoters/builders (as considerations on municipal management costs or values coming from the multiannual plans of investments are not publicly provided). However, it seems that the charges on different types of urban development operations are rather balanced.

3.4. Computation of the average cost with urban infrastructures´ execution, maintenance and reinforcement

For each year under analysis (2009, 2010, 2011 and 2012), the amount of budgeted investments was collected for the following urban infrastructures: streets and road network; drainage systems of domestic, industrial and pluvial residual waters (namely collector networks and wastewater treatment plants); public lighting; public parking (including surface parks, underground parks and multimodal transport terminals); neighbourhood equipment and public spaces. Investments in sewerage and water supply have been considered in all despite only the investments in urban qualification strictly connected to streets were taken into consideration. As far as investments in environment protection and green spaces are concerned, only those reflecting neighbourhood green spaces were contemplated. It is also important to stress that in the reckoning process was used the whole value for the anticipated investments (and not just the part assigned to pre-defined investments), in order to assure that all municipal investment are covered without financing requirements.

The annual cost/m^2 with urban infrastructures´ execution, maintenance and reinforcement was computed, then, by the quotient between the average annual municipal investment in the previously identified items, and the corresponding annual gross built surface, considering the percentage of land assigned to urban uses, stated in the Regional Plan of Territorial Ordinance.

To compute the annual gross built surface (able to effectively support the costs with urban infrastructures´ execution, maintenance and reinforcement), data concerning the total number of finished buildings (new construction, and buildings´ enlargement, changes or reconstruction) was collected from the statistical northern regional yearbooks (INE, 2009, 2010, 2011, 2012). The total liveable surface for urban uses (m^2) was, then, estimated by the product between this number and the average liveable surface per housing building[2]. The latter surface, by its turn, was reckoned through the product among the average number of floors per building, the average number of dwellings per floor, the average number of compartments per dwelling, and the average liveable surface per room (expressed in m^2). The total gross built surface is, thus, approached by the division of the total average liveable surface by 0.65, considering that the liveable surface usually amounts to approximately 65% of the gross surface.

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[2] Supposing that shops, offices or other kinds of services fitted in urban areas take up, on average, surfaces equivalent to dwelling uses

3.5. Computation of the value of the coefficient C for the Municipality of Bragança

The analysis proceeded, then, with the determination of the values of the coefficients C for the reformulated municipal development charges, according to the following methodology: (i) the different types of land assigned to developed spaces within the categories of developed land and land which development may be programmed - defined in the Municipal Master Plan - are first identified (INE, 2012); (ii) for each of these types of foreseen land uses, the maximum building capability/m^2 licensed by the Municipal Master Plan is, then, computed, given by the product between the maximum occupation index and the maximum use index; (iii) for each category of land assigned to urban development, the percentages corresponding to each specific type of use are computed through the quotient between respective anticipated surfaces and the total surface of that land category (according to the report of the Municipal Master Plan); (iv) the contribution of each type of land within each category for the correspondent coefficient C is, thus, computed as the product between this percentage and respective building capability; (v) the sum of these individual contributions extended to all types of land within the categories of developed land and land which development may be programmed leads, finally, to the values of C correspondent to each of these categories.

3.6. Computation of the values of the reformulated municipal development charges, and comparison with the values of the current municipal development charges

The values of the reformulated development charges are reckoned through the product between the value of the licensed gross built surface, the applicable coefficient C and the costs/m^2 with the execution, maintenance and reinforcement of urban infrastructures (previously computed).

At the beginning, the amounts/m^2 of the reformulated municipal development charges were computed and, then, some concrete urban development operations were simulated, in order to find out the total amount of these taxes that should be levied by the municipality (that will return to cover its infrastructures´ costs).

Finally, the values that accrue from the application of the reformulated municipal development charges are compared with their current values for homologous urban development operations, pointing out the identified differences. Then conclusions are drawn concerning both the meaning and feasibility of the adoption of the reformulation herein proposed.

4. CASE STUDY: THE MUNICIPALITY OF BRAGANÇA

4.1. Brief Description of the Municipality of Bragança

The Municipality of Bragança is located in the Portuguese northeast extreme, in its northern region, in Alto Trás-os-Montes sub-region. It covers a surface of 1 173.9 Km^2 (14.4% of the Alto Trás-os-Montes sub-region surface, and 5.5% of the northern region surface) and lodges 35 341 inhabitants (INE, 2011). This Municipality is bordered at north and east by the Spanish regions of Ourense and Zamora, at southeast by the Municipality of Vimioso, at southwest by the Municipality of Macedo de Cavaleiros and at west by the Municipality of Vinhais (wikipedia; Nemus, 2009; Plural, 2009). It is one of the Portuguese biggest administrative districts, as it is made of by forty-nine parishes (Figure 1).

Figure 1: Municipality of Bragança (Source: www.mapadeportugal.net).

The Municipal Master Plan (Diário da República, 2010) is an instrument of territorial planning that, based on the strategy for local development, settles the spatial structure, land classification and qualifications, as well as the parameters for land occupation, and the requirements of urban facilities (Câmara Municipal de Bragança, 2010b).

The goals pursued by this Municipal Master Plan consist in: the promotion of a municipal balanced development considering its territorial diversity, and the evolution that took place during the latter years; its articulation with the applicable higher-order territorial management tools; its easy application and management, as well as its connection with other enforced

plans; its adjustment to the specific features of the Municipality, correcting abnormal situations, and fitting enforced legislation; framing urban uses in rural spaces, respecting growth perspectives, and favouring the filling in the interstitial spaces; standing up for the built heritage in general, and the historic and cultural heritage in particular; betting on forest diversification, regulating their possible uses, as well as the urban occupation of rural and isolated areas; maintaining the environment and the landscape; establishing a normative framework for municipal investments, specifying public municipal and state investments; and restructuring the road network, linking it up with the road and train plans within the proposed ordinance interventions.

The development strategy outlined by this Municipality to achieve these settled goals consubstantiates through: the projection of an innovative image of the city, centred around the ecocity concept, strengthening their potentialities as a regional pole, an international link, and a trade and services centre; the strengthening of the competitiveness and attractiveness of rural areas on population, through the provision of facilities, infrastructures and equipment, and through the requalification of their public spaces; to enhance the natural, cultural and landscape heritage, and to boost the economic appreciation of endogenous potentialities.

The municipal land can be classified into rural and urban land. The latter is recognized potentialities to undergo development and building processes, and it includes within the urban perimeter developed land or land which development may be programmed, and well as land allotted to the urban environmental structure. Within the qualification of urban land, the category of developed land includes developed spaces of types I, II, III, IV, V and VI, spaces for urban equipment, and industrial spaces. The category of land which development can be programmed include, by its turn, the subcategories of developing spaces of types I, II, III, IV and V, spaces for urban equipment, and industrial spaces.

The developed spaces of types I, II, III, IV, V and VI within the category of developed land can be described by their high infrastructure levels and building concentration, being this land mainly assigned to construction. These spaces locate in central areas and other rather homogeneous places, characterized by high building concentration where housing, trade and services functions are prevalent, and they may even contain interstitial spaces. The designations assigned to these spaces correspond to their location within different built-up urban areas, and the applicable building indexes are systematized in Table 2:

Table 2: Building regime in developed spaces by space typology (Source: Diário da República, 2010)

Space typologies	Built-up urban areas	Maximum occupation index (%)	Maximum use index
Developed spaces of Type I	Bragança	60	4
Developed spaces of Type II	Bragança	-	-
Developed spaces of Type III	Izeda	40	0,8
Developed spaces of Type IV	Babe, Baçal, Coelhoso, França, Gimonde, Grijó de Parada, Nogueira/Couto, Outeiro, Parada, Paredes (Parada), Pinela, Quintanilha, Rabal, Rebordãos; Salsas, Santa Comba de Rossas, São Pedro de Sarracenos e Serapicos	40	0,6
Developed spaces of Type V	Alfaião, Aveleda, Calvelhe, Carragosa, Carrazedo, Castrelos, Castro de Avelãs, Deilão, Donai, Espinhosela, Faílde, Formil (Gostei), Freixedelo (Grijó de Parada), Gondesende, Gostei, Macedo do Mato, Meixedo, Milhão, Mós, Oleiros (Gondesende), Paçó (Mós), Paradinha (Outeiro), Paradinha Nova, Parâmio, Pombares, Quinta das Carvas (Bragança - Santa Maria), Quintela Lampaças, Rebordainhos, Rio de Onor, Rio Frio, Sacoias (Baçal), Sanceriz (Macedo do Mato), São Julião, Sarzeda (Rebordãos), Sendas, Sortes, Vale de Nogueira (Salsas), Varge (Aveleda) e Zoio	30	0,5
Developed spaces of Type VI	Remaining built-up areas	30	0,4

According to the definitions set out in this Municipal Master Plan, the land occupation index is given by the quotient between the total implantation surface ($\sum A_i$) and the land surface (AS) the index refers to, and it is expressed as a percentage [($\sum A_i$/AS)x100]. The land use index, by its turn, is given by the quotient between the total built area ($\sum A_c$) and the land surface (AS) the index refers to [($\sum A_c$/AS)].

The urbanizing spaces that belong to the types I, II, III, IV and V within the category of land which development may be programmed – and also according to their location in built-up urban areas – are made up by the areas expected to acquire the characteristics of developed spaces, despite they don´t possess them yet. These spaces are aimed at different occupations and uses, namely housing (with garage parking places and annexes), equipment facilities and public urban green spaces, trade, services, industrial businesses of type 3, and activities compatible with the prevailing use. New buildings require approval through detailed plans, lot division operations or execution units to be erected in these spaces. To build in already existing buildings presumes the existence of paved streets, urban infrastructures and wastewater treatment plants. The building parameters applicable to these spaces are systematized in Table 3:

Table 3: Building regime of the developing spaces by space typology (Source: Diário da República, 2010)

Space typologies	Built-up urban areas	Maximum occupation index (%)	Maximum use index
Developing spaces of Type II	Bragança	60	4
Developing spaces of Type II	Bragança	60	2
Developing spaces of Type III	Izeda	40	0,8
Developing spaces of Type IV	Bragança, Gimonde, Parada, Rebordão, São Pedro de Sarracenos, e Santa Comba de Rosas	30	0,6
Developing spaces of Type V	Quinta das Carvas (Bragança - Santa Maria), Rio Frio e Sarzeda (Rebordãos)	25	0,5

The current Municipal Master Plan allocates the following surfaces to the different kinds of spaces (Table 4):

Table 4: Surfaces assigned to urban land uses proposed by the enforced Municipal Master Plan of Bragança (Source: Plural, 2009)

Space subcategories			Surface (ha)	
			Partial	Total
Developed land	Developed spaces	TYpe I	384,8	2.184,10
		Type II	32,1	
		Type III	49,7	
		Type IV	593	
		Type V	616,8	
		Type VI	507,7	
	Equipment spaces			156,1
	Industrial spaces			151,4
Land which development may be programed	Developing spaces	TYpe I	2,3	382,8
		Type II	49,4	
		Type III	12	
		Type IV	299,2	
		Type V	19,9	
	Equipment spaces			134,2
	Industrial spaces			187,7
Environmental urban structure				622,5
Total urban land				3.818,80

4.2. Application of the methodology to the Municipality of Bragança

The minimum and maximum values of the municipal development charges per square meter of licensed built surface, in light of the regulation and charges currently enforced in the Municipality of Bragança (according to the minimum and maximum values anticipated for the parameter K) (Câmara Municipal de Bragança, 2002) are presented in Table 5:

Table 5: Values of the municipal development charges currently enforced in the Municipality of Bragança per m^2 of licensed gross built surface

Computation parameters		AC (m^2)	K	C (€/m^2)	Municipal Development Charges (€/m^2)
Typology: Construction	Minimum value	1	0,5	14,21	7,105
	Maximum value	1	1	14,21	14,21
Typology: Division into lots	Minimum value	1	0,5	1,58	0,79
	Maximum value	1	1	1,58	1,58

The values of the municipal development charges for the studied development operations are systematized in Table 6:

Table 6: Minimum and maximum values of the Municipal Development charges currently enforced in the Municipality of Bragança applied to the studied development operations

Typology of urban development operations	Municipal Development Charges (€/m^2)	
	Minimum value	Maximum value
Single-family housing - construction	1.492,1 €	2.984,1 €
Multifamily housing - construction	29.841,0 €	59.682,0 €
Multifamily housing with trade and servicess -	29.841,0 €	59.682,0 €
Single-family housing division into lots	1.659,0 €	3.318,0 €
Multifamily housing - division into lots	9.954,0 €	19.908,0 €
Multifamily housing with trade and services - division	9.954,0 €	19.908,0 €

The differences between the minimum and the maximum values of the municipal development charges for the different kinds of urban development operations solely depends on the existence or not of water supply networks and of sewerage systems. This difference may take on a fixed value of 50% (and not a gradual change), and it is explained by the fact that it makes sense to charge a certain urban development according to the benefit provided by the infrastructures available.

The average annual investment in urban infrastructures´ execution, maintenance and reinforcement amounted to 5 980 625 € (Table 7):

Table 7: Investments assigned to urban infrastructures´ execution, maintenance and reinforcement in the Municipality of Bragança (Source: Câmara Municipal de Bragança, 2007, 2008, 2009, 2010a)

Investments in urban infrastructures´ execution, maintenance and reinforcement	2009	2010	2011	2012
Repairs in different streets in the city of Bragança	25.000	20.000	700.000	150.000
Reconversion of urban Infrastructures in Forte de S. João de Deus area	500			
Different pavements in the city of Bragança	5.000	5.000	5.000	5.000
Reconversion of Av. João da Cruz and other streets	500	5.000	5.000	1.000
Remodelling of Av. Cidade de Zamora and Av. Do Sabor	500	5.000		
Duplication of Av. General Humberto Delgado from the school Abade de Baçal to the inside circular road	2.100.000	400.000	5.000	1.000
Construction of the west approach road to the city since the inside circular road till Av. Abade de Baçal	500	5.000	5.000	1.000
Construction of the cycle lane in the environmental area of IPB	1.600.000	1.800.000	500.000	100.000
Requalification of approach roads to different villages	25.000	5.000	5.000	5.000
Requalification of squares in villages	120.000			
Execution of lot infraestrutures in S. Tiago - 1st Phase	450.000	50.000	20.000	1.000
Repavement of residential areas in the city of Bragança	1.000.000	500.000	50.000	25.000
Different pavements in the city of Bragança	80.000	300.000	50.000	20.000
Requalification of Izeda´s central street		5.000	5.000	1.000
Construction of the cycle lane - 2nd Phase - connection to CCV		30.000	895.000	200.000
Construction of the cycle lane of Mãe d´Água		200.000	530.000	200.000
Construction of the new sqare of Mãe d´Agua		100.000	400.000	200.000
Repavement of Av. Abade de Baçal and the twentieth-century residential area				60.000
Repavement of the streets in the industrial area	500			
Construction of the inside circular road - connection to Av. Abade de Baçal				350.000
SEWERAGE	523.500	430.000	585.000	1.791.000
WATER SUPPLY	254.000	410.000	410.000	209.000
ENVIRONMENTAL PROTECTION AND CONSERVATION OF THE NATURE			130.000	
Gardening of different municipal spaces	30.000	30.000		31.000
Acquisition of equipment and urban maintenance	10.000	30.000		30.000
Protection of built-up areas	1.000	5.000		1.000
Green park of Coxa	500	20.000		
PUBLIC LIGHTING	145.000	110.000	110.000	47.500
Construction of infrastructures in the industrial area	205.000	10.000	10.000	1.000
Maintenance of the municipal road network	85.000	30.000	40.000	35.000
Different pavings	150.000	550.000	100.000	50.000
Traffic signs in the municipal road network - directional and informative signs	5.000	5.000	75.000	10.000
Urban road signs	25.000	20.000	50.000	10.000
Maintenance of the urban road network - road signs and painting	125.000	30.000	30.000	20.000
Construction of a little bridge in the CM over the Fervença River		30.000	20.000	1.000
Construction of the international bridge over the Maçãs River	55.000			
Pavement of municipal roads	1.271.000		15.000	3.000
Pavement of different villages with granit cubes	880.000		30.000	1.000
Repairs and paving of municipal roads	100.000		435.000	147.000
Repirs, widening and paving of municipal roads			366.000	40.000
Maintenance of car parks		25.000		5.000
Ground leveling and widening of the streets	150.000			
Parking	1.500			
TOTAL	9.424.000	5.165.000	5.581.000	3.752.500
Annual average investment (€)	5.980.625			

The total gross built surface in each year is assumed to correspond to the municipal total land surface assigned to urban uses, which represents about 70.4% of its total surface (according to the Municipal Plan of Territorial Ordinance). The average annual costs/m^2 with the execution, maintenance and reinforcement of urban infrastructure thus corresponds to 70,4% of the quotient between the municipal average annual investment (expressed in euros) and the average annual gross built surface (Table 8):

Table 8: Computation of the average annual cost/m^2 with urban infrastructures´ execution, maintenance and reinforcement supported by the Municipality of Bragança during 2008, 2009, 2010 and 2011 (Source: INE, 2009, 2010, 2011, 2012)

	2008	2009	2010	2011	Total	Annual average
Total number of finished buildinds	240	184	120	132	676	169
Floors per building (nº)	2,55	2,40	2,60	2,40	9,95	2,49
Dwellings per floor (nº)	0,64	0,80	0,80	0,70	2,94	0,74
Compartments per dwelling (nº)	5,47	5,40	4,90	5,30	21,07	5,27
Average liveable surface per compartment (m^2)	20,04	19,90	19,70	20,80	80,44	20,11
Total gross built surface (m^2) (urban uses)	66.054,6	58.405,3	37.067,5	37.610,5	199.138	49.784
Average annual investment (€)	5.980.625					
Average annual cost with infrastructures´ execution, maintenance and reinforcement (€/m^2)	84,6					

The average costs with infrastructures´ execution, maintenance and reinforcement amount to 84.6 €/m^2, what is partly due to the fact that settlements are dispersed throughout many different parishes (49), most of them with rural characteristics. This value points out the strong investment in infrastructures that expresses a strong bet in the development of the whole municipality (especially in less developed built-up areas, with lower building levels).

The computation of the values of the coefficient C for the categories of developed land and land which development may be programmed are systematized in Tables 9 and 10:

Table 9: Computation of coefficient C of the reformulated Municipal Development charges for developed land in the Municipality of Bragança

Space subcategories			Maximum occupation index (%)	Maximum use index	Land building capability/m^2	Surfaces assigned to each type of use (ha)	% of surfaces assigned to each type of use	C (Developed land)
Developed land	Developed spaces	Type I	0,6	4	2,4	384,8	17,6%	0,42
		Type II	0	0	0	32,1	1,5%	0,00
		Type III	0,4	0,8	0,32	49,7	2,3%	0,01
		Type IV	0,4	0,6	0,24	593	27,2%	0,07
		Type V	0,3	0,5	0,15	616,8	28,2%	0,04
		Type VI	0,3	0,4	0,12	507,7	23,2%	0,03
						2.184,1	100,0%	0,57

Table 10: Computation of coefficient C of the reformulated Municipal Development charges for developing land in the Municipality of Bragança

Space subcategories			Maximum occupation index (%)	Maximum use index	Land building capability/m^2	Surfaces assigned to each type of use (ha)	% of surfaces assigned to each type of use	C (Land which development may be programmed)
Land which development may be programmed	Developed spaces	Type I	0,6	4	2,4	2,3	0,6%	0,01
		Type II	0,6	2	1,2	49,4	12,9%	0,15
		Type III	0,4	0,8	0,32	12	3,1%	0,01
		Type IV	0,3	0,6	0,18	299,2	78,2%	0,14
		Type V	0,25	0,5	0,125	19,9	5,2%	0,01
						382,8	100,0%	0,33

The values obtained per m² of licensed gross built surface for the municipal development charges concerning developed land and land which development may be programmed are systematized in Table 11:

Table 11: Value of the reformulated Municipal Development charges/m² of gross built surface licensed by the Municipality of Bragança

	AC (m²)	C	Infrastructures´ costs/m² (€/m²)	Reformulated Municipal Development Charges (€/m²)
Developed land	1	0,57	84,6	47,84
Land which development may be programmed	1	0,33	84,6	27,62

The differences between the reformulated and the current municipal development charges were, then, identified (these differences per square meter of built gross surface are systematized in Table 12):

Table 12: Difference between the values/m² of the reformulated Municipal Development charges and the Municipal Development charges currently enforced in the Municipality of Bragança

Computation parameters	Reformulated Municipal Development Charges			Municipal Development Charges	Land which development may be programmed	Developed land
	AC (m²)	Land which development may be programmed (C = 0,33)	Developed land (C = 0,57)		Reformulated Municipal Development Charges - Municipal Development Charges	
Typology: Construction	1	27,6 €	47,8 €	7,105	20,5 €	40,7 €
				14,21	13,4 €	33,6 €
Typology: Division into lots	1	27,6 €	47,8 €	0,79	26,8 €	47,1 €
				1,58	26,0 €	46,3 €

The application of these differences to the studied urban development operations (considering the infrastructures´ costs of 84.6 €/m² previously computed) enables the establishment of the revenues for the municipality that accrue from the reformulated municipal development charges in relation to the current ones, for homologous development operations (Table 13):

Table 13: Difference between the values of the reformulated Municipal Development charges and the Municipal Development charges currently enforced in the Municipality of Bragança, according to the current proposal for the studied development operations

Tipology	Reformulated Municipal Development Charges			Municipal Development Charges (€/m²)	Land which development may be programmed	Developed land
	AC (m²)	Land which development may be programmed (C = 0,33)	Developed land (C = 0,57)		Reformulated Municipal Development Charges - Municipal Development Charges (€/m²)	
Single-family housing - construction	210	5.800,6 €	10.047,3 €	1.492,1 €	4.308,5 €	8.555,3 €
				2.984,1 €	2.816,5 €	7.063,2 €
Multifamily housing - construction	4.200	116.011,3 €	200.946,4 €	29.841,0 €	86.170,3 €	171.105,4 €
				59.682,0 €	56.329,3 €	141.264,4 €
Multifamily housing with trade and servicess - construction	4.200	116.011,3 €	200.946,4 €	29.841,0 €	86.170,3 €	171.105,4 €
				59.682,0 €	56.329,3 €	141.264,4 €
Single-family housing division into lots	2.100	58.005,7 €	100.473,2 €	1.659,0 €	56.346,7 €	98.814,2 €
				3.318,0 €	54.687,7 €	97.155,2 €
Multifamily housing - division into lots	12.600	348.034,0 €	602.839,2 €	9.954,0 €	338.080,0 €	592.885,2 €
				19.908,0 €	328.126,0 €	582.931,2 €
Multifamily housing with trade and services - division into lots	12.600	348.034,0 €	602.839,2 €	9.954,0 €	338.080,0 €	592.885,2 €
				19.908,0 €	328.126,0 €	582.931,2 €

The reformulated Municipal Development Charges enables the municipality to recover considerably higher amounts than previously to face the costs with infrastructures´ execution, maintenance and reinforcement. Besides, recoverable values are potentially higher in developed land and, within this category, in operations of division into lots.

5. CONCLUSIONS AND RECOMMENDATIONS

This article reported a proposed reformulation of the Municipal Development charges as indirect instruments of land value capture, aimed at recovering a part of the unearned increments engendered by public investment decisions, in order to cover the municipal costs with urban infrastructures´ execution, maintenance and reinforcement. The current proposal ponders building capabilities licensed by the Municipal Master Plan, and considers the real costs of infrastructure provision by municipalities, contrary to other less clear and less objective criterion that have currently prevailed in most Portuguese enforced Municipal Development charges. It fits into the current revision of the Portuguese Land, Territorial Ordinance and Urbanism Act and complementary legislation, contributing to its leading goal of municipal finances´ strengthening.

The advantages of this new proposed Municipal Development Charges in relation to most currently enforced ones result from their transparent assessment, objective setting of parameters, and fair levy of charges on the effective benefits promoters/builders derive from the infrastructures´ services provided by the municipality. The computation of these charges is significantly simplified and debureaucratized, and the origins and destinations of funds allocated to urban development are further clarified what, summing up, supports the economic and financial sustainability of municipal investments in urban infrastructures (as these charges cover their total costs, thus avoiding municipal debts).

Social cohesion is also trigged by the proposed general application of the current instrument of territorial management to all municipalities, based on the same parameters, thus providing for a better equity between all citizens, despite the place where they live. It further prevents territorial imbalances accrued from urban initiatives that engender disparities in the distribution of the surplus values they create.

Considering the eminently social character of planning and development, the design and application of this new instrument of land value capture – that reinforces municipal economic and financial sustainability and that assures increased fairness and equity among all citizens -

will promote regional development, providing attractive conditions for regional family settlement and well-being.

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