

## **Land Use Policy for Sustainable Cities**

### **1. Introduction**

Property markets are strongly shaped not only by territorial plans, but also by the intervention of state, municipalities, and concessionary firms<sup>1</sup> (Pardal, 2004; 2006b). Municipal decision-makers intervene in property markets in order to foster the private initiative, through provision of favourable development conditions and assignment of permits. But these municipal decisions concerning land use changes, urban perimeters, land property division; increases in the number of autonomous plots, expansion of building capacity, and public works usually trigger serious land use consequences, and raises land prices. Conversely, urbanism shouldn't be mastered by a strictly market rationale, as it is a public service under the auspices of the state and of the municipalities (Pardal, 2003), and land has a prominent social function.

As the public administration holds the responsibility to provide land for the different kinds of uses (Pardal, 2006a), at acceptable prices, a strategic territorial management is required, that includes a whole inter-related assessment of engineering, economics, and law perspectives (Santo, 2006), as a guarantee for justice, trust and technical and scientific accuracy. Consequently, changes in land uses and intensities should be monitored and rendered operational, in order to articulate sustainable economic and social policies. Within this scope, this article proposes the development of a set of tools to monitor and control property price levels (and respective evolution) by municipal powers, based on the comprehension of market's structure, operation and local characteristics.

### **2. Theoretical framework**

Land demand and prices depend on anticipated space needs for family lodging, and for industrial, trade, and services activities. Besides, property markets involve different stakeholders that pursue different strategies and goals. In order to increase land values, landowners often resort to hoarding and land differentiation strategies. Development agents, promoters and builders, by their turn, operate at the production and trade stages, searching for as much profit as they can reach. Real estate agents, valuers, consultants and other professionals fit buyers' and sellers' interests, through provision of information concerning real estate availability, characteristics and location, what fosters trade volume and efficiency. Final consumers (be they owners or leaseholders) concern real estate quality and prices. Credit institutions perform a cash-flow regulation role within property markets. And, finally, regional and local authorities are responsible for the application of laws and regulations; for tax collection, for control over land use changes and intensities, and for decisions on investments in infrastructures, equipments and public spaces. Planning interventions on property markets (Dunse and Jones, 2002) are implemented through (Ihlanfeldt and Raper, 1990; Rebelo, 2009, 2010): zoning ordinances; legal incentives or restrictions; property taxation; control over land use changes; urbanization costs; and decisions on investments on infrastructures, equipments and public spaces (Feagin, 1983; Hanink and Cromley, 1998; Ihlanfeldt and Raper, 1990; Rebelo, 2009).

Despite municipal interventions foster urban development and make their administrative control more flexible, they undergo political and economic lobbying (Feagin, 1982, 1983; Form, 1954; Rydin, 1984; Short et al., 1986; Tang et al., 2000). Stakeholders often try to escape the strict application of planning and fiscal regulations, and enter negotiations with the authorities in order to change zoning borders and land use parameters, to transfer development rights, or to slack tax collection (Wakeford, 1990). These behaviours are even

cherished by the characteristics of the property markets: few agents involved in trade, lack of transparency, and some agents' monopoly prerogatives. These reasons altogether nourish speculation, and lead most surplus values engendered by planning decisions out of authorities' control, failing to be allocated on behalf of the general social interest.

Traditionally, territorial plans and planning practices<sup>2</sup> have ignored the effects they exert on property markets (Pardal, 2006a) as far as market segmentation, the formation of prices, and the achievement of land's social function is concerned (Pardal, 2006b). New territorial forms (not yet framed by legislation) are pursued; rules concerning the creation, computation and distribution of surplus values aren't accurately settled; and central and local remits aren't clearly delimited. Thus land use assignment, the appropriation of land, and the formation of land values become obscure. As many interests operate aside the law, market entangles uncertainty and distrust (Pardal et al., 1996).

The value of a certain land plot is determined both by plans and by the economic dynamics: it includes a territorial-based component (that depends on its juridical status, location, dimension, and use authorized by territorial plans), and another component that results from its owner's investment (Arnott and Petrova, 2006; Lee, 2003; Pardal, 2004, 2006a). The territorial-based value depends on the land use policy. And this policy must settle the reasonable price that should be supported by its use (Lee, 2003; Pardal, 2004, 2006a).

When public entities buy land that, afterwards, develop and send at public auctions, they manage to keep beforehand the surplus values generated by their own decisions. This procedure disciplines urban growth, balances land markets, and doesn't trigger conflicting situations (Pardal et al, 1996). However, if development land is also provided by private agents, surplus values merge with costs of infrastructures and with additional profits, so rent and profit become hardly identifiable (Pardal et al., 1996), and then public authorities fail to recover the surplus values on behalf of the general social interest (Pardal, 2004, 2006a).

In many countries, speculative prices are kept under control through land exchange: municipalities provide land plots when alternative market plots reach excessive high prices (Correia, 1993; Rebelo, 2009). Surplus values may also be retrieved through taxation (Smolka and Amborski, 2003). From this perspective, property taxes rely on the benefits attached to each kind of property, and depend on its territorial-based value. In the United States of America, Canada and Latino-American countries public administration use different urban planning regulations and surplus values appropriation tools that span from traditional taxes to urbanization fees (in different percentages, according to countries) (Smolka and Amborski, 2003).

To warrant the neutrality of owners' interests in relation to uses or intensity of uses proposed in plans, the surplus values tax should solely have an effect on the territorial-base value (that is independent from investments and improvements that result from the owner's initiatives). So a balanced land use policy should proceed that allows parameter setting, monitoring and control over surplus values generation and distribution, thus avoiding speculation (Pardal, 2004, 2006a, 2006b). The amounts that add or decrease to the plot values that result from use classifications, building coefficients, or other planning ruling factors should be clearly defined (Pardal et al., 1996; 2006a, 2006b). Real estate prices should be also kept under control, in order to prevent the opportunistic appropriation of speculative profits by promoters (Arnott and Petrova, 2006; Lee, 2003; Pardal, 2006a, 2006b). In the absence of these transparent procedures, the political, technical and administrative agents that intervene in land use regulation and licensing will strive against one another for changes in land use and respective intensities (Pardal, 2006a).

### **3. Computation of surplus values: a methodological proposal**

Planning should be able to intervene on property laws, and develop property assessment tools that fit any places, uses and intensities of use, at any time, in order to warrant land availability for the different uses at reasonable prices, preventing excessive profits in property markets, and guaranteeing the neutrality of landowners' interests.

In order to support more efficient urban planning interventions concerning monitoring, evaluation, control, taxation, and distribution of surplus values engendered by territorial plans and regulations, a methodology for surplus values assessment and quantification is herein proposed. It firstly founds on a management information system, and then on the development of an original way to compute surplus values and additional profits in land aimed at different functional uses, based on a hedonic model for real estate and on average development costs (Figure 1):

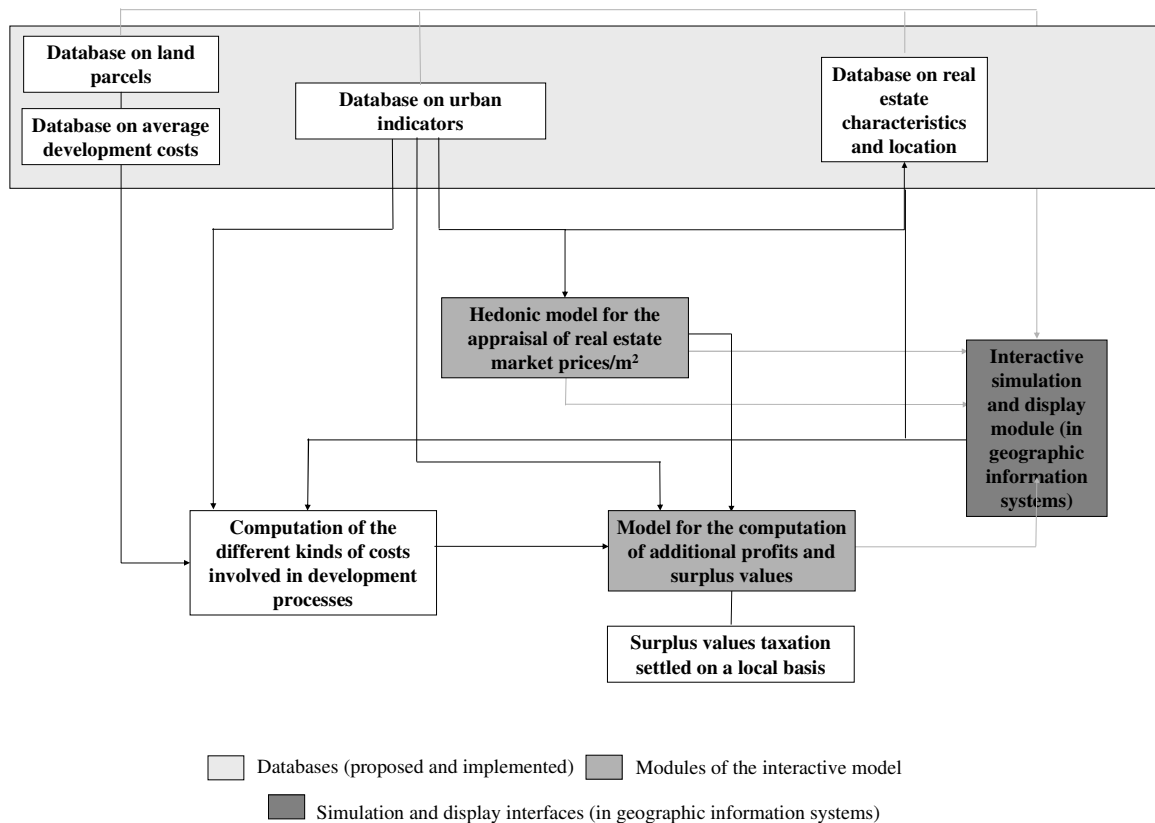


Figure 1. Model to compute the extra-profit and surplus values that accrue from planning decisions.  
 (Source: Author)

The management information system developed and implemented in the research reported in this article is made up by four databases: on land parcels, on urban indicators, on average development costs, and on real estate locations and characteristics.

The database on land parcels enables monitoring of land characteristics and allowed uses. Its indicators include: dimension of the plots; geomorphologic characteristics; location (absolute and in relation to the main centres and sub-centres); licensed land use; (current or anticipated) property division; (real or anticipated) taxes; and indirect surplus values engendered by infrastructures, equipments, public services and other undertakings.

The database on urban indicators include: geo-referenced location of real estate units; applicable planning rules (concerning, namely, zoning ordinances and land use coefficients); activities' location indexes (relative spatial concentration as compared with the whole territory); weighted distance to the main urban centres; activities' tendency to remain in the same location; public investments in communications and transports; culture, sports and leisure time; public health utilities; environment; education; housing; economic development and tourism; civil protection; social action; and urbanistic qualification; number and density of inhabitants in each block; and date. These indicators shape real estate supply, demand and prices, that may either accrue from market operation or under the control of municipal authorities.

The database on average development costs includes land acquisition and related costs; urbanization costs; building costs; management, administrative and marketing costs; financial costs; and property taxes. Building land costs/m<sup>2</sup> is computed considering the selling prices of plots for housing traded at public auction (that approach land prices for social uses<sup>3</sup>). These prices are, then, weighted according to the average percentage that land for different uses (industrial, trade or services) exceed land for housing purposes. Land acquisition costs include other parcels, expressed as percentages of building land costs/m<sup>2</sup>: municipal transfer tax (10%); stamp duty (0.4%); property registration costs (0.5%); notarized costs (0.5%); and lawyer honoraries (0.5%). Development costs/m<sup>2</sup>, that represent the costs of land infrastructures and participation in public investments, are computed according to the municipal tax on urban infrastructures. Building costs/m<sup>2</sup> include not only proper construction costs (that approach selling prices/m<sup>2</sup> of common housing<sup>3</sup>), but also costs of equipments (heating systems, lifts and special foundations); building honoraries; different contingent costs (that generally go up to 5% of the total costs); and building inflation. Management, administrative and marketing costs/m<sup>2</sup> was assumed to amount to 0.8% of total construction costs/m<sup>2</sup>. It was additionally considered a 20% added value rate upon those costs. In what concerns the financial costs/m<sup>2</sup>, it was considered a 6.2% rate of annual capital cost, and 50% of borrowed capital for land acquisition purposes, and 50% of borrowed capital for commercialization purposes (commercialization costs were assumed to amount to 0.5% of total building costs). Finally, the municipal tax on property depends on its kind of use (housing, trade, industry and equipments).

At last, the database on real estate characteristics and location gathers systematized information on the characteristics, location, morphology, typology, and kinds of uses of real estate units and respective buildings.

In each land plot can be built a certain area or volume, considering planning regulations and restrictions. Corresponding total expected income may be computed by the product between the total allowed building area and the selling price of the real estate product/m<sup>2</sup>. This selling price/m<sup>2</sup>, by its turn, and according to the functional use, characteristics and location, may be anticipated by a hedonic model that expresses it as a function of the indicators systematized in the urban management information system (Rebelo, 2009; 2010). This model easily fits new and upgraded information, thus it may be reformulated and used as a continuous monitoring system.

The difference between the land market value and the land cost based on public auction sales of land plots with similar characteristics and locations includes two distinct components: the additional profit (difference between the land patrimonial value and the land cost based on public auction sales), and the surplus (or territorial-based) value (difference between the land market value and respective patrimonial value). The land market value is given by the difference between the total expected income and the set of anticipated urbanization, construction, management, administrative marketing, and financial costs, taxes and a normal profit margin, and expressed as a multiple of those total costs<sup>4</sup> (Rebelo, 2003, 2009). The patrimonial value of building land is computed according to the municipal tax on property<sup>5</sup> (Rebelo, 2009): it is given by the sum of the value of the buildings' implantation land with the value of building-adjacent land. The value of buildings' implantation surface, by its turn, spans between 15% and 45% of building costs (this percentage already includes the location characteristics).

#### **4. Application of the methodology to the Oporto office market**

According to the developed hedonic model, offices selling price/m<sup>2</sup> is expressed as a function of the following urbanistic variables (see Rebelo, 2009, 2010): spatial location of offices; zoning and land use coefficients; location indexes of office activities; weighted distance to the most recent business district (located on Rotunda of Boavista); temporal inertia of the activities (tendency they have to stay in the same location); public investments; number of people working in the upper tertiary sector; and date.

An excerpt of the database of the different costs involved in offices urbanization and building processes in Oporto city is displayed in Table 1:

Address	Zone in Oporto city	Land acquisition costs/m <sup>2</sup>								Building costs/m <sup>2</sup>				Financial costs/m <sup>2</sup>			Municipal tax on property/m <sup>2</sup>	Total costs/m <sup>2</sup>	
		Land cost/m <sup>2</sup> of office buildings	Municipal transfer tax	Stamp duty	Property registration costs	Notarized costs	Lawyer honoraries (0.5%)	VAT on lawyer honoraries	Development costs	Total land costs/m <sup>2</sup>	Average office building costs (and specialised works)	Average costs of building garages/m <sup>2</sup> of office buildings	Total office building costs/m <sup>2</sup>	Management, administrative and marketing costs/m <sup>2</sup>	Financial costs of land acquisition/m <sup>2</sup>	Financial costs of commercialization/m <sup>2</sup>			Total financial costs/m <sup>2</sup>
646 RUA PROF CORREIA ARAUJO R	Antas	211,5	21,2	0,8	1,1	1,1	1,1	0,2	31,5	268,4	415,0	43,8	458,8	3,7	8,3	0,1	8,4	0,770	740,0
94 ALAMEDA ECA QUEIROS AL	Antas	211,5	21,2	0,8	1,1	1,1	1,1	0,2	31,5	268,4	415,0	43,8	458,8	3,7	8,3	0,1	8,4	0,770	740,0
130 ALAMEDA ECA QUEIROS AL	Antas	211,5	21,2	0,8	1,1	1,1	1,1	0,2	31,5	268,4	415,0	43,8	458,8	3,7	8,3	0,1	8,4	0,770	740,0
194 ALAMEDA ECA QUEIROS AL	Antas	211,5	21,2	0,8	1,1	1,1	1,1	0,2	31,5	268,4	415,0	43,8	458,8	3,7	8,3	0,1	8,4	0,770	740,0
256 ALAMEDA ECA QUEIROS AL	Antas	211,5	21,2	0,8	1,1	1,1	1,1	0,2	31,5	268,4	415,0	43,8	458,8	3,7	8,3	0,1	8,4	0,770	740,0
191 PRACA PEDRA VERDE PC	Aldoar/Antunes Guimarães/Vilarinho	205,0	20,5	0,8	1,0	1,0	1,0	0,2	31,5	261,1	415,0	43,8	458,8	3,7	8,1	0,1	8,2	0,770	732,5
216 PRACA PEDRA VERDE PC	Aldoar/Antunes Guimarães/Vilarinho	205,0	20,5	0,8	1,0	1,0	1,0	0,2	31,5	261,1	415,0	43,8	458,8	3,7	8,1	0,1	8,2	0,770	732,5
250 RUA SOEIRO MENDES R	Aldoar/Antunes Guimarães/Vilarinho	205,0	20,5	0,8	1,0	1,0	1,0	0,2	31,5	261,1	415,0	43,8	458,8	3,7	8,1	0,1	8,2	0,770	732,5
305 PRACA PEDRA VERDE PC	Aldoar/Antunes Guimarães/Vilarinho	205,0	20,5	0,8	1,0	1,0	1,0	0,2	31,5	261,1	415,0	43,8	458,8	3,7	8,1	0,1	8,2	0,770	732,5
280 RUA EUGENIO CASTRO R	Boavista/Rotunda	290,0	29,0	1,2	1,5	1,5	1,5	0,2	31,5	356,3	415,0	43,8	458,8	3,7	11,0	0,1	11,1	0,770	830,6
300 RUA EUGENIO CASTRO R	Boavista/Rotunda	290,0	29,0	1,2	1,5	1,5	1,5	0,2	31,5	356,3	415,0	43,8	458,8	3,7	11,0	0,1	11,1	0,770	830,6
352 RUA EUGENIO CASTRO R	Boavista/Rotunda	290,0	29,0	1,2	1,5	1,5	1,5	0,2	31,5	356,3	415,0	43,8	458,8	3,7	11,0	0,1	11,1	0,770	830,6
370 RUA EUGENIO CASTRO R	Boavista/Rotunda	290,0	29,0	1,2	1,5	1,5	1,5	0,2	31,5	356,3	415,0	43,8	458,8	3,7	11,0	0,1	11,1	0,770	830,6
686 RUA TENENTE VALADIM R	Boavista/Rotunda	290,0	29,0	1,2	1,5	1,5	1,5	0,2	31,5	356,3	415,0	43,8	458,8	3,7	11,0	0,1	11,1	0,770	830,6
174 CAMPO MARTIRES PATRIA CPO	Gonçalo Cristóvão/Baixa	281,5	28,2	1,1	1,4	1,4	1,4	0,2	31,5	346,8	415,0	43,8	458,8	3,7	10,7	0,1	10,8	0,770	820,8
46 CAMPO MARTIRES PATRIA CPO	Gonçalo Cristóvão/Baixa	281,5	28,2	1,1	1,4	1,4	1,4	0,2	31,5	346,8	415,0	43,8	458,8	3,7	10,7	0,1	10,8	0,770	820,8
9 LARGO ADRO LG	Gonçalo Cristóvão/Baixa	281,5	28,2	1,1	1,4	1,4	1,4	0,2	31,5	346,8	415,0	43,8	458,8	3,7	10,7	0,1	10,8	0,770	820,8
48 LARGO FONTINHA LG	Gonçalo Cristóvão/Baixa	281,5	28,2	1,1	1,4	1,4	1,4	0,2	31,5	346,8	415,0	43,8	458,8	3,7	10,7	0,1	10,8	0,770	820,8
26 LARGO PROF ABEL SALAZAR LG	Gonçalo Cristóvão/Baixa	281,5	28,2	1,1	1,4	1,4	1,4	0,2	31,5	346,8	415,0	43,8	458,8	3,7	10,7	0,1	10,8	0,770	820,8
54 PRACA FLORES PC	Gonçalo Cristóvão/Baixa	281,5	28,2	1,1	1,4	1,4	1,4	0,2	31,5	346,8	415,0	43,8	458,8	3,7	10,7	0,1	10,8	0,8	820,8
95 RUA JOAO BAPTISTA LAVANHA R	Foz/Gomes da Costa	241,5	24,2	1,0	1,2	1,2	1,2	0,2	31,5	302,0	415,0	43,8	458,8	3,7	9,4	0,1	9,4	0,8	774,6
67 RUA INFANTE SANTO R	Foz/Gomes da Costa	241,5	24,2	1,0	1,2	1,2	1,2	0,2	31,5	302,0	415,0	43,8	458,8	3,7	9,4	0,1	9,4	0,770	774,6
399 RUA ALEGRIA R	Marquês/Constituição	226,0	22,6	0,9	1,1	1,1	1,1	0,2	31,5	284,6	415,0	43,8	458,8	3,7	8,8	0,1	8,9	0,770	756,7
582 RUA ALEGRIA R	Marquês/Constituição	226,0	22,6	0,9	1,1	1,1	1,1	0,2	31,5	284,6	415,0	43,8	458,8	3,7	8,8	0,1	8,9	0,770	756,7
7742 ESTRADA CIRCUNVALACAO EST	Bonfim/Campo 24 Agosto	226,0	22,6	0,9	1,1	1,1	1,1	0,2	31,5	284,6	415,0	43,8	458,8	3,7	8,8	0,1	8,9	0,770	756,7
7762 ESTRADA CIRCUNVALACAO EST	Bonfim/Campo 24 Agosto	226,0	22,6	0,9	1,1	1,1	1,1	0,2	31,5	284,6	415,0	43,8	458,8	3,7	8,8	0,1	8,9	0,770	756,7
11 LARGO JOSE MOREIRA SILVA LG	Bonfim/Campo 24 Agosto	226,0	22,6	0,9	1,1	1,1	1,1	0,2	31,5	284,6	415,0	43,8	458,8	3,7	8,8	0,1	8,9	0,770	756,7
116 PRACA MARQUES POMBAL PC	Marquês/Constituição	226,0	22,6	0,9	1,1	1,1	1,1	0,2	31,5	284,6	415,0	43,8	458,8	3,7	8,8	0,1	8,9	0,770	756,7

Unit: euros

Table 1. Types of costs/m<sup>2</sup> involved in land acquisition and building of offices, according to their location in Oporto city (excerpt of the database)  
(Source: Author)

The computation of the additional profits and surplus values for some selected offices in Oporto city, according to their location, is further presented in Table 2:

Address	Zone in Oporto city	Land use coefficient	Average number of floors	Anticipated office selling prices/m <sup>2</sup>	60% of income/m <sup>2</sup>	Land, development, building, management, administrative, marketing, and financial costs, property taxes/m <sup>2</sup> , and normal profit rate/m <sup>2</sup>	Economic land rent/m <sup>2</sup> [1]	Land rent/m <sup>2</sup> [2]	Land market value/m <sup>2</sup> [3]=[1]+[2]	Land patrimonial value/m <sup>2</sup> [4]	Surplus-values [3]-[4]
203 RUA GUEDES AZEVEDO R	Gonçalo Cristóvão/Baixa	5	1,85	1554,3	1726,9	543,4	1183,6	281,5	1465,1	645,2	819,9
227 RUA PINTO BESSA R	Corujeira/S. Roque da Lameira	5	1,85	1260,8	1400,9	515,4	885,5	173,5	1059,0	745	314,0
242 RUA S BRAS R	Gonçalo Cristóvão/Baixa	5	1,85	1504,2	1671,3	543,4	1128,0	281,5	1409,5	649	760,5
2533 FERNAO MAGALHAES AVE	Paranhos/Costa Cabral	5	1,85	935,3	1039,2	511,7	527,5	159,0	686,5	758,4	-71,9
35 RUA LIMA JUNIOR R	Paranhos/Costa Cabral	5	1,85	1284,0	1426,7	511,7	915,0	159,0	1074,0	756,2	317,8
411 RUA CASTELOS R	Ramalde/Monte dos Burgos	5	1,85	1362,1	1513,5	513,0	1000,5	290,0	1290,5	753,8	536,7
433 RUA NOSSA SENHORA FATIMA R	Boavista/Rotunda	5	1,85	1436,0	1595,6	545,6	1050,0	290,0	1340,0	637,4	702,6
49 RUA FORMOSA R	Bonfim/Campo 24 Agosto	5	1,85	1429,5	1588,3	528,9	1059,4	226,0	1285,4	659,5	625,9
55 RUA DR RICARDO JORGE R	Gonçalo Cristóvão/Baixa	5	1,85	1377,0	1530,0	543,4	986,6	281,5	1268,1	659,2	608,9
57 RUA FLORES R	Gonçalo Cristóvão/Baixa	5	1,85	858,0	953,3	543,4	409,9	281,5	691,4	653,1	38,3
393 RUA ALEGRIA R	Marquês/Constituição	5	1,85	1472,4	1636,0	529,0	1106,9	226,0	1332,9	696,5	636,4
1395 RUA CONSTITUICAO R	Marquês/Constituição	5	1,85	1304,9	1449,9	529,0	920,9	226,0	1146,9	694,3	452,6
455 COMBATENTES GRANDE GUERRA AVE	Antas	5	1,85	1160,3	1289,2	525,3	764,0	211,5	975,5	705,8	269,7
8 RUA BRAS CUBAS R	Antas	5	1,85	1052,4	1169,3	525,3	644,0	211,5	855,5	705,1	150,4

Table 2. Computation of the additional profits and surplus values in some selected offices in Oporto city (excerpt from the database)  
(Source: Author) Unit: euros

## 5. Conclusions

This article launched some reflections of the consequences of urban planning decisions on land and real estate economic values, considering planning regulations and tools, as well as the behaviours of property stakeholders.

An urban management information system was further proposed, and a methodology was developed for the computation of surplus (or territorial-based) values that result from planning decisions. A more just local-based tax policy may be applied, in order to recover surplus values generated by planning decisions on behalf of the population, namely through provision of better housing, infrastructures, equipments and public spaces.

It is expected this research contributes to the social and economic sustainability of cities in developing countries, through the inclusion of economic issues in territorial plans and planning practices, promoting the private initiative but making sure planning is able to keep the social value of land.

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## Endnotes

- 1 These concessionary firms explore infrastructures and services networks
2. Especially the Portuguese ones
- 3 In Portugal, the selling prices/m<sup>2</sup> of common housing<sup>2</sup> are annually published as a decree in the government diary
- 4 However, as it was admitted (in this research) that 60% of a certain area was assigned to the studied use, and only 40% to the remaining uses (including public spaces), only 60% of the total income was considered.
- 5 The municipal tax on property is regulated by the decree law nº 287/2003 (the official valuation code) that settles the parameters for the computation of reasonable real estate prices/m<sup>2</sup>, based on the application of socially-oriented land policy principles (Pardal, 2006b).

## Bibliographic references

- Arnott R, Petrova P (2006) "The property tax as a tax on value: deadweight loss" *International Tax and Public Finance*, Vol. 13 Nº2-3, 241-266.
- Correia P (1993) *Políticas de solos no planeamento municipal*, Lisboa: Fundação Calouste Gulbenkian
- Dunse N, Jones, C (2002) "The existence of offices submarkets in cities" *Journal of Property Research*, Vol 19 Nº2, 159-182.
- Feagin J R (1982) "Urban real estate speculation in the United States: Implications for social science and urban planning" *International Journal of Urban and Regional Research*, Vol. 6 Nº1, 35-60.
- Feagin J R (1983) *The urban real estate game*, New Jersey: Englewood Cliffs, Prentice-Hall, Inc.
- Form W H (1954) "The place of social structure in the determination of land use: some implications for a theory of urban ecology" *Social Forces*, Vol. 32, 317-323.
- Hanink D, Cromley R (1998) "Land-use allocation in the absence of complete market values" *Journal of Regional Science*, Vol. 38 Nº3, 465-480.
- Ihlanfeldt K, Raper M (1990) "The intrametropolitan location of new office firms" *Land Economics*, Vol. 66 Nº2, 182-198.
- Lee K (2003) "Should land and capital be taxed at a uniform rate?", *Canadian Journal of Economics*, Vol. 36, 350-372.

- Pardal S, Vaz A, Aubyn A, Natário I, Leitão J, Costa J, Lilaia J; Reynolds M, Lobo M, Tomé M, Fallen P, Costa P, Fernandes R, Galvão S, Oliveira V (1996) *Contribuição Autárquica: Impostos de Sisa, Sucessões e Doações e Mais Valias*, Lisboa: Ministério das Finanças – Secretaria de Estado dos Assuntos Fiscais; Universidade Técnica de Lisboa – G.A.P.T.E.C.
- Pardal S (2003) "Mercado Imobiliário, Fiscalidade e Planeamento do Território", Seminário *Tributação do Património, Descentralização e Desenvolvimento Local*, Lisboa: Instituto Superior de Economia e Gestão
- Pardal S (2004) "A fiscalidade e o ordenamento do território", *Jornadas Comemorativas dos 15 Anos da Reforma Fiscal*, Faculdade de Direito de Lisboa, Lisboa.
- Pardal S (2006a) *A apropriação do território. Crítica aos diplomas da RAN e da REN*, Lisboa: Ingenium Edições, Lda., Ordem dos Engenheiros
- Pardal S (2006b) "Os planos territoriais e o mercado fundiário", XVI Congresso da Ordem dos Engenheiros, Ponta Delgada, Açores.
- Rebelo E M (2003) *Mercado Imobiliário e Transformações Urbanas*, PhD dissertation, Portugal: Faculdade de Engenharia da Universidade do Porto, Porto
- Rebelo E M, 2009 "Land economic rent computation for urban planning and fiscal purposes" *Land Use Policy*, Vol. 26 N° 3 521-534
- Rebelo EM (2010) "Avaliação e controle de mais-valias decorrentes de decisões de planeamento" *Revista Portuguesa de Estudos Regionais*, Vol. 20 N°1, 15-29.
- Rydin Y (1984) "The struggle for housing land: a case of confused interests" *Policy & Politics* Vol. 12 N°4, 431-446.
- Santo F (2006) "Prefácio" in Ordem dos Engenheiros (eds) *A apropriação do território. Crítica aos diplomas da RAN e da REN*, Lisboa: Ingenium Edições, Lda.
- Short J R, Fleming S, Witt S J G (1986) *Housebuilding, Planning and Community Action: The Production and Negotiation of the Built Environment*, London: Routledge & Kegan Paul
- Smolka M, Amborski D (2003) "Recuperación de plusvalías para el desarrollo urbano: una comparación inter-americana" *EURE – Revista Latino Americana de Estudios Urbano Regionales*, Vol. XXIX N°88, 55-77.
- Tang B, Choy L H T, Wat J K F (2000) "Certainty and Discretion in Planning Control: A Case Study of Office Development in Hong Kong" *Urban Studies*, Vol. 37 N°13, 2465–2483.
- Wakeford R (1990) *American Development Control: Parallels and Paradoxes from an English Perspective*, London: HMSO Books

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