

PROPOSAL OF A METHODOLOGY FOR THE APPRAISAL OF REAL ESTATE UNDER LAND READJUSTMENT (*PEREQUAÇÃO*) IN PORTUGAL

EXTENDED ABSTRACT

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ABSTRACT

Planning is a discriminatory process, which usually causes an unequal distribution of development rights, and consequently value between landowners. The Portuguese equivalent land readjustment mechanism (called, *perequação*) tries to minimize the inequality by distributing planning costs and benefits between all landowners. The distribution of benefits is usually based on their share of land area rather than their land value, assuming all land has the same value per square meter, which is not usually true. The same applies to constructed areas, which can be used to distribute the costs. When a landowner refuses to participate, the only viable option is expropriation. This leads to unpredictable compensation values, determined by the courts' discretionary view of the Expropriation Code, not to mention an unwanted and lengthy dispute.

The aim of this dissertation is to propose a real estate appraisal model designed for land readjustment (*perequação*) purposes, in order to obtain pre-plan and post-plan property values which can be easily understood and accepted by all parties involved, and could also be used to determine the expropriation value of those same properties. To understand the state of the art in the valuation of real estate, aside from the so called "traditional methods", a study is made on the expropriation and tax appraisal methods of five selected European countries: Germany, Denmark, Spain, Italy and Portugal, for the purpose of building a compared analysis. Also, an analysis is made on the real estate value's differentiation methods used in detail plans published since 1999 in Portugal.

Keywords: Real Estate Appraisal | Expropriation | Real Estate Valuation Factors | Land Readjustment

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INTRODUCTION

The implementation of a municipal plan can cause substantial value changes on the affected properties.

The change in classification and/or qualification of its land, as well as their use rates, imply changes to their associated *jus aedificandi*, which may in some cases lead to their automatic valuation without having existed any investment effort by the owners that justifies it (originating “windfall gains”).

To introduce the equity of benefits and costs among all landowners included in the urban development operations in Portugal, the mechanism of “Perequação” (generically equivalent to the term “Land Readjustment” used in international literature), was introduced by the Legal Framework for Town and Country Planning Instruments (RJIGT²) in 1999.

However, unlike the German land readjustment, where the distribution is made based on the value of their property or their surface area, the general practice that has been carried out in Portugal leads to the distribution of benefits and costs being solely based on land surface and construction areas, despite the law enabling other possibilities. This approach assumes that all land has the same construction potential and value per m², and that all built areas also have the same value per m² regardless of their type of use, which does not correspond to reality.

This leads to the need to create a somewhat more complex land readjustment model, capable of dealing with situations where there is inequality between the values of land or construction surface areas. A model which is able to appraise the initial properties in terms of the type of value more suited to these operations, and which can also appraise the added value created by the planning options after its full execution, distributing the due share to each land owner based on their initial “investment”, represented by the pre-plan value of their properties.

This model should also be able to evaluate the compensation which is due to be paid to the owners who do not wish to participate in the plan’s execution.

The discretionary methods predicted in the Expropriation Code³ currently in force, often entail a lengthy and litigious process, and the final value has a lot of uncertainty. Moreover, the appraisal via the Expropriation Code’s methods is not suitable for the land readjustment process because it does not take into account the need to create equity among the owners, only considering one case in particular.

² Decree-Law n° 380/99, of September 22nd, altered by the 6th time and republished by the Decree-Law n° 46/2009, of February 20th

³ Law n° 168/99, of September 18th, altered by the 4th time and republished by the Law n° 56/2008, of September 4th

OBJECTIVES AND METHODOLOGY

The final objective of this dissertation is the construction of a flexible property appraisal method which can be applied to land readjustment situations, obtaining pre-plan and post-plan values which are realistic and reasoned by measurable and easily perceived parameters, and which can also be applied to the appraisal of real estate properties inserted in land readjustment processes that need to be expropriated through public interest

To reach the desired goal, the following methodological steps will be followed:

- Survey and analysis of real estate appraisal models, from the traditional methods to the mass appraisal methods used for expropriation and tax purposes, in a national and international context;
- Survey and analysis of the state of the art in terms of real estate appraisal applied to land readjustment processes in Portugal;
- Identification of the necessary, measurable and easily identifiable characteristics used in the formulation of the property value;
- Theorization and elaboration of a simple general method for land and construction appraisal values, applied to land readjustment situations, based on the analysis made of previous tasks.

INTERNATIONAL CASE STUDIES

Four countries as well as Portugal were selected for the study: Germany, Denmark, Spain and Italy. Besides expropriation, real estate tax appraisal methods were also studied as they are usually based on mass valuation systems, which are likely to not be discretionary. The methodology consisted of the study and comparison of the legal framework regarding expropriation and tax appraisal for each country, trying to register both its characteristics and also related procedures such as: appraiser agents; appraisal frequency; discretionary value defining factors; possibility of appeal appraisal values to a higher body; among others. For this reason, the core references used were for the most part the legislative body applicable to these situations in each of these countries.

The following tables synthesize two of the observed characteristics of both expropriation and tax appraisal models.

Table 1 classifies the observed models according to discretion: totally closed (real estate value results from direct application of deterministic methods or formulas), totally open (real estate value definition is left to the total discretion of those performing the appraisal), or intermediate (only some of the involved factors are discretionary, in which case they are identified below).

Table 1: Discretionary degree of the model

Expropriation appraisal			
	Totally closed model	Discretionary factors	Totally open model
Germany	-	-	Each real estate type appraised using a specific method
Denmark	-	-	All real estate are appraised using market value, without a specific method indicated
Spain	-	Some location factors and the real estate promotion coefficient, although between reference ranges	Urban plots appraised using the comparative method
Italy	Agricultural land	-	All other real estate appraised using market value, without a specific method indicated
Portugal	-	-	Each real estate type appraised using a specific method
Tax appraisal			
	Totally closed model	Discretionary factors	Totally open model
Germany	Yes	-	-
Denmark	Yes	-	-
Spain	-	Some coefficients applied to land and constructions, although between reference ranges	-
Italy	-	Cadastral category; Cadastral class	Unbuilt plots ready for construction are appraised using their market value, through the comparative method
Portugal	-	Most factors applied to rustic real estate appraisal; Some quality and comfort coefficients, although between reference ranges	-

Table 2 succinctly lists the main factors used to define the real estate value for expropriation and tax purposes in each country, regardless of which type of real estate they are applied to.

Table 2: Main factors used in the definition of the real estate value

Expropriation appraisal	
Germany	Plot and built area surface; Location
Denmark	Plot and built area size; Location
Spain	Plot and built area surface; Location; Ability to generate agricultural income; Conservation; Age; Type of use; Building typology; Gross floor area ratio; Public debt reference rates
Italy	Real estate size; Location; Ability to generate agricultural income
Portugal	Plot and built area surface; Location; Construction cost; Urban infrastructures; Infrastructural networks; Conservation; Type of use

Tax appraisal	
Germany	Real estate surface; Location; Ability to generate income; Building typology; Conservation; Age
Denmark	Real estate surface; Location; Ability to generate income; Building typology; Type of use; Gross floor area ratio; Age; Construction materials; Equipment; Rehabilitation
Spain	Plot and built area surface; Location; Ability to generate agricultural income; Type of use; Gross floor area ratio; Age; Construction materials; Rehabilitation; Physical and building characteristics of the plot (depth; number of facades; irregular shape; dimension below adequate)
Italy	Real estate dimension by metric unity; Location; Building typology; Type of use; Ability to generate income; Building characteristics
Portugal	Construction cost; Plot and built area surface; Location; Type of use; Age; Ability to generate income; Building characteristics; Number of trees; 3 month Euribor rate

The legislation regarding expropriation through public utility in four of the five countries uses a similar terminology to address the compensation value: in Germany, Spain and Italy the reference is to a “fair value”, while in Portugal it is “fair compensation”. The Danish must give “full compensation”. This last definition seems to be more specific comparing to the discretionary notion of “fairness”.

The real estate appraisal methods for expropriation through public utility have been undergoing changes in some of the observed countries. The purpose of those changes is to ensure affected citizens receive adequate compensation, and to reduce existing discretion. However, discretion is still a factor present in all of them. The Danish case is the most obvious, whose law has no indications regarding the methods which can or should be used. In Italy and Germany, each type of real estate is appraised according to a specific method selected as the most appropriate between the three typically used approaches to real estate appraisal: the sales comparison approach, the cost approach and the income approach. Those 3 approaches are also used in Portugal in the appraisal of buildings and land without construction ability, while land with construction ability are appraised regarding their potential urban value according to a specific method laid out in the Expropriation Code. The Spanish case is noteworthy due to the innovative methodology introduced by the new Appraisal Regulation for the Land Act (RVLS⁴), specifically in terms of the appraisal of unbuilt land plots. Discretionary liberty derived from the lack of objective rules traditionally cause great value variations in appraisals in litigious cases. To tackle the problem, Spanish legislators created a complex methodological body supported in objective formulas, which take into account several factors likely to define the value of unbuilt land. Having only been active for the last 2 years, it is still early to conclude if this innovative attempt to solve the discretionary problem will prevail be replicated in other countries.

Most of the observed real estate tax appraisal systems are using its market value as reference. The German (the oldest of the five) and Italian (whose current reference are market values but still supported by a methodological basis created in the 1930's to use income values) systems have received the most criticism regarding the total lack of correspondence between tax value and real estate value. The criticism gave rise to a discussion in both countries about the creation of new appraisal models, which

⁴ Royal Decree nº 1492/2011, of October 24th

is undergoing at this moment. The Danish and Spanish systems, as well as the Portuguese one, were all created over the last 40 years. They have a strong relationship between tax value and market value, using it as their reference but without trying to mimic it. All three systems have also been suffering general criticism due to their inability to quickly incorporate the big decline in value of the real estate market in recent years. That inability occurs even though both legislations predict general or key coefficient revaluations to be performed on a regular basis, every 2 years in Denmark, every 3 years in Portugal, and every 5 years in Spain.

PRACTICE OF PROPERTY APPRAISAL METHODS AND MODELS FOR REAL ESTATE UNDER LAND READJUSTMENT IN PORTUGAL

Prior to the publication of RJGT, there was no legal obligation to compensate property owners who were at a disadvantage compared to others who might have been granted any boon through planning options. Despite that fact, one of the major Portuguese examples of property appraisal models for real estate under land readjustment, the Detailed Plan of Alto de Algés⁵ (PPAA), was elaborated and published before RJGT, and became a case study, demonstrating the potential of what could be done in this area. According to Serpa (2002), it developed a land readjustment methodology that defined criteria for calculating the average valuation resulting from the proposals of the PPAA in the intervention area, as well as the specific depreciations and appreciations caused on each property. It considered the whole chain of value creation, from the initial land values, to costs related to executing the plan, and up to the specific prices for the final real estate products. All these values were based on market screenings. The average valuation was then used as the reference for the compensation system and the distribution of costs and benefits.

In the initial 13 years following the publication of RJGT, the Portuguese practice of property appraisal methods for land readjustment has been very scarce. Only 4,6% (17) of a total of 371 approved detailed plans elaborated using RJGT framework have considered a difference between the pre-plan and/or post-plan property value (Condessa et al., 2013), and most of them differentiate their values only by using coefficients related to the urban ability of land (pre-plan) or types of use of buildings (post-plan), so in fact these cases don't really appraise their properties, rather differentiate them with administratively defined coefficients.

The only detailed plan which explicitly uses some kind of method to appraise its real estate properties, thus distributing costs and benefits in regard to the values obtained, is the Detailed Plan of the Northern Expansion Zone of Sines⁶ (PPZENS). The PPZENS assumes the plan covers a homogeneous area, so the pre-plan land value of all properties is the same. It only differentiates the post-plan value, appraising the solution proposed by the plan, which is the basis for the equitable distribution of costs. The plan's net value is determined by an appraisal of its urban proposal through the Portuguese tax appraisal

⁵ Published in "Diário da República", II Series, of February 26th of 1999, pp. 2916 to 2920

⁶ Published by the Notice nº 23801/2011, of December 12th

method in the Real Estate Municipal Tax Code (CIMI⁷), and subtracting the construction costs of the buildings (Condessa et al., 2014).

METHODOLOGICAL PROPOSAL OF A PROPERTY APPRAISAL MODEL FOR REAL ESTATE UNDER LAND READJUSTMENT

The methodology must take into account that there are three moments in time in which an appraisal for land readjustment purposes can be conducted: the pre-plan moment, any intermediate point in time, and the post-plan moment. Each of these moments should have an appraisal oriented towards the specific characteristics of the existing real estate property that may need to be evaluated.

Both the pre-plan and the intermediate moment appraisals assume the dissociation of the real estate's value into two parts, one in terms of the land value and the other the construction value. The property appraisal of the pre-plan moment should be performed during the elaboration of the urban plan, being ready and validated upon its publication. The land is appraised using two methods, according to its classification. Rural land should be appraised according to the value of its potential maximum yield, in a similar way to what is done through the Spanish expropriation method, and to how, in theory, is already being done in Portugal with the Expropriation Code. Urban land should be appraised based the auscultation of market transaction values.

For both purposes, ideally a national database would be implemented which could gather information about land transactions and their rural uses (as happens in Germany, Italy and Denmark). In the case of fully built areas or where there isn't a significant number of land transactions recorded, land value would be derived from the observed values of built real estate properties, disaggregating their land and construction values by using the residual approach, considering the local costs associated with construction.

If the valuation method used is based on the land's permitted construction area (e.g. the method recommended in the Expropriation Code) rather than sale values in a free market, a percentage of its value which is relative to the absence of the risk and effort inherent to the construction activity, which has not been performed yet at this phase, should be removed.

In the case of an intermediate appraisal of initially rustic land where urban infrastructures have already been built, it is at this stage to be appraised as urban land, and its appraisal may consider added value derived from the profit of the urban infrastructure operation and creation of urban land, which should be distinguished from the windfall gains.

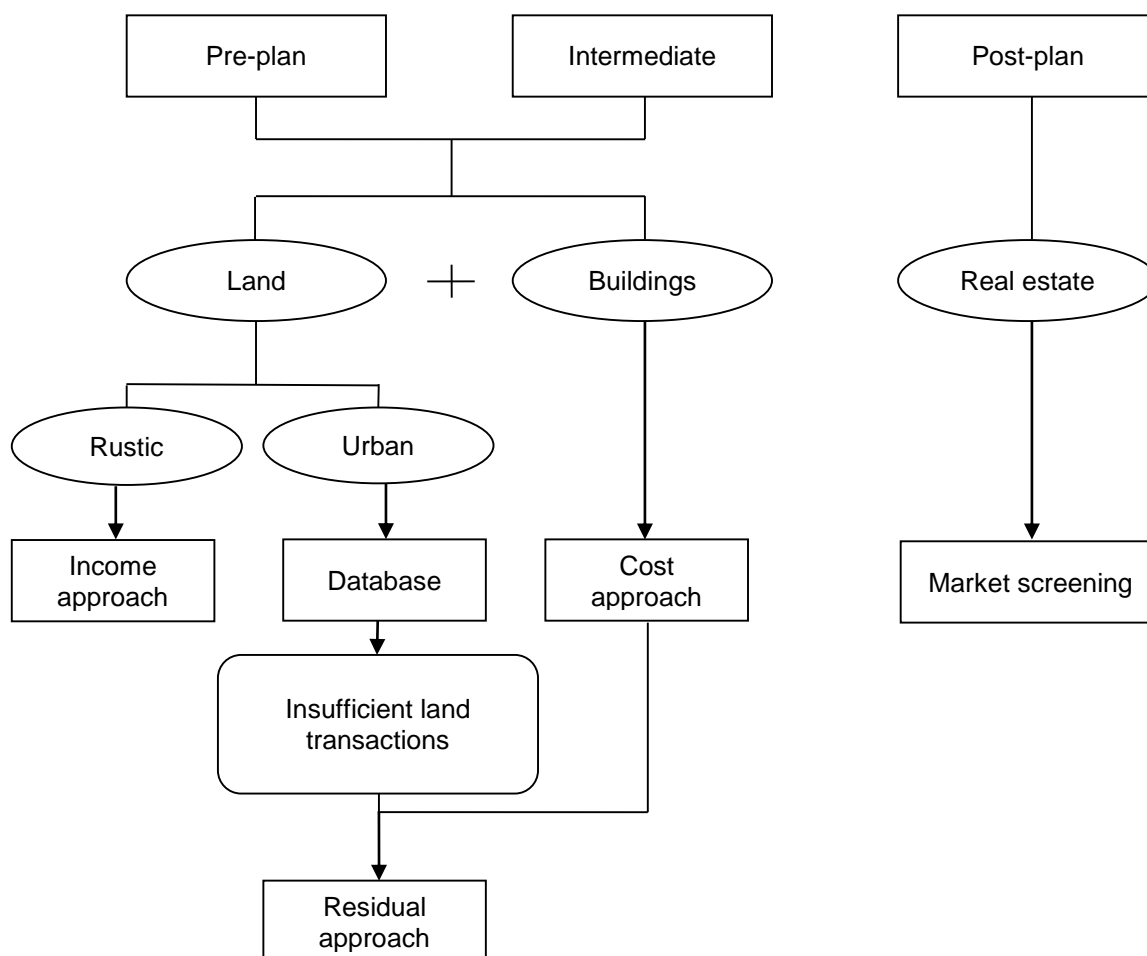
Buildings are to be appraised using the replacement cost method, considering their current conservation. A similar method to that of the Real Estate Municipal Tax Code (CIMI), with its formula expunged from the portion related to land value, and adapted to the appraisal of buildings with varying states of conservation, as for example the model tested by Videira (2006). In the case that it is necessary to perform an appraisal on buildings which are under construction, at an intermediate moment, the adopted method could be similar to the process of use in advance, as mentioned by Costa (2012).

⁷ Decree-Law n° 287/2003, of November 12th

The post-plan appraisal is based on a real estate market screening taking into account the final product which results from the execution of the plan, and constituted as a whole, without distinguishing between land and construction values. At this point the real estate product will be finished and ready to be placed in the market, so there is no need for a method or specific formula for its appraisal. A post-plan appraisal conducted “*a priori*” would be dependent on a correct definition the temporal effect has over the monetary value, and the evolution of the market value for the final product in the medium/long-term need for the plan to be executed and build that same real estate product. Although the post-plan value is needed to define the distribution of costs, if the plan is executed as a whole, financed by an external entity, the exact definition of the costs distribution can be determined after execution, and with greater accuracy.

A decoupling of land and construction values, if performed, would be done through the residual value approach, based on the observed market value of the property, and by subtracting construction as well as other costs (administrative costs, financial costs, etc.) and the profit margin (only partial, not forgetting that a part of it is also applied to the land value).

Figure 1: Schematic proposal of a methodology for the appraisal of real estate subjected to land readjustment (“Perequação”)



CONCLUSIONS

Little over a month ago marked the 15th anniversary of the publication of RJIGT, and the implementation of the mandatory inclusion of land readjustment mechanisms in the detail plans published in Portugal.

The effective implementation of such plans has been somewhat inchoate in recent years (Condessa, 2014), which may relate to the effects of the housing crisis and lack of investment in recent years. But this also cannot be dissociated from the difficulty of implementing land readjustment mechanisms required by law, and the lack of a robust pre-plan financial analysis which demonstrates its feasibility and proves the creation of added value for owners and investors.

In terms of the construction of an appraisal model for real estate under land readjustment, it is necessary to remember that the current legal framework is an obstacle to its creation. In particular, an amendment or alteration to the Expropriation Code would be required, aimed at both its methodology as well as related to the appraisal moment it considers.

One of the major obstacles is the fact that the Expropriation Code represents a risk for the public administration, as it doesn't have an objective appraisal method and the value it determines can be defined in court though a subjective process. Another problem is that it considers that the appraisal of real estate must be performed according to the property rights included in the detail plan in which the declaration of public interest is justified, rather than appraising them according to their status at the time immediately before. In both Germany and Spain the effects of the new plan are disregarded, and the time reference for the appraisal is the moment which immediately precedes the approval of the plan and the declaration of public utility which sustains the expropriation. Both Correia (2002) and Pardal & Lobo (2011) think the pre-plan appraisal which sustains the economic value each property will bring to the planning process must be performed immediately before the approval of the plan.

In my point of view, the implementation of an appraisal model should be governed by simple appraisal principles and be based on the transparent public listing of real estate values practiced in the market, made available by the municipalities. The compilation and publication of land value charts for rustic and urban land would represent a step forward in this direction. Pardal & Lobo (2011) consider the production, by the municipality, of charts of real transaction values in its territory would be important as they would act as a source of information in the consideration of financial aspects in their municipal plans.

That production could even be extended to the average construction costs on a municipal level, and maybe even to the average transaction values per surface area of finished real estate products, both new and old, based on actual transaction values, collected at the time of the notary deed of purchase and sale, which should be organized on a national database. These indexes and charts would not only be a source of transparency, on which the municipal production of urban plans could be based upon,

but could also reflect a competitiveness factor between municipalities, and even be a pull factor for migrants.

The methodological proposal made represents a starting point for the construction of a general model that can be applied to all kinds of plans under land readjustment. Any of the appraisal methods proposed for each of the three moments could still be further developed, with each having its own challenges.

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