Case Study

Land Value Capture from Touristic Development: Methodological Approach and Practical Implementation

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Abstract: Considering the increasing touristic supply and demand, globalization, and the entailed increases in property prices, which strategies and instruments should urban planning use to take advantage of these higher prices and revert them on behalf of the local inhabitants to ensure them a good quality of life? This article will propose a planning instrument that is based on the capture of betterments that stem from municipal decisions, which will revert to the infrastructure's provision, maintenance, and renewal that result from urban interventions or to fulfill social goals, or both in traditional residential neighborhoods. In this article, this instrument will be applied to Planning Unit UP11 (UP11) of the Urban Development Plan for the Municipality of Lagoa, Algarve, Portugal. This article could contribute to the debate on the role of planning and tourism-oriented land use management strategies, policies, and instruments. It will attempt to assess the impact of public-engendered land betterments on local populations and could create value for local communities, which ensures their quality of life. **DOI: 10.1061/(ASCE)UP.1943-5444.0000765**. © *2021 American Society of Civil Engineers*.

Introduction

When a decision that concerns the development and implementation of a touristic settlement is taken, it immediately triggers a substantial increase in land prices (betterments). These betterments are aggravated by the attraction that these decisions exert on capital investment, mostly from abroad. Therefore, this article aims to identify (theoretically and practically) how these betterments (that result from public decisions) could be recovered through fees, taxes, or wealth redistribution devices, and then socially reassigned.

The proposed instrument in this article potentially reinforces municipal finance and further fosters the communities' quality of life (e.g., through the provision of infrastructure, facilities, and public services). To test its validity, this instrument is applied to Planning Unit 11 (UP11) of the Urban Development Plan of Lagoa, Algarve, Portugal. This case study was chosen for multiple reasons: (1) it is in the Algarve region, which is the Portuguese region that has attracted a higher percentage of foreigners over the last four decades; (2) it represents new touristic developments in coastal areas, it could potentially attract tourists and investors; (3) its urbanization projects are specially designed for touristic uses, which focus on high-quality market segments; (4) they require marketing campaigns, and challenge the balanced cohabitation of tourists and local communities; and (5) this instrument fits the economic and financial sustainability's requirements that are reflected in the Portuguese Land and Planning Act (Law n° 31/2014) for the approval, or revision, or both of Municipal Master Plans or other urban plans.

This article resulted from consultancy work that was ordered by the Portuguese Department of Territory, during the revision of the legislation on land, land use planning, and urban development. It attempts to analyze the feasibility of introducing an instrument to capture land betterment that arose from public decisions (which could revert on behalf of the population) into general universal law.

This case study could contribute to the existing literature, especially in spatial planning and land value capture. Although it could be a technical contribution to support decisions, it allows for political agendas, which might suit the socioeconomic characteristics of local contexts. Therefore, an unbiased proposal is presented for land and betterment assessment, which is based on publicly available, reliable, and comparable information. The proposed 30% betterment capture could meet the local populations or communities' needs, without discouraging private urban development and building initiatives.

This article highlights that the public regulation of property markets, for instance, through the development and application of instruments, such as the one proposed in this article, allows for a fairer and more equitable distribution of value increases that are engendered by public planning, or investment decisions, or both. In addition, it shows that these value capture instruments are advantageous compared with other forms of municipal urban development-based funding, such as planning laws and regulations, taxes, exactions, or contributions in kind. In this article, it is landowners and developers that, in return for the benefits they enjoy from planning decisions, could (at least partially) fund the costs of infrastructure, equipment, public services, and other social goals. In addition, the advanced public disclosure of the betterments' planned applications clarifies public opinion on the public and private costs and benefits that arise from urban development and clarifies the role that these instruments play in wealth redistribution (compared with the *strito sensu* tax concept).

Therefore, this instrument (or similar ones), its underlying data, and other additional insights on local contexts could inform the development of legislation and planning instruments that aim to capture betterments.

Theoretical Framework

Although the theme of value capture is not new, international interest and research into it have grown exponentially recently. This is mainly explained by the increasing municipal budgetary constraints,

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Note. This manuscript was submitted on January 14, 2021; approved on May 28, 2021; published online on November 9, 2021. Discussion period open until April 9, 2022; separate discussions must be submitted for individual papers. This paper is part of the ***Journal of Urban Planning and Development***, © ASCE, ISSN 0733-9488.

additional funds that are required for social initiatives (increasingly in demand), and the growing financialization of urban development and the real estate markets. This set of factors questions the independence of planning decisions at a local level and the communities' sustainability and quality of life when faced with globalization. Several gaps, weaknesses, and contradictions in the planning literature and practices result from the lack of consensus on the relative importance of the factors that trigger increases in the value of land, which include the impact of public decisions, and therefore, the threshold between betterment and profit. Betterments and their capture are politically and socially controversial, because they interfere with land property rights, which are deeply rooted in neoliberal culture, especially in more developed countries. This questions how much communities should benefit from increases in the value of land that result from public decisions and interventions. The limits between private property rights and citizens or communities' rights over betterments that are engendered by public decisions are unclear in the literature. It is further debatable the extent that property markets should be regulated by public intervention, for instance, concerning how this public-engendered increase in the value of land should be recovered (either through planning laws and regulations, taxes, exactions, contributions in kind or money, or using other instruments). In addition, researchers disagree on how built land should be divided to assess its components of real estate (more objective) and underlying land (more subjective, which considers its current and potential uses, use intensities, or use changes, and it is more difficult to ascertain). In addition, to what extent should value capture instruments be faced as taxes or, in contrast, as instruments of wealth redistribution?

To these conceptual gaps, shortcomings and contradictions, accrue some operational ones. They refer to: (1) the applications of the captured betterments, which include the expansion and reinforcement of infrastructures, social goals, or both, and to what extent; (2) the responsibility, benefits, and obligations that private developers should assume in urban development; and (3) the design, implementation issues, and risks that are inherent in value capture instruments. The subjectivity involved in the betterment concept and computation requires its quantification through objective and reliable parameters; therefore, it could inform legislation and the design and application of land policies and instruments. For Portugal, the Land and Planning Act (Law nº 31/2014, which enforces the Portuguese Land Territorial Ordering and Urban Development Act) requires the justification of the economic and financial sustainability of urban interventions. This concern attempts to bridge the gap between the physical–morphological and the economic–financial approach, which could allow further research into the interfaces between territorial and sectoral planning. These gaps, uncertainties, weaknesses, and contradictions show how challenging and complex the design and implementation of value capture instruments are.

Neoliberal Shift

There is an increasing touristic demand in many cities globally, which is fostered by globalization and increasing accessibility and mobility (where the low cost of accommodation and transport is crucial) (Mikelbank 2004; Siethoff and Kockelman 2002). The triggered increase in supply has been nurtured by the fast growth of available local accommodation for touristic uses, increases in the supply by institutional promoters and public bodies (that recover old buildings and license them for touristic uses), and through new touristic developments that provide different lodging modes (Adair et al. 1999b, 2003; Beswick and Tsenkova 2002; Dikeç 2007). Touristic growth pressures public finances to provide additional infrastructure, equipment, and services. However, this means that residents are more aware and demanding of the appropriation of their space. This triggers claims on their daily lives, for instance, their attempts to get closer to differentiating innovative local features (Lang 2005; Savitch 2011). In addition, local communities are increasingly complaining about additional taxes.

The subprime crisis in 2008 and other economic and financial widespread crises undermined the financial support from central to local governments, which decreased the income that stemmed from traditional taxes (Alterman 1988, 2011; Altshuler and Gomez-Ibanez 1993; Callies and Suarez 2005; Ingram and Hong 2012; Nelson et al. 2008; Rosenberg 2006). In addition, increasing costs that were entailed by the provision of additional infrastructure, equipment, and public services and the residents' and visitors' expectations of their expansion and upgrading have all contributed to aggravate municipal burdens.

Therefore, neoliberal policies have gained ground at the expense of discrediting the previous belief in the welfare state and have had a significant effect on public land use policies (Fainstein 2010; Harvey 2008; Soja 2010). These policies represent market mastery and the replacement of the welfare state by the regulatory state, especially for the regulation of land use (World Bank 2009).

Increasing shortcomings in municipal budgets, the population's openness to liberal strategies and policies, privatization trends, the publics' opinion concerned with urban and environmental issues, fiscal decentralization toward local bodies, and other outstanding issues, such as the behavior of the real estate market (Brown and Smolka 1997; Walters 2011), have all lead local decision makers to adopt new strategies and instruments to support the provision of infrastructure, equipment, or social services (Faludi 2009; Plevoets and Sowińska-Heim 2018). However, due to this neoliberal shift, public powers are no longer expected to be exclusively responsible for the achievement of these public and social goals (Brown and Smolka 1997; Sacco et al. 2019; Smolka and Amborski 2003; Walters 2011).

The current spatial planning debate opposes those that stand for free operation of the market and those that support land public ownership as a guarantee of equity during urban development (Fainstein 2012; Harvey 2000; Needham 2006). The land use planning debate approaches land use as a public activity; however, it encounters property rights that prevail in a free market (Needham 2006). Some researchers support state intervention (i.e., through land use planning) to provide the necessary means to meet social goals (Booth 2012; Needham 2006; Fainstein 2010). However, other researchers favor private land property rights (Nozick 1974).

Public bodies have increasingly resorted to the design and implementation of instruments (mostly financial-based) that involve private entities in decisions that traditionally belonged to the public sphere (e.g., the provision of services, urban equipment and infrastructure, and public spaces) (Birch and Siemiatycki 2016; Kitson and Michie 1997; O'Connor 1973). Through the adoption of private management rationales, public entities transfer the risk to the private sector (that aims to invest in profitable products and services) (Adair et al. 2011; Torrence 2008). Therefore, they assume higher efficiency when gathering funds and supporting charges with roads, parks, urban facilities, social and affordable housing, adaptation to climate change, and the mitigation of its consequences (Calavita and Mallach 2009; Cardoso et al. 2011).

Economic and Financial Globalization of Urban Development

The literature to date highlights the relevance of contextual factors and urban-oriented financial instruments for the formulation of urban policies (Aalbers 2019). Furthermore, it attempts to explain

the decisions of urban agents, for instance, financial institutions, which increase property prices through credit concession. In addition, they assess the role of new technologies that could provide public infrastructure, which is based on market trade and information sharing (Foley 2011; Guironnet and Halbert 2014; Webb 2013).

State and governments have started to play new roles in this global framework, broadening and diversifying their skills, responsibilities, and spheres of action. Therefore, the role that planning could play when attracting tourists and investment, and when assigning responsibilities to entities that could monitor and manage this human and financial capital, should be considered. Planning should then apply the capital raised on behalf of regional and local developments, which assure the efficient management of the land valorization potential (Adair et al. 1999a, b, 2003; Beswick and Tsenkova 2002; Dikeç 2007).

In addition, states and cities increasingly resort to approaches that are based on strategic marketing and city branding to strengthen their competitive skills and attract potential targets. These improve urban development, trigger public services, and boost social and economic sustainable development (Birch and Siemiatycki 2016; Eshuis et al. 2013, 2014; Florek et al. 2019; Hall 2004; Hankinson 2010, 2015; Herezniak and Anders-Morawska 2015; Houghton and Stevens 2011; Krätke 1992; Nunes 1999). These strategies highlight the value of cities (Barros 2011; Kanter 1995; Kotler et al. 1993; Kotler and Armstrong 1980; Scott 2006), and balance the interests of the different city stakeholders (Kanter 1995), therefore strengthening territorial advantages, reinforcing exchange networks, and consolidating creative capacities (Cidrais 1998).

Assessment of Urban Land

Many researchers gathered the factors that mostly influence increases in land value (unearned increments) (Ayougu 2007; Bhatta and Drennan 2003; Canning and Pedroni 2008; Carroll 2008; Haughwout 2002; Hong and Brubaker 2010; Mikelbank 2004; Moreno and Lopez-Bazo 2007; Siethoff and Kockelman 2002; Smith and Gihring 2006; Taylor and Brown 2006; Walters 2011; Weber et al. 2003). These factors are: initial land productivity (Hong and Brubaker 2010); improvements lead by its owners or tenants; population growth and density; local economic development (Hong and Brubaker 2010; Ingram and Hong 2012; Walters 2012); public investment in infrastructure and equipment, and public services; and land planning and regulation on land uses and intensities (Alterman 2011, 2012; Ingram and Hong 2012; Smolka and Amborski 2003; Walters 2012). If these unearned increments result solely from public action, they are specifically called betterments.

Considering these multiple factors, the increases in property values that accrue from tourism are complex, because of globalization (Adair et al. 1999b, 2003; Piketty 2014, 2015; Sassen 2000). From this global perspective, the supply of spaces becomes increasingly flexible, because they should fit different tastes and preferences, which increase their occupation and profitability. In addition, touristic demand, which is often encouraged by development strategies and policies, exerts inevitable effects on real estate prices. It involves public, private, or mixed public–private interests, which are governed by planning laws and regulations and by the profit and utility optimization goals of different stakeholders. They engender tensions between property and land use rights that oppose private and public divergent interests. Therefore, decisions change between fulfilling tourists' and investors' interests versus the advocacy of local communities.

In economic terms, property values increase with demand, and this increase is higher when the supply is less elastic. This increase in touristic demand (that often is a result of policies and strategies that are targeted at tourism) triggers another increase in supply. This increase includes cyclical and structural components, which are differentially weighted, according to specific local realities (Barlowe 1986; Besanko and Braeutigam 2011). The supply includes new and recovered dwellings or buildings, or both. Their use or intensity of use engenders potential increases in land values (Barlowe 1986). However, as supply maintains pace with increases in profitability, the property becomes more expensive, despite increases in supply elasticity, which should be expected to relieve property values.

Public initiatives affect the value of the land market for urban development's (Walters 2012) and the value of private land in locations that are close to infrastructure, equipment, and major urban interventions (Alterman 2011; Ayougu 2007; Canning and Pedroni 2008; Carroll 2008; Haughwout 2002; Moreno and Lopez-Bazo 2007; Siethoff and Kockelman 2002; Bhatta and Drennan 2003; Weber et al. 2003; Mikelbank 2004; Taylor and Brown 2006; Smith and Gihring 2006; Walters 2012), which benefits property owners and developers in wider areas.

The value of touristic developments depends on their location, dimension, and real (licensed) and potential (expectable) land uses. The increase in population and the densification of land use that results from tourism, reinforce local economic development. This is because the new population (and the previous one) requires the provision of additional infrastructure and equipment, and increased and improved public services, which increase the value of land (Walters 2012). However, it is hard to measure incremental land values (unearned increments) that accumulate from a long-term growing population and economic development trends (Walters 2012).

Considering that any assignment of land uses (even for touristic purposes) is a politico–administrative decision, land use policies should perform according to a global and integrated model. Therefore, the same planning system should embrace many different territorial facets that characterize and constrain property markets, which include the interests of different stakeholders.

In addition to the betterment that accumulates from decisions to develop and implement plans, some improvements might arise from private investments. The latter are rewarded through profits and the former, according to many researchers, should be recovered on behalf of the communities' general social interest (Rebelo 2009). However, it is hard to measure increases in land value that arise from plan implementation (Rebelo 2009; Correia 1993; Pardal 2006b) or increasing tourists and/or entailed economic growth. Furthermore, some difficulties are revealed during the calculation of land values (Rebelo 2009), which are due to different assessment methods, market imperfections, shortcomings in policies, and subjective interpretations of value. The true value of the land can only be accurately determined in the free market (Ingram and Hong 2012).

The effects of the private interests of stakeholders (that are often shaped by the intervention of financial institutions or new technologies) should be considered, which concern the engendered expectations, their monitoring, and the potential to recover them through fees, taxes, or social reassignment mechanisms (Aalbers 2016; Adair et al. 2003; Beswick and Tsenkova 2002; Degen and García 2012; Eshuis et al. 2013, 2014; Dikeç 2007; Theurillat and Crevoisier 2013; Torrence 2008).

Land Value Capture Instruments to Fund Urban Development

Different strategies are adopted to recover (at least part of) the betterments that are introduced in land values by public decisions.

They might be based on legislation, regulation, planning, or on fiscal, financial, or knowledge–organization and dissemination instruments (Gielen and van der Krabben 2017; Ingram and Hong 2012; Ko and Rosenblatt 2013). Different intervention instruments are referred to in the literature. They include: control instruments (e.g., territorial management instruments, easements, and public utility constraints), implementation instruments (e.g., administrative licensing and terms), acquisition instruments, mixed economy instruments, general and real estate taxation, territorial taxes and incentives, compensatory processes and nonfinancial mechanisms, and monitoring and information mechanisms (DGOTDU 2011).

Within this scope, innovative funding instruments are increasingly required to support urban development and redevelopment (Medda et al. 2012). In addition, the international funding sources for real estate developments (Squires and Heurkens 2015, 2016) have triggered financial and fiscal innovation, especially when faced with public budget restrictions (Bartke 2013). Financial and fiscal-based strategies have shaped the evolution of urban policies, initiatives, and actions (Adair et al. 2003; Couch et al. 2011). Therefore, local decision makers have increasingly adopted value capture instruments to replace and complement the income that is gathered from traditional taxes (Alterman 1988; Altshuler and Gomez-Ibanez 1993; Callies and Suarez 2005; Ingram and Hong 2012; Ko and Rosenblatt 2013; Nelson et al. 2008; Rosenberg 2006; Walters 2012). These instruments are better described as social redistribution mechanisms, instead of being purely fiscal ones (Alterman 2010, 2011; Brown and Smolka 1997; Smolka and Amborski 2003). However, they do not levy the general population, and attempt to recover part of the unearned increments that are engendered by public decisions, public investments, or general community or economic growth, and revert them on behalf of the community (Hendricks and Tonkin 2010; Smolka and Amborski 2003; United Nations 1976; Walters 2011, 2012). They are levied on landowners, promoters, or developers, or all, against the assignment of urban development licenses, loosened regulations, or even faster approval of urban projects (Alterman 2011).

Land nationalization and the adoption of long-term public leaseholds instead of private property (Bourassa and Hong 2003; Hall 1976), land readjustment (Davy 2007; Doebele 1982; Needham and Hong 2007), and land banking (Atmer 1987; Bourassa and Hong 2003; Hall 1976; Laanly and Renard 1990; Strong 1979) are macro policies and instruments aimed at land value capture, despite fitting a broader policy framework (Alterman 2011). Macro policies that retain land in the hands of public authorities are the most efficient way for state and municipalities to control the equal distribution of betterments that accrue from their decisions (Ingram and Hong 2012; Fainstein 2012). These policies prevailed in Portugal until 1965, when all the developable land belonged to the state. In China, municipalities follow land readjustment policies. They buy agricultural land plots, endow them with infrastructure, and then sell plots of land that are already licensed to developers. The difference between the urban and agricultural values of the land reverts to the municipality and represents an important share of local income, which covers infrastructure costs. Some cities engage in public–private partnerships, which provide public land to private developers in exchange for a share of the urban development profits. The communities reach an agreement with the private developers that, in exchange for the implementation of the proposed projects, should bring about housing and employment in their boroughs (Wolf-Powers 2010). Hong Kong cities have created their wealth, which resorted to public–private partnerships that operationalized a value capture model where public transport firms use the income that accrues from the joint development of housing communities and trade areas around bus stops to fund expensive transport projects or in the development of new cities (Foley 2011; Ingram and Hong 2012).

Despite the success of these and other macro policies, property rights have challenged their strength. The conversion of private rights into public leaseholds are hard to make operational unless authorities buy properties that already exist and then lease these plots to their users (previous owners) (Fainstein 2012). In addition, most countries do not have legislation, regulatory authorities, or operational means to charge for land betterments.

However, other types of policies and instruments are aimed specifically at these goals: indirect and direct ones (Alterman 2012). The former attempt to capture the unearned increments and apply them to specific pragmatic and quantifiable goals, such as public infrastructure, equipment, or services. They cover a broad range of policies in many cities and countries and are often adopted by local governments. The latter attempts to recover the unearned increments. However, they rely on the rationale that those that benefit from public infrastructure, land use plans or regulation, or from the general economic conditions, should share their increased wealth with the general community (Alterman 2010; Skaburskis and Qadeer 1992).

A large number of municipalities, urban planners, and decision makers that are responsible for local public finance (i.e., in North and Latin America) have developed and applied indirect value capture instruments, for example, improvement taxes, betterment contributions or special assessments, to finance the infrastructure that is required by urban development, according to their anticipated benefits (Rebelo 2014b; Smolka and Amborski 2000, 2003; Walters 2012). In Latin America, these instruments are applied to areas that are already occupied, and in the United States and Canada, they are usually enforced in new urban projects (whose outreach varies from a central, provincial, or local scope). The latter is intended to pay for their required infrastructure (according to the tenet of benefit), but they do not cover the costs of new developments or real estate developments that are aimed at new residents. In European countries, indirect value capture instruments are framed by detailed national or regional legislation. These include the community infrastructure levy in the UK, the *tax d'amenagement* in France, *cargas de urbanización, cesiones and reservas de suelo* in Spain, and *exploitatiebijdrage* in the Netherlands (Gielen and van der Krabben 2017), which are more detailed in land use and zoning local plans. In Denmark, a special land development tax was levied before 2004, which required developers to pay approximately 50% of the betterment that accrued from zoning changes whenever agricultural land was legally transferred into an urban zone (Walters 2012). In Argentina, municipalities can resort to the contributions levied on land value increments to fund public works. They then identify certain categories of beneficiaries and share building costs with them, proportionally to the estimated benefits (Rezk 2004). In addition, the impact fees and development charges have been largely used in the United States, especially in the states of Vermont and Pennsylvania (Daniels et al. 1986; Gihring 1999), in Canada from the late 1950s (Amborski 1988; Altshuler and Gomez-Ibanez 1993; Smolka and Amborski 2007), and in Taiwan (Lam and Tsui 1998), Hong Kong, and Singapore (Hui et al. 2004; Alterman 2011). They consist of contributions that are charged to real estate developers and builders that aim to fund all or part of the infrastructure costs that are associated with new development undertakings. In India, certain states have enforced legislation that empowers local governments to levy taxes for infrastructure' improvements (Walters 2012). In Colombia improvement taxes (*contribución de valorización*) have been most successfully used to fund improvements in infrastructure (Borrero et al. 2011; Walters 2012). Recently, the tax *participación en plusvalias* has enabled cities to capture 30%–50% of the increase

in land values that resulted from the transformation of agricultural land into urban land through plans. The French *plafond legal de densité* collects the betterments due to construction above the maximum volume allowed by the *Plan Local d'Urbanisme*, which represents the benchmark building capacity in a certain area (Ingram and Hong 2012). This instrument is used to finance local infrastructure. Urban development fees levy the difference between future land value based on its building capacity and anticipated uses (once the urban development is complete) and its initial acquisition value. Developers contributions feed land management funds (*fonds d'aménagement urbain*), which are aimed at supporting local social housing and social-oriented goals. The *Tax di scopo* in Italy captures the betterment from the increase in gross built surfaces, land use changes, or accrued number of real estate units. In addition, the *Erschliessungsbeitrag* in Germany is a form of betterment capture from public infrastructure, through the collection of special contributions from property owners due to the urban development of a certain area after public infrastructure works. Brazil applies different capture mechanisms, for instance, the Municipal Charge on Building Rights that consists of the capture of betterment from public infrastructure or land use regulation, where a fee is levied whenever construction rights surpass a certain floor area ratio (FAR); and the Transfer of Building Rights, which translates into the accomplishment of building rights in another property whenever they were not possible in a specific property due to public interest. In some states in Brazil a variant of the improvement tax is applied: a local government agency identifies the amount and type of additional development that will be licensed in a given area, which is then empowered to issue Certificates of Additional Building Potential (commonly known as CEPACs), which are then auctioned off electronically.

A fiscal intervention to recover these betterments is economically efficient, because the more inelastic the land supply is, the increased tax charges will fall upon the landowners, and the less the deadweight losses. This means that the final consumer will not be hampered (Barlowe 1986). A tax (in its usual concept) distorts production economic decisions (because entrepreneurship and efficiency are discouraged by the expectations of paying taxes, therefore decreasing the available income); however, a land value capture must be paid regardless of the land being used or not and irrespective of its use. However, because land supply is inelastic, then the land market prices depend on how much the demand can pay, and not on the costs that are incurred by landowners, which means that land value capture is not passed directly on to the final users of the land (Barlowe 1986). Therefore, the earnings of landowners that result from public interventions correspond to the difference between the price paid for the land after the urban intervention and the price paid for its current use (DGOTDU 2011). The most commonly used method to compute betterments is the backward calculation method. It starts from the real estate selling prices (according to typologies, surfaces, areas, location, and financial charges) and subtracts the respective construction-related costs and intended profit, which gives the maximum price developers or promoters are willing to pay for the land (Martin 1993; Rebelo 2003, 2009). However, because the developed land exceeds the implantation area, betterment quantification is affected by the land use index that is defined in the enforced territorial plans (Guinote 2019).

The imposition of a land value capture will lower the betterment value for the landowner, therefore balancing the reduction in social welfare due to increases in the price of land (Mata 2011). This is why this type of tax should not be considered as a tax per se, but rather as a value capture instrument aimed at social reallocation (Alterman 2011; DGOTDU 2011).

In summary, if this land value capture is properly implemented, it will not distort production or the free operation of the market, or even engender deadweight losses, which usually happens with taxes in *stricto sensu*. In addition to being economically efficient, (Alexander et al. 2009; Netzer 1998; Rebelo 2009, 2012, 2014a, b; Smolka and Amborski 2007; Webb 2013), land value capture instruments trigger urban development and building activities (Fainstein 2012; Ko and Rosenblatt 2013; Webb 2013; Walters 2011). These instruments generally lower property prices and control speculation (Alexander et al. 2009; Ingram and Hong 2012; Rebelo 2009, 2012, 2014a, b; Webb 2013; Walters 2012). They do not aggravate building costs (Hong 1998; Smolka and Amborski 2003), are equitable (Ingram and Hong 2012), do not increase taxes for citizens in general (Alterman 2012), and represent an important source of public funds (Brown and Smolka 1997; Walters 2012) that are aimed at infrastructure, facilities, affordable housing, and public services (Alterman 2012; Rebelo 2014c; Walters 2012). In addition, they are easy to tax (Webb 2013; Walters 2011) and preserve the rights of private stakeholders (DGOTDU 2011; Ingram and Hong 2012; Ko and Rosenblatt 2013).

The most common types of land value capture instruments commonly used globally can be grouped into the following classification (Lincoln Institute of Land Policy 2020): (1) betterment contributions and special assessments (the owners of some properties pay the municipality a fee that covers the costs of public improvements and facilities they specifically benefit from); (2) charges for building rights (developers pay the municipality a fee for additional urban development rights, which are aimed at funding infrastructure and other public enhancements; in some jurisdictions, the promoters can bid for development rights vesting the form of higher FARs than the ones enforced); (3) exactions (developers pay the municipality in cash, land, or in kind to support the charges with the additional public services or facilities that are required by their development operation, in exchange for special approvals or licenses to develop or build in a particular location); (4) impact fees (linkage fees) (developers pay the municipality a lump sum that is aimed at covering the costs entailed by the impact of a particular development operation, and then the municipality invests this income on certain public infrastructure, facilities, or services); (5) inclusionary housing or inclusionary zoning (developers provide the municipality with a certain number of dwellings aimed at medium–low income inhabitants, in exchange for the right to build residential or commercial properties at market prices); (6) land readjustment (landowners jointly cooperate with the municipality or with the developer to pool their land plots to develop a specific project; then the shared land is provided with infrastructure and urban equipment, and then each landowner receives a smaller but more valuable parcel of land, due to the enhancements that were accomplished, in proportion to their initial land); and (7) transfer of development rights [the landowners pay the municipality a fee to transfer the building density potential of a particular land plot (as established in the local zoning or planning) to another noncontiguous land plot that fits higher densities better; this fee generates income for public investment, and this density transference enables other urban development goals to be pursued].

Debate in Portugal on Property Taxes

In Portugal, there are four different taxes on property (Almeida et al. 2013; Correia 1993; Bird and Slack 2002; Sá 2005): municipal real estate tax (IMI), municipal transmission tax (IMT), tax over benefits that result from public investments, and the municipal urbanization fee (TMU).

The IMI tax is levied on the contributary patrimonial value of rural and town property, which is assessed according to the type of property, its location, age, and comfort level (this tax corresponds to property taxes in the United States). The tax rate is settled

by each municipality, between 0.3% and 0.45% of urban property values, and it is levied annually. However, owner-occupied housing, touristic, or rehabilitation buildings are tax-exempt.

The IMT levies properties whenever they are traded, and it is higher if they are of higher value. Therefore, the real-estate that is located in rapidly expanding municipalities pays higher taxes, despite often corresponding to ill-planned expansion areas. It is easy to collect, because it is imposed on declared transaction values, despite inducing inaccuracies because people are tempted to disguise the information that they disclose.

The tax on public investments levies betterments as capital gains. Betterment values are computed by the difference between the selling price minus the acquisition price, multiplied by the currency devaluation, minus the charges for the purchase and sale, and minus the charges that are supported to appreciate the asset during the previous 5 years. A rate of 50% is levied on this value. This was the first attempt to apply the concept of betterment capture in Portugal; however, its application was specifically localized, which had a slight effect on municipal budgets.

The TMU is levied on urban development projects. Through it, promoters, developers, and builders defray the completion, maintenance, and reinforcement of urban infrastructure born by the municipality. It corresponds to the development impact fee, land development levy, developer contribution, or local development tax, which are applied in Australia, Canada, France, Ireland, and the United States (Almeida et al. 2013). Each municipality settles the parameters for the computation of their values; however, for political reasons, they often fall short of the real costs of the infrastructure borne by the municipalities (Silva et al. 2012).

These fiscal instruments interact and contribute to strengthening municipal finance. The IMI and IMT represent an important contribution to municipal budgets. The former amounted to 18.9%, 26.0%, and 24.4% in 2018, respectively, in Portugal, the Algarve, and Lagoa and the latter represented 12.6%, 23.7%, and 27.8% of the respective budgets (Pordata 2018). The IMI and IMT are taxes (compulsory fiscal obligations, irrespective of any compensation from the state); however, the TMU is a fee that is imposed as a counterpart for the provision of infrastructure by the municipality. Despite being a tax, the tax over benefits that results from public investments is aimed at infrastructure and public equipment for the resident population and local communities. The municipalities levy IMI, IMT, and TMU and the central state is responsible for the tax over benefits that result from public investments (i.e., its effects on the municipal level are diffused or might not even exist).

Pressure on urban land increased from 2005, and therefore, municipalities converted rural land into urban land, which dispersed the urban perimeters. These decisions triggered the ambition for the private appropriation of engendered betterments and entailed corruption behaviors (Caetano et al. 2005). The planning systems failed to control the situation due to the disarticulation between land use planning, the market operation, taxation, and inefficiencies in the existing land instruments (Guinote 2019). Therefore, the revision of the Land and Planning Act (Law nº 31/2014) has become unavoidable.

Initially, the main goals pursued consisted of governing land rent and betterment formation and distribution; promoting more effective and proactive territorial management practices and bringing the different instruments of land policy closer together. These goals were pursued through the clarification of: (1) the rights and duties of the stakeholders involved in the land occupation, use, and transformation (e.g., public administration, landowners, developers or promoters, and the citizens in general); (2) the relations between property and urbanization or building rights, which ensured a transparent, efficient, and fair distribution of urban development costs and benefits that resulted from urban development or public investments.

The initial governmental proposal was concerned with the quantification of the increase in land value when it switched from rural to developable land, and from developed to program land. Special attention should be devoted to land that has urban development expectations: close to urban perimeters, with approved real estate development projects, or within the urban perimeter despite having no programming (i.e., a situation that already includes the betterment that results from its classification as developable). It is thought that this increase stemmed from public administration decisions and actions, irrespective of landowner intervention. This quantification should enable the development of betterment taxation instruments, and the assessment of expropriation values in the future. The government should then be able to advocate an equal nontax distribution model, where developers should grant some land to a municipal land bank in exchange for the earned betterment.

The new Land and Planning Act (Law n° 31/2014), which was approved in 2014, adopted a planning paradigm completely different from the previous one: until then the Portuguese planning system was mainly oriented by physical and morphological concerns. Its pillars are: (1) the flexibility to render the planning system more efficient and to attract investment; (2) the strategic character of Municipal Master Plans; and (3) the reinforcement of urban rehabilitation to foster cities. This law established a tighter relationship between land use planning and property tax instruments. Therefore, landowners and promoters should share the benefits and charges from urban development, and the betterments should be socially assigned. The betterments should be assessed from the difference between the land value before and after the implementation of new land use and be proportional to allowed land use indices, which respect the distribution of areas between different types of uses. In addition, municipalities should set up a municipal fund for environmental and urbanistic sustainability, which is powered by the collection of betterment fees, to promote urban rehabilitation, ecosystem sustainability, and provide environmental benefits.

Despite the proposals of the government to apply a universal betterment fee for Portuguese territory, with the clear definition of parameters for its computation, these matters were not approved by the national parliament to integrate the general land law. However, this law (Law nº 31/2014) does not recognize other sources of betterment (e.g., changes of use, requalification of certain areas, or the allocation of permits for more intensive land uses), beyond the territorial plans. In addition, it does not predict any type of intervention to govern the relationship between property and urban development rights, which are outstanding in betterment generation, capture, and social distribution. The rules for the parameterization of the improvements, the percentage allocated for social assignment, the time, and the conditions for the payment of the corresponding contribution were not anticipated in this law. These are strategic issues that were approached during the political debate that underlay the revision of the law but were not included in its enforced version, which questions a set of implementation inefficiencies.

This law gives Municipal Master Plans a mandate for the elaboration of technical documents that support the economic and financial sustainability of urban operations. Their regulation falls under the Juridical Regime of territorial management instruments (Decree-Law 80/2015).

Methodology and Case Study

Framework for the Development of the Proposed Instrument

According to the Portuguese Land and Planning Act (Law n.° 31/2014), the enforced territorial plans and programs should respect

the principles of environmental, socioeconomic and financial sustainability, and juridical feasibility. The betterments that are engendered by the building capacities that are settled in the territorial plans should be computed and distributed among the owners and a municipal fund for environmental and urbanistic sustainability, which is aimed at funding urban rehabilitation and ecosystem sustainability. The municipality could add other urban development receipts to this fund to promote the completion, maintenance, and reinforcement of infrastructure, equipment, or public services. Land value can be assessed through the application of economic and financial regulatory mechanisms, which are framed by law and consider the land use and urban development public policies that include, for example, the redistribution of benefits and charges that stem from intermunicipal or municipal territorial plans.

Recently, mechanisms to support the economic and financial sustainability of urban development operations were developed, due to the development of the third generation of Municipal Master Plans (following the revision of the previous ones), in line with the Land and Planning Act (Law n° 31/2014) and the new territorial management instruments (Decree-Law 80/2015). Several documents were discussed (during the public participation before the approval of the reviewed Municipal Master Plans), but to date, none have been applied in Portugal, beyond the tax over benefits that result from public investments. However, some of the models under discussion provided different insights on the issue. Some of them adopted the perspective of comparing the town property market values with the value that was computed through the application of the code of the IMI and then levied the difference between both values by a certain tax rate. Other approaches (i.e., more concerned with the preservation of the cultural and identity balance of each municipality) proposed that the tax rate was computed through the difference between the total allowed gross building amount (expressed in square meters) per land square meter and the weighted average homologous amount that was allowed in each municipality, multiplied by the respective average trade market value (Rebelo 2017). This represented an equal distribution urban development mechanism that was based on land values instead of being based on the physical equal distribution of rights and duties between several landowners in an execution unit. Others advocated the application of fees according to zoning or influence areas of specific public investments (Rebelo 2014a, c). In addition, there are wider perspectives that sustain the joint consideration of the previous criteria, which are weighted differently. There are some experiences with urban equal distribution mechanisms, although most of the reported cases were not successful. Planning and management operation units have often encountered impediments to accomplish and implement plans due to the lack of agreement among the landowners that belong to respective units (which is a legal requirement).

For the tax rate, some proposals suggested the social reassignment of 50% betterments (Carvalho and Oliveira 2013), the whole engendered betterments (CNADS 2013; Guinote 2019), or the application of a 20% tax rate (Rebelo 2017). The tax over benefits that resulted from public investments levies a 50% rate, despite its very limited application in Portugal, where only huge investments pay this tax (e.g., both bridges over the river Tagus in Lisbon, Portugal) (Almeida et al. 2013). According to Guinote (2019), betterments could be applied to housing (40%), education and health (20%), social cohesion, and regional solidarity and historical preservation (40%).

The instrument proposed in this article presents the following advantages related to the existing fiscal instruments: (1) it is based on a rationale similar to the tax over benefits that result from public investments, but the latter levies real estate and this one levies land; (2) it is specifically levied on urban development operations of touristic interest; therefore, the levy compensates for municipal prospective fiscal losses, which consider the tourism and rehabilitation's real estate IMI exemption; (3) it is aimed at urban development operations instead of case by case real estate units; therefore, it generates a higher levy (which is useful to complement municipal budgetary commitments); (4) it levies developers, promoters, and builders, whereas the IMI, IMT, and the tax on benefits from public investments are imposed on town property owners; (5) the current instrument takes advantage from the well implemented land assessment system that has efficiently supported the collection of IMI; (6) it does not force urban development (i.e., IMT); however, it takes advantage from increases in land values that arise from public planned territorial interventions; (7) it collects a lump sum at once, which is significant to cover social expenses; therefore, it works when planning its applications in due course; (8) it enables the accurate estimation of the prospective levy (through the application of clear and objective parameters), and therefore, it could integrate municipalities' financial accounting documents, which favors transparence toward the proper communities; (9) it applies a 30% rate to all touristic-oriented urban development operations, and does not discriminate between the characteristics of the operations or their geographical location (as the IMI does); (10) this rate appears reasonable and does not discourage private urban development initiatives, which avoids the implementation of strict, discretionary, maladjusted, unrealistic, or unfair measures of land value capture (considering it is hard to mark off what is rent and what is profit, and the difficulties when assessing the true land market values); and (11) it proposes the timely disclosure to local communities of the social applications of the levied betterments (which favors governance processes, because it ensures the population's support).

The instrument in this article, which has the characteristics of betterment contributions, charges for building rights, exactions, and impact fees (Lincoln Institute of Land Policy 2020), has a local application and could be collected on behalf of the municipality. It is not imposed on general citizens; however, it is on a specific set of stakeholders (e.g., developers, promoters, and builders). This means that the collected levies could improve the population's well-being. Therefore, it is not appropriate to call it a tax but rather a wealth social reassignment instrument. If the population was informed beforehand of the possible applications of the collected betterments, this could foster the relationship between the municipal decision makers and the general population. Combined with the negotiations carried out with developers, promoters, and builders, it could enable the proper governance processes. The instrument has been clearly defined, which includes its context, assumptions, and calculation methodology, and is based on a land assessment system and a national detailed land register (used for a long time to support the collection of IMI taxes). Therefore, it could take advantage of the experience of the proper tax officers, which could achieve savings in the implementation costs. Therefore, the application of the instrument could be faster, more predictable, and efficient than the occasional application of the other taxes or fees on land, therefore reducing the implementation gaps.

Municipality of Lagoa, Algarve, Portugal: Brief Characterization

Lagoa is a municipality located in the Algarve region, Portugal. It is bordered by the municipalities of Portimão and Silves, and the Atlantic Ocean (Fig. 1), has 22,791 inhabitants and covers 88.3 km^2. Its prevailing economic activities belong to the tertiary sector (84.8%) and focus especially on touristic lodging (the

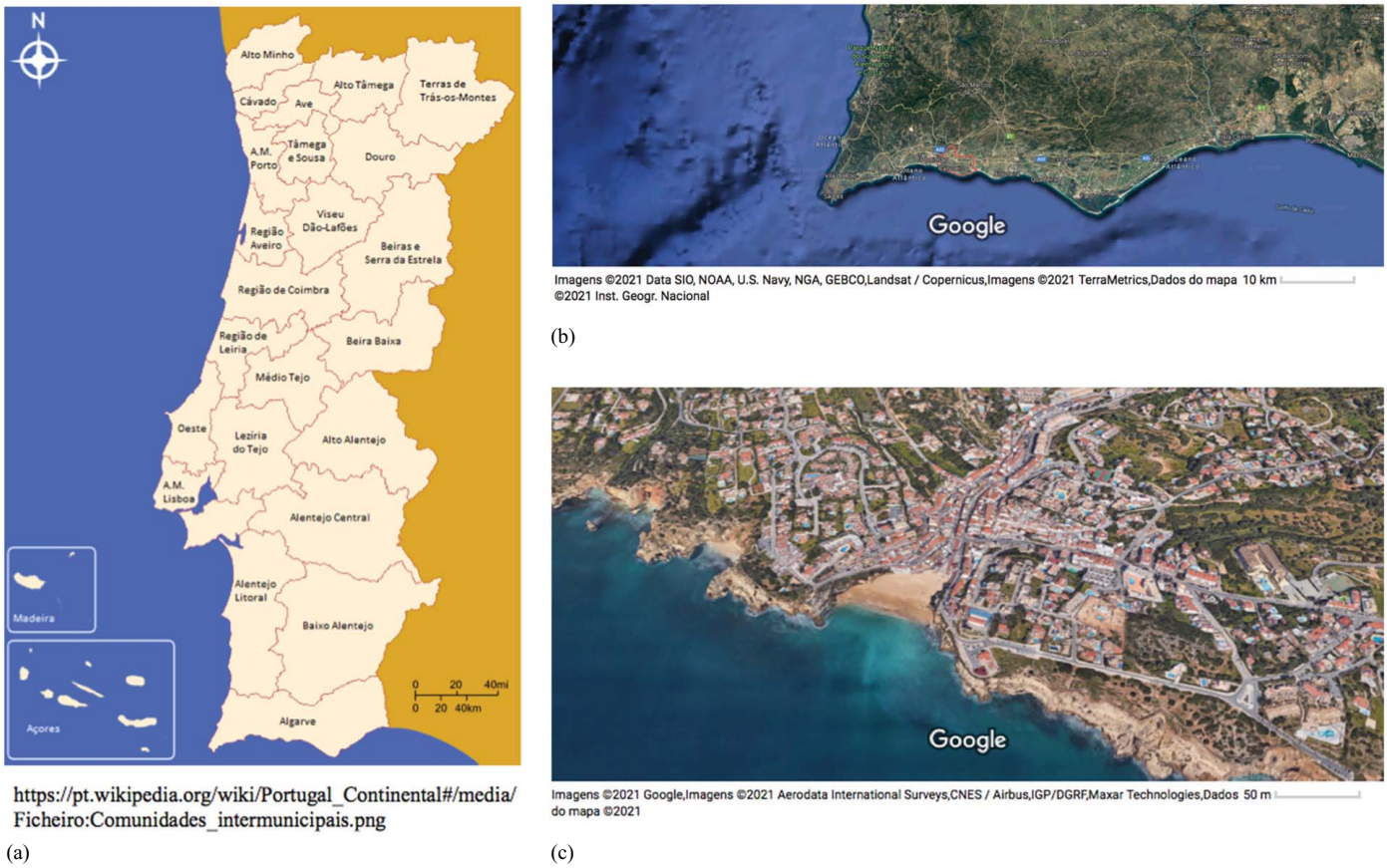

Fig. 1. Municipality of Lagoa (Algarve): (a) intermunicipal communities in Portugal (Image courtesy of Wikimedia Commons/Chocofrito); (b) location of the Municipality of Lagoa, Algarve, Portugal (Image © Google, Imagens ©2021 Data SIO, NOAA, U.S. Navy, NGA, GEBCO, Landsat/Copernious, Imagens ©2021 TerraMetrics, Dados do mapa ©2021 Inst. Geogr. Nacional); and (c) photo of Carvoeiro Beach, Lagoa, Algarve, Portugal (Image © Google, Imagens ©2021 Aerodata International Surveys, CNES/Airbus, IGP/DGRF, Maxar Technologies Dados do mapa ©2021).

tertiary sector represents 82.5% of the overall economic activity in the Algarve region and 65.3% in Portugal). The secondary sector represents 14.0% of Lagoa's (Algarve, Portugal) activities, where the production of metal products, machines, and apparatus stands out. The primary sector represents 1.2% of its economic activities [Instituto Nacional de Estatística (INE) 2012b; CML 2020]. Its population registered an increase of 11.3% over the last decade, despite being below the homologous rate in the Algarve, Portugal (14.12%) (CML 2020).

Because of its geographic location, Lagoa Municipality, Algarve, Portugal, has always combined its inland rural fertility with the exploration of the maritime activities on the coast. However, since the second half of the twentieth century, its traditional agricultural activities have changed, and the canning industry went into crisis; therefore, the population resorted to tourism as their main source of income. Tourism currently represents 82% of Lagoa's, Algarve, Portugal, economic activity, and is based on its beautiful beaches, natural heritage, quality equipped touristic resorts (e.g., hotel units, golf courses, and cultural heritage linked to pottery and confectionary), people's affability, and on the implementation of a well-balanced land use planning strategy. This strategy has been concerned with the environment, the preservation of the coastline, a balance of old and modern housing, low land use density, and low-rise buildings (with low environmental impact) (CML 2020).

It is important to highlight the participation and involvement of local stakeholders (e.g., economic activities, financial institutions, and the population) in municipal planning decisions. This proximity has facilitated the urban governance processes, which are based on the adoption of subsidiarity, partnership and cocreation principles, which have proved to be decisive when meeting the territorial development goals. The municipal decision makers often hear the local actors to improve their understanding of local realities. Therefore, the enforced land use policy observes the population's knowledge, sensibility, aspirations, and expectations (CML 2020).

Over the last 15 years, the Municipality of Lagoa, Algarve, Portugal, has registered the highest economic development of the entire Algarve region and is currently well equipped with health, education, sport, tourism, and recreational facilities.

Currently, the territorial management instruments enforced in Lagoa are: the Municipal Master Plan, the urban development plans of the planning and management operating units UP1 from Ferragudo to Calvário (Resolução do Conselho de Ministros n° 126/99, reviewed by no Edital 613/2009), UP3 (Aviso Legal n° 11622/2008), UP11 (Aviso Legal n° 44845/2008), UP12 (Declaração n° 56/2008), the regional plan of land use of the Algarve, (PROT) (Revision through Resolução do Conselho de Ministros n° 102/2007, and first alteration through Resolução do Conselho de Ministros n° 188/2007), the regional plan of forest development of the Algarve (PROF) (Decreto Regulamentar n° 17/2006 and Portaria n° 78/2013), the management plan of the Hydrological Basin of the Algarve Streams (Decreto Regulamentar n° 12/2002), the river basin of Algarve creeks (Resolução do Conselho de Ministros n° 16-E/2013), and the sector plan of Natura 2000 Network (Resolução do Conselho de Ministros n° 115-A/2008), at a supramunicipal scale (CML 2020). According to the terminology of the Portuguese spatial planning system, a planning and management

operating unit corresponds to a continuous portion of territory, which is delimited in a Municipal Master Plan or Urban Development Plan, for a plan programing or execution, or to carry out urban development operations.

In addition to its touristic potential, the specific characteristics of Lagoa, Algarve, Portugal, confer it a unique identity and highlight its competitive advantages: its central location in the Algarve, Portugal, near the well-known cities of Portimão, Silves, Lagos and Albufeira; good road accessibility; high population density; the important weight of built-up zones; high demographic dynamics during the last decade; aging index lower that the average homologous index in the Algarve; proximity to the river Arade that is an endogenous resource with high economic and environmental worth; and traditional agriculture and wineries (CML 2020).

Municipal Master Plan of Lagoa

The main goals of the Municipal Master Plan of Lagoa, Algarve, Portugal (Resolução do Conselho de Ministros n° 29/94, which underwent the first alteration through Aviso n° 26197/2008, and a second alteration by adjustment through Aviso n° 3872/2012), consist of the implementation of a territorial policy that ensures balanced economic and social development, the establishment of principles and rules for land occupation and use changes, the environmental and cultural preservation, and the improvement of the well-being of the population.

The municipal territory embraces consolidated developed built-up areas and developable areas. The developed areas correspond to the urban agglomerations (villages of Luís Francisco, Bela Vista, Calvário, Carvoeiro, Corgos, Estômbar, Ferragudo, Lagoa, Mexilhoeira da Carregação, Parchal, Pateiro, Poço Partido, Porches, Sobral, and Torrinha), and some close nuclei (where population is mainly concentrated). They are accessible areas, which have been provided with a set of infrastructure and facilities and the provision of goods and services that attract the population. They include touristic or prospective touristic areas (CML 2020).

The developable areas are characterized by a diffused settlement system, where different uses, for example, agricultural and forestry, mutually interpenetrate. These areas are assigned to urban growth and public infrastructure and equipment and are further subjected to Urban Development or Detail Plans. The Municipal Master Plan structures these areas into different planning and management operating units. Some of those are earmarked for a change in use (UPs 1–4, UPs 8 and 9). Others, which are aimed at touristic occupation (UPs 7, 10, and 13), include the areas that are already occupied by touristic resorts (and buildings that were approved by public entities) and the in-between areas and are subject to urban parameters that concern the edification of hotels, inns, guesthouses, and hotel-flats. UPs 5, 6, 11, and 12 are Touristic Capacity Areas (ATTs), which are subjected to urban development parameters that were settled in the Touristic Development Nuclei (NDT) instruments. As stated in the regulations of the Urban Development Plan of UP11, following the PROT of the Algarve, Portugal, the NDT corresponds to space that revealed qualities that specifically fitted the development of high-quality touristic resorts. Their definition considers: (1) its compliance with the restrictions specific to the zone to which they belong; (2) their good integration in this zone, which preserves the privacy or autonomy of the touristic resort; and (3) encourages high-quality in the region. The ATT are areas earmarked for future NDT. They hold the status of nondevelopable spaces and pursue the regime of land use, occupation, and transformation that were settled in the respective planning map, map of restrictions, and regulation of the enforced urban development plan.

The ATT of UP11 embraces the existing touristic area of Benagil, scattered detached houses, and Levels 1 and 2 natural areas. Level 1 natural areas belong to the National Ecological Reserve (e.g., beaches, cliffs, moist land, beds of water courses and overflow danger areas, and areas of maximum infiltration waters), and by areas that belong to the National Agricultural Reserve. Level 2 natural areas include landscape attraction areas that have been used for upland farming.

According to the Municipal Master Plan, the NDT should not include natural reserves or parks; the projected touristic complexes should be exclusively touristic, be high-quality, provide leisure facilities, and bear their infrastructure and links to municipal infrastructure and facilities; and should preclude uses that are not compatible with touristic uses. In addition, NDTs should be linked together through a road system and contain one or more touristic developments, and each nucleus might include a sole or set of land plots that belong to the same ATT.

However, the NDT are subject to some building footprint restrictions. They should not amount to >25% of the ATTs; the developable area in each nucleus should not be >30% of its whole surface; its urban structure should be either nucleated or concentrated to preclude urban sprawl; and each nucleus should cover a surface of ≥25 ha that belong to the ATT.

The Municipal Master Plan is currently being reviewed, and therefore, it was subject to public consultation, and most people agreed with its main goals and proposals (CML 2020).

Urban Development Plan of the Planning Unit 11

This Urban Development Plan (Legal Notice n° 44845/2008) applies to the whole UP11 intervention area, which was classified by the Municipal Master Plan as an ATT, which can include at least one NDT. The corresponding intervention area is 401.6 ha and is located between Cabo Carvoeiro and Marinha beach, Lagoa, Algarve, Portugal.

This Urban Development Plan settles the building regime and the parameters for land occupation, use and transformation, and observes landscape ecological and cultural values. Its specific goals highlight the development of the ATT of UP11, which includes the East and the West NDTs (Fig. 2).

The intervention area of UP11 includes two classes of urban land: developed land and developable land (aimed at programed urban development), and rural land. The programed urban development is a space that could acquire the characteristics of urban areas. These spaces are usually called areas of expansion and include spaces that are allocated to housing, facilities, green spaces, touristic developments, economic activities compatible with the urban fabric, services, trade, and additional facilities (Public Notice n.° 553/2008).

Land that is aimed at programed urban development embraces the NDT inside. The total surface of this class of land must be ≤30% of the total surface of the NDT. The East NDT is subdivided into planning and management operating subunits N1 and N2, and the West NDT is subdivided into planning and management operating subunits P1 and P2. The development projects for each nucleus should be in the four or five-star category. In addition, the number of beds for touristic uses is limited to 1,279 beds in the East NDT and to 441 beds in the West NDT, which is a total of 1,720 beds.

According to the Municipal Master Plan of Lagoa, both NDTs are assigned a total land surface of 997,737 m^2, and must not be >25% of the whole land surface of UP11 (4,016,158 m^2). The East NDT has an effective land surface of 741,890 m^2, and the West NDT has an effective land surface of 255,847 m^2.

For the gross building capacity of the land that is aimed at programed urban development, the Coastal Development Plan of

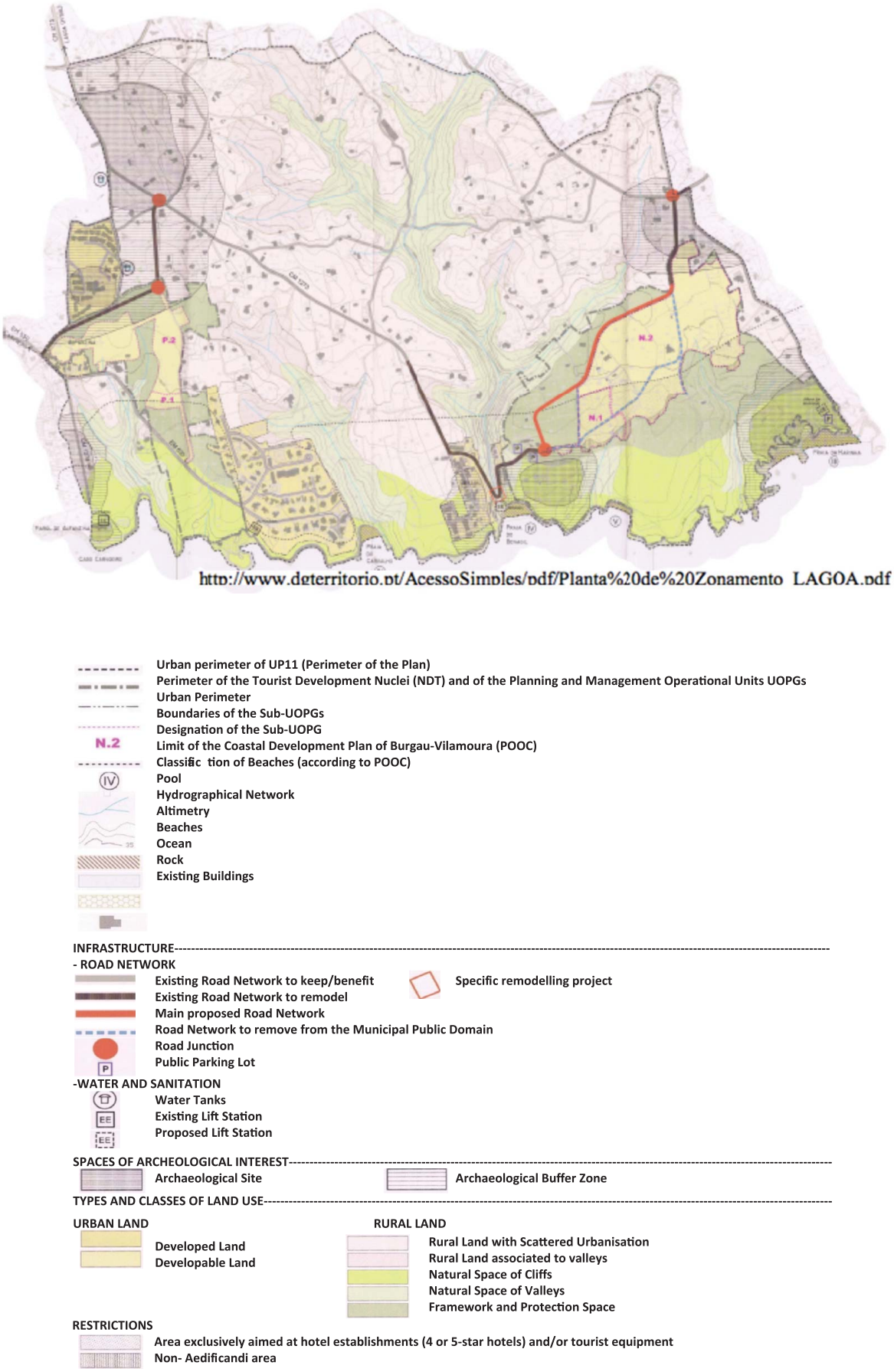

Fig. 2. Cartographic display of the Urban Development Plan of UP11, Lagoa (n.d.). (Image courtesy of General Directorat of Territory.)

Burgau-Vilamoura (RCM n° 33/99) only allows the construction of hotels or other touristic facilities, despite the ban on building in the *nonaedificandi* area in the East NDT. In general, in the NDT the conditions settled in respective planning and management operating subunits are applicable, which observe the touristic developments' allowed classifications.

The Urban Development Plan of UP11 is managed by two execution units, the East and West NDTs, which aim to implement the respective transformations and environmental preservation.

The transfer index (ICM) is an instrument of land redistribution. This represents 0.1475 m^2 of gross building area per m^2 of land in the East NDT, and 0.1826 m^2 of gross building area per m^2 of land in the West NDT, which convey respective abstract building rights. The Municipal Master Plan sets an average area for the installation of infrastructure, equipment and urban spaces for collective use, which are applied as an equal distribution intra-plan mechanism. For average cession purposes, the sizing parameters used in the areas earmarked for green spaces, collective use infrastructure and facilities, according to the Juridical Regime of urban edifications are considered (Decree-Law n.° 555/99).

The average abstract transfer surface results from the product between the average ICM and the abstract building right. According to the guidelines for urban development plans and detail plans (2014), the abstract building right represents the average building area that is allowed in each land parcel (that result from the application of the indices of the enforced territorial plan). It is given by the quotient between the total construction area and the total land area that is considered for equal distribution purposes. The equal distribution is performed within the scope of the urban development and detail plans' execution units. It is intended to guarantee the application of the juridical principle of equity among all owners of land plots that belong to that execution unit. In the equal distribution system, a specific urban development operation is only licensed if all the owners of the land plots in that execution unit are in agreement (and the rights and duties are set in the respective agreements). Landowners of that unit are assigned benefits and charges according to the values that were previously attached to their property rights. The surfaces that will be transferred to the Public Municipal Domain (that will be assigned to the municipal road network) in the East and West NDTs total 10,500 m^2 and to 4,500 m^2, respectively.

The environmental impact of building projects for UP11 was assessed by the Commission for the Coordination of Regional Development of Algarve, the Portuguese Environment Agency, the Regional Direction of Culture and the Lagoa Municipality, among other public entities. These projects included the construction of hotels and touristic villages and the respective infrastructure. Their positive externalities concerned: (1) their compliance with the enforced territorial planning instruments (namely concerning the transition from rural to urban status); (2) the consolidation of touristic development strategies; (3) jobs triggered by the touristic developments (that reinforced the municipal touristic offer, and the social and economic trust); and (4) circulation, accessibility, and parking improvements. However, some negative externalities were highlighted, such as: (1) land sealing due to construction; (2) the excessive human burden on the surrounding territories (e.g., beaches, collective equipment, and infrastructure); (3) accrued dependency on tourism (which might weaken the municipality in the eventual downturns in this sector), and (4) negative impacts on landscape heritage (Parecer da CA 2018).

TMU in the Municipality of Lagoa

The TMU is paid to accomplish the urban development operations (Regulamento n° 732/2010: Municipal Regulation of Urbanization, Edification, Fees and Urban Development Compensations of the Municipality of Lagoa). It is paid to the municipality to compensate it for the additional expenditure it incurs with the completion, maintenance, and reinforcement of urban infrastructure (Decree-Law n.° 555/99).

The fee applicable in urban allotment operations (with or without urban development works) with similar buildings or edifications, is computed according to the formula

$$\mathrm{TMU} = (ci/cc) \times cc \times ab \times K0/K2/K3$$

where TMU = value (in EUR) of the fee for urban infrastructure, payable to the municipality; ab = licensed gross floor area; ci = average costs of infrastructure/m^2 (fixed at EUR 50/m^2); cc = based-value of buildings, following Article 39 of the Real Estate Municipal Tax Code (EUR 482.4); K = coefficient of assignment, following the respective typology: $K0$ = housing–allotment operations (0.08); $K1$ = housing (0.15); $K2$ = trade and services (0.16); and $K3$ = industry (0.17).

Assessment of Land Price in the Municipality of Lagoa and UP11

Land prices/m^2 in each type of touristic use (hotels; hotels, serviced flats or inns; and complementary lodging ways, in the East and West operational subunits) were computed through two successive steps. First, consisted in determining the land price per m^2 of gross construction concluded annually during the study and the respective average annual value. The infrastructure cost/m^2 and the construction cost/m^2 were subtracted from this value, thus leading to (transaction value–construction cost–infrastructure cost)/m^2 (expressed in EUR/m^2). The land price/m^2 was then computed for each of the specifically assigned touristic areas: (1) for each year the respective value (transaction value–construction cost–infrastructure cost)/m^2 was multiplied by the net land use index (m^2 of construction/m^2 of land, according to the parameters enforced by territorial plans in corresponding areas), to reflect that value by the area of the underlying land. This value was then multiplied by the percentage of gross construction areas allocated to each kind of use, thus obtaining (transaction value–building costs–infrastructure costs)/m^2 of land allocated to each use for each year. The annual average of the values thus obtained gives the market price in each use-specific allocation of the UP11 subunit.

The use of the average transaction price of urban town property was justified for the following reasons (INE 2009–2018a, INE 2009–2018b): (1) out of the total purchase and sale contracts for urban, rustic and mixed-use town property in Lagoa, Algarve, Portugal, 91.8% on average were urban town properties [INE, statistical yearbooks, Tables III.8.8, Building sale and purchase contracts by municipality, by nature (2009–2018)]; (2) the average value of urban town property traded was very close to the average value of total town property traded in Lagoa, Algarve, Portugal (INE, statistical yearbooks, Tables III.8.1). In addition: (1) between 2009 and 2012 (studied period, in which the urban operation was implemented in UP11) the total new construction in Lagoa, Algarve, Portugal, was 74% of the completed buildings (INE, statistical yearbooks, Tables III.8.5); and (2) between 2009 and 2018 the reconstructions completed per 100 new constructions completed in Lagoa, Algarve, Portugal, were always zero (INE, statistical yearbooks, Tables III.8.1.). All new construction was earmarked for sale; however, all other completed buildings (that corresponded to extensions, alterations, and reconstructions) could only partially be placed on the market, which meant that the percentage of new construction that could be traded was ≥74%. From these outcomes, it was inferred that the value of urban building transactions closely approached the value of new construction transactions. Between

2009 and 2012, 63% of the new buildings completed and 90.5% of the new dwellings completed in the Algarve, Portugal, were for family housing (INE, Construction and Housing Statistics, Tables 6 and 7). Out of the 74% of new buildings that were completed in Lagoa, Algarve, Portugal, 83.9% were for family housing (INE, statistical yearbooks, Tables III.8.5). There is no information available on newly completed dwellings at the municipal level; however, from this information, it could be inferred that a huge percentage of the new dwellings completed were for housing. Therefore, in this case study the calculation of the gross floor areas was based on the product between the average numbers of new buildings concluded, the floors per building, the dwellings per floor, the rooms per dwelling, and the average livable surface, which was divided by 0.65 (in agreement with the Juridical Regime of urban edification, which considered that the livable average area corresponds to approximately 65% of the gross built area).

Collection and Methodological Structuring of Data

The data required to compute the 30% fee on trade, industrial, touristic or service building capacity is shown in Fig. 3. However, the Municipal Assembly should decide the most appropriate percentage, according to each municipality's specific spatial, economic, and social context.

These data were collected from official statistics (e.g., the population and housing census, statistical yearbooks of the Algarve Region, Portugal, construction and housing statistics), and from the municipality planning and financial accounting instruments (e.g., major planning options, annual budgets, and planning strategic and operational instruments). It was further complemented with surveys, interviews and dialogues with municipal technicians and the general population. These procedures added qualitative insights to the analysis, which concerned the research topic and the understanding of people's receptivity to possible instruments for land betterment capture.

Proposed fee on Trade, Industrial, Touristic, or Service Building's Capacity in UP11

The following methodology was applied to compute the proposed 30% fee on trade, industrial, touristic, or services building's capacity for the intervention area of the Urban Development Plan of UP11 (Fig. 4):

1. The difference between the surfaces of East (741,890 m^2) and West (255,847 m^2) NDTs and the surfaces transferred to the municipal public domain (10,503 and 4,501 m^2, respectively), highlighted corresponding plot surfaces for profitable uses (1). Profitable uses included trade, industrial, touristic and service uses.
2. The maximum gross built surface allowed (2), and the allowed implantation (footprint) area (3) was collected from the Urban Development Plan for UP11.
3. The net building capacity/m^2, expressed in m^2 of gross built surface per m^2 of land plots surface (4) was computed through the division of the maximum gross floor built surface allowed by the Urban Development Plan (2), and the previously computed surfaces of the plots for profitable building uses (1).
4. Nonbuildable land (5) was computed through the product between the gross floor area that was aimed at profitable uses and respective average ICMs (0.1475 for the East NDT, and 0.1826 for the West NDT). These values, which are a result of the application of Article 69 of the regulation of the Urban Development Plan of UP11, were considered, because they surpassed the minimum transfer surfaces required for East and West NDTs, settled in Article 73. It highlights the average surface to be transferred to the public domain in each planning and management operating subunit of the NDT.
5. The average cost for completion, maintenance, and renewal of urban infrastructure was EUR 705.2/m^2. It resulted from the division of the average annual investment in infrastructure EUR 34,044,069 (CML 2009, 2010, 2011, 2012) by the average gross floor area computed for the considered 4-year period 2009–2012, 48,278 m^2 (INE 2009, 2010, 2011, 2012a). Therefore, the infrastructure cost (6) resulted from the product between this average cost and the gross floor area admitted by the Urban Development Plan (2).
6. The division between the total cost of infrastructure (6) and the surface of land plots for profitable uses (1) gave the cost/m^2 of the land's infrastructure (7).
7. Then, the product between the cost/m^2 of the land's infrastructure (7) and the surface of nonbuildable land (5) gave the cost of the infrastructure of nonbuildable land (8).
8. TMU fee levied on nonbuildable land (9) was computed by multiplying the surface of nonbuildable land (5) by the net building index applicable to the corresponding zone (4), and by the amount of charges/m^2 (according to the Municipal Regulation of Urbanization, Edification, Fees and Urban Development

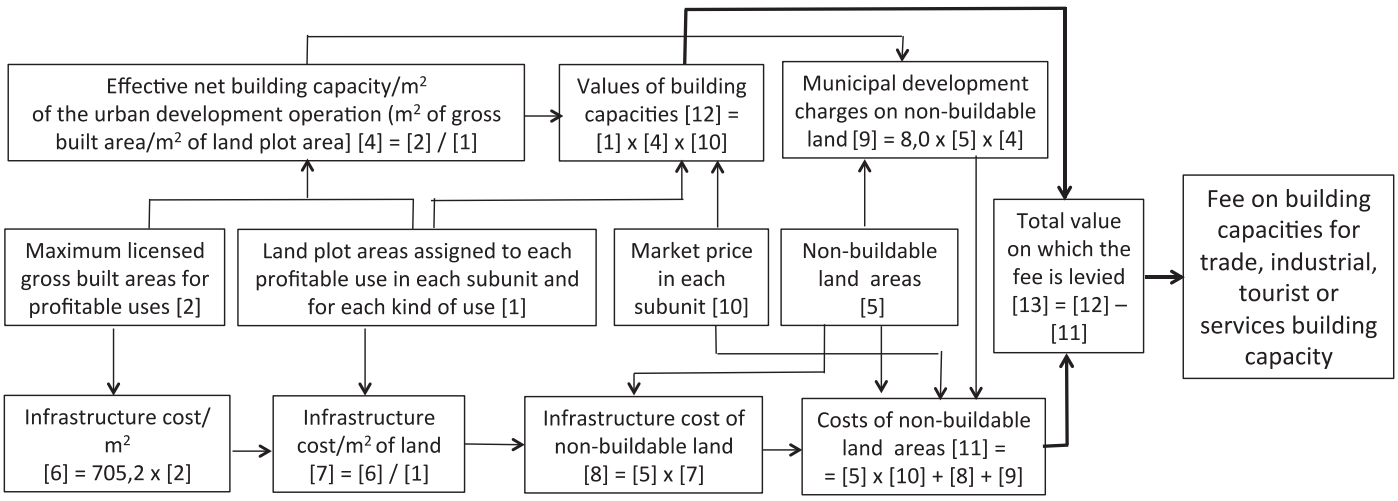

Fig. 3. Organization of data required to compute the 30% fee on trade, industrial, touristic, or service building's capacity.

Touristic undertakings	Planning and management operational subunits	Planning and management operational subunit East NDT				Planning and management operational subunit West NDT				Total in UP11
		N.1	N.2			P.1	P.2			
	Classification	Hotels	Hotels, Serviced flatas or inns	Complementary lodging ways (holiday villages)	Total (East NDT)	Hotels	Hotels, Serviced flatas or inns	Complementary lodging ways (holiday villages)	Total (West NDT)	
Land plot areas (profitable uses) (m^2) [1]		731,387			731,387	251,346			251,346	982,733
Maximum gross built area (m^2) [2]		15,000	56,210		71,210	5,000	19,650		24,650	95,860
Footprint area (m^2) [3]		4,500	28,658		33,158	1,500	10,013		11,513	44,671
Effective net building capacity/m^2 (m^2 of gross built area/m^2 of land plot area) [4]=[2]/[1]		0.0205	0.0769		0.0974	0.0199	0.0782		0.0981	0.0975
Non-buildable land area [5]		10,503			10,503	4,501			4,501	15,005
Infrastructure costs (€) [6]=705.2x[2]		10,578,000	39,639,292		50,217,292	3,526,000	13,857,180		17,383,180	67,600,472
Infrastructure costs/m^2 of land [7]=[6]/[1]		68.7			68.7	69.2			69.2	68.8
Infrastructure costs of non-buildable land (€) [8]=[5]x[7]		721,172			721,172	311,297			311,297	1,032,138
Municipal development charges on non-buildable land (€) [9]=8.00x[5]x[4]		8,181			8,181	3,531			3,531	11,713
Land prices/m^2 based on market transactions	Market price in each subunit (€) [10]	43.2	162.0		150.0	41.9	164.8		153.2	150.8
	Costs of non-buildable land (€) [11]=[5]x[10]+[8]+[9]	2,304,875			2,304,875	1,004,215			1,004,215	3,309,090
	Values of building capacities (€) [12]=[1]x[4]x[10]	648,000	9,106,020		9,754,020	209,500	3,238,320		3,447,820	13,201,840
	Total value on which the fee is levied (€) [13]=[12]-[11]	7,449,145			7,449,145	2,443,605			2,443,605	9,892,750
	30% of the total value on which the fee is levied (€) [14]=0.3x[13]	2,234,744			2,234,744	733,081			733,081	2,967,825

Fig. 4. Proposed fee on building capacities for trade, industrial, tourism, or services.

Compensations of the Municipality of Lagoa, Algarve, Portugal). The value for the unit fee was EUR 8/m^2, the average infrastructure cost was EUR 50/m^2, and $K2$ for trade and services was 0.16. A specific K for touristic uses was not predicted in this regulation.

9. Land market prices for each type of touristic use in each planning and management operating subunit (10) were computed through the division between the average value of the annual transactions for the urban plots and the average gross floor area, by subtracting the average annual building cost (EUR 482.4/m^2) and the average cost of infrastructure (EUR 705/m^2). These values were multiplied by the respective net building indexes (as explained in the previous section). The annual building costs were settled annually by Governmental Decrees (16-A/2008, 1545/2008, 1456/2009, 1330/2010).
10. Nonbuildable land costs (11) result from the sum of three parcels. One concerns the costs of land and is computed through the multiplication of its price/m^2 (10) by the nonbuildable land's surface (5), the second refers to the cost of infrastructure for nonbuildable land (8), and the third corresponds to the municipal development charges on nonbuildable land (9).
11. The product of the land plot's surfaces for profitable uses (1), the net building capacity/m^2 of land (4), and the land value/m^2 in each planning and management subunit (10) gave the value of its assigned building capacity (12). This was the same as the product between the total gross floor area (2) and the price of land/m^2.
12. The proposed fee was levied on the amount (13) given by the difference between the building capacity (12) and nonbuildable land costs (11).
13. The amount of the fee to levy on UP11 (14) corresponded to 30% of the amount of allowed building capacities for each type of touristic use, in each planning and management operating subunit (13).

Of note, the 30% fee imposed on trade, industrial, touristic, or service building's capacity was EUR 2,967,825.

Considering an operating life for the urban intervention of 30 years, the corresponding annual value was EUR 98,927.5, which represents 4.1% of the average investment of the Municipality of Lagoa, Algarve, Portugal, in the last 2 years in social insurance and security (average of EUR 65,481.5), and housing and collective services (average of EUR 2,345,535). In practical terms, and as determined most years, the values of these types of charges that were defrayed by the municipality (that correspond to budget implementation) fall short of the budgeted homologous values. Therefore, the prospective levy that could be obtained through this instrument (which is an instrument of wealth social reassignment) could significantly contribute to meeting these commitments. Therefore, it could be an important contribution to cover these types of charges (Município de Lagoa 2018).

Lessons From the Case Study for Other Urban Realities

These types of instruments could be applied elsewhere, because they are based on publicly available, clear, objective, comparable, and feasible data, which is validated by public entities, such as the Portuguese Statistics Institute and the municipalities (i.e., respective financial accounting documents). In addition, although the touristic resorts have different geographical locations, their social, economic, and construction characteristics, which focused on a common interest in tourism, combine their strategic rationales.

However, there are some restrictions to this direct transposition: (1) the application of these betterment capture instruments is contextual (the parameters should fit each concrete socioeconomic reality and the financial capacity of each municipality); (2) this instrument could potentially succeed in strongly touristic municipalities, but its effects might decrease in municipalities with lower touristic potential or initiatives; (3) the population should be clearly and integrally enlightened of the potential and shortcomings of this instrument, to prevent confusing it with a common tax, and its rejection based on mental stereotypes; (4) municipalities risk that this instrument becomes counterproductive whenever it is used for speculation purposes; therefore, the definition of clear surveillance mechanisms is required, together with the application of penalties when it is intentionally used against the social reallocation that underlies its nature; (5) because the developers, promoters, and builders usually have high financial capacity, they might constitute themselves as pressure groups, and therefore, disturb the balance between the rights and duties that should be ensured for all stakeholders involved in urban development; (6) this methodology should be applied plot by plot; however, this option is costly and requires hard work (i.e., for the assessment of land market values), and potentially is not high enough to compensate for the levies to be collected.

Discussion

The increasing touristic supply and demand (in a global environment that is empowered with improving accessibility and mobility conditions) engender increases in land and real estate prices, which entail general inflation. This appreciation of real estate (together with touristic marketing campaigns) attracts tourists and capital (mostly foreign investment), which generates local economic development, and might trigger increased trade, activities, and services. However, it might provoke the insulation of communities from other settlements and prevent opportunities for the locals to take advantage of these touristic-oriented spaces. Increases in land prices will further sprawl to neighboring locations, because these places and their expected profitability could attract more capital. Therefore, the resulting externalities (that are not always favorable for local communities) require a mechanism that can capture these betterments on behalf of local communities. How should this be accomplished? These goals might be reached through planning, legal, regulatory, fiscal, financial, and knowledge-based dissemination measures.

A combination of control, implementation, mixed economy, real estate taxation, territorial taxes and incentives, compensatory processes, nonfinancial mechanisms, and observation and information means should be used to tackle the problem of increases in land value that are caused by touristic interventions in a territory. The proposed land value capture instrument has a controlling nature and articulates with other already enforced territorial management instruments (e.g., TMUs, easements, and public utility constraints). This instrument has control features, because its application requires the close monitoring of market prices, the urban development parameters (i.e., indices of land use), the application of the construction and infrastructure costs, and of the amounts that are charged by the municipality through TMU fees. In addition, it supports the practical implementation of land value capture policies, because the municipalities are supposed to levy betterments on promoters and developers in return for the assignment of certain building parameters. In practical terms, it belongs to real estate taxation mechanisms, and more specifically to territorial taxes and incentives, because it is founded on a tax on touristic developments that should be levied by the municipality. The collected amounts should then be reassigned on behalf of the local communities, and the tourists; therefore, they fit the compensatory processes and nonfinancial goals. Even accounting for this levy, construction in these touristic nuclei is attractive, especially considering the high environmental quality and the demanding building requirements. In addition, it is a mixed economy instrument, because it extracts betterments from urban development activities that will be used to fund infrastructure, equipment and services, which then support many other economic and social activities. Finally, it is based on observation and information mechanisms, because its methodology to assess land prices is based on the observation of market values, and their calculation relates to objective, feasible, accurate, and comparable official and publicly validated information (complemented with an approach of a moving average to surmount possible deviations and bias that result from seasonality). Their ongoing assessment supports the computation and updating of information that results from market dynamics.

This planning instrument is innovative and fits the current planning and management concerns of the Portuguese land and urban development policies, where the current Land and Planning Act requires new instruments to justify the economic and financial sustainability of urban operations. This could be an innovative land value instrument for Portugal, where unearned increments, especially those that accrue from building in environmentally protected areas, are not usually levied differentially. It further applies to the promoters, developers, and builders share of the charges, therefore relieving municipal finance. Therefore, municipalities could take advantage of additional funding for their different obligations for infrastructure, facilities, and social and environmental services, which is similar to the processes in Spain or the Netherlands (Gielen and van der Krabben 2017).

In addition, this proposal agrees with the gradual approximation between the public and private sectors (Birch and Siemiatycki 2016; Kitson and Michie 1997; O'Connor 1973).

In addition to cessions and municipal charges, it could engage private agents in urban development goals and regional or local concerns. It might confer either monetary or in kind rewards through services that are provided by the promoters, developers, and builders, which is similar to what happens with some value capture instruments in the United States, Canada, the UK, and France (Gielen and van der Krabben 2017). Therefore, the rationale of the welfare state loses importance, and infrastructure, social costs, and some of the state's previous responsibilities are transferred to private stakeholders. This happens in Hong Kong (Foley 2011; Ingram and Hong 2012), and in many countries in Europe and Latin America (Ingram and Hong 2012; Smolka and Amborski 2000, 2003; Rebelo 2014b; Walters 2012). Current research adopts a private-based management perspective, because it attempts to monetize the investment in this urban development project, on behalf of the municipality. Therefore, it resorts to negotiation, because the betterment is levied in return for a license to build in areas of environmental preservation (i.e, implemented through urban development parameters that require low building densities).

In addition to the legal enforced instruments (that govern the protection of the coastal zone and the respective environment), the UP11 of Lagoa, Algarve, Portugal, takes advantage of institutional tourism-oriented campaigns toward Portugal, in general, and toward the region of Algarve, in particular. For marketization and attracting foreign capital, this article presented a proposal to create value that is strongly anchored in the environment. This was due to the proximity of this touristic resort to the ocean and to beaches, which stressed the characteristics of the local landscape, which renders this instrument (that aims to provide sustainability and future wealth conditions) attractive to investors.

Because this urban development operation is strictly linked to the environment and landscape, it could potentially attract more capital than the corresponding parcels that are available for sale. Therefore, due to the bidding processes, most interested promoters, developers, and builders will not be able to intervene in this specific zone and they could increase their demand in the neighboring surrounding land as alternative investment opportunities, therefore increasing the prices.

Considering the restrictions imposed on supply by legal and regulatory instruments, prices are mainly determined by demand. The higher the amount of capital that is paid (which will be higher with increased global demand), the higher the amount that will be spent on infrastructure, equipment and utilities.

For the role of planning when channeling funding to local developments, urban marketing and city branding, the promotion of tourism and the participation in networks of cities all contribute within a globalized framework, to disseminate urban plans and projects, which widens the outreach to possible investors. However, these factors could potentially increase the values involved, which by considering the competitive bidding processes could be more efficient if a better quality was attached to development plans and projects. Therefore, the strategy to convey the unique characteristics of a product or service is a basic requirement and is a critical success factor.

This urban development operation is almost exclusively aimed at tourists, in an area that was not previously populated. Therefore, the public decision to develop and implement the plan engendered direct betterments, and the economic development and population growth that is induced by this decision engender indirect betterments. The overall betterment is the sum of these direct and indirect factors and could be classified as betterments irrespective of their origins. These factors could exert higher pressure on the amount of required infrastructure and equipment and the corresponding quality (favored by marketing interventions). These touristic resorts should conform to the patterns enshrined in law (four and five-star hotels or touristic lodgings), and changes in land use (i.e., from agricultural to urban land) and in intensities of use should be restricted (i.e., because land use indices enforced are very low).

But how should land rent be computed? This land previously had agricultural uses, and then it changed to an intermediary state of touristic development, where new use parameters are enforced. Because no alternative supply is available and any alternative to the supply is rather inelastic; therefore, the price of land is mainly determined by how much the demand is willing to pay.

In this framework, this value capture could be imposed exclusively on promoters or developers. Therefore, this land value capture mechanism is efficient and does not discourage private initiatives. This is because, as the supply is quite inelastic, the tax charges will fall mainly on the landowners, promoters, developers, and builders, and therefore, the burden of losses become minor. It could contribute to urban development, and to high-quality tourism-oriented buildings and activities, which could ensure public control on real estate prices and speculation, will not aggravate building costs, and represents an important source of funds for public infrastructure, equipment and services. In addition, it preserves the rights of different stakeholders and the general population, it is easier to tax and could be applied to other urban realities and touristic-oriented urban resorts.

Conclusions, Recommendations, and Future Enhancements

This article presented an instrument that reverted to local communities the betterments from land values that were induced by the plans development and implementation. This methodology and this value capture instrument were applied to a case study. However, they are generally replicable in other urban realities. Despite the worldwide large use of value capture instruments, the proposed methodology could add value to the current literature. It enables parameter setting and the definition of objective indicators to compute the potential municipal taxable values from different planning and management operating units, for different types of touristic uses in the intervention areas of the Urban Development Plans. In addition, to surpassing the subjectivity that currently involves the debate on land and value capture assessment, it could be extended to other municipal territories and other intervention areas of the Municipal Master Plans, Urban Development Plans, and Detail Plans. This could be possible due to the use of data that is available from national and regional statistics, and from the financial accounting documents from different municipalities, which can be trusted and are comparable.

This research could contribute by improving the efficiency of the territorial management system, in general (in Portuguese municipalities, in particular). It could fill the gap between the physical–morphological and the economic and financial approaches to urban planning, which are especially relevant in Portuguese legislation that requires instruments to support the economic and financial sustainability of urban interventions. In addition, it addresses the requirement for better articulation between the real estate market, land use planning, and the social redistribution of betterments that stem from public decisions. Therefore, it could contribute to a better understanding and quantification of the components of betterment, and clarify their possible applications. In addition, it could reinforce the coherent design and implementation of urban development plans, because it anchors strategic and operational interventions in documents validated by responsible authorities, in which their economic and financial sustainability is justified (it strengthens the efficiency and effectiveness of the territorial management system through the articulation between different instruments of land policy).

This new territorial management instrument, which consists of the partial recovery of betterments on trade, industrial, touristic, or service buildings: (1) reinforces municipal finance and supports the economic and financial sustainability of municipalities; (2) clarifies the origins and applications of municipal funds that accrue from urban development; (3) ensures that the betterments engendered by urban development operations are allocated on behalf of the population's general interest instead of serving specific private interests; and (4) predicts a fairer and balanced distribution of benefits and charges that accrue from urban development between all the involved stakeholders.

Some of the problems that the instrument proposed in this article (in connection with the currently enforced Portuguese Land and Planning Act) is intended to surmount are: (1) to govern the formation of land rent, by monitoring different land statutes (rural or urban) that are associated with the land economic, social and environmental functions, and to the current land licensed uses; (2) to rule the formation and distribution of land betterments, which considers the rights and duties inherent to different land statutes; (3) to promote a more effective and proactive territorial management lead by the municipalities (through public administration intervention mechanisms in the real estate market, which shift the emphasis of the territorial system from the elaboration of plans to the implementation of plans); and (4) to render the different instruments of land policy that are currently dispersed through different regimes (e.g., land occupation, use and transformation, as settled by intermunicipal or municipal plans) more coherent through land classification and qualification (Law n° 31/2014).

The article could consider some possible future enhancements: (1) instead of average transaction values, use actual transaction values

according to geolocation: this will allow the visualization of more in situ realistic scenarios, which could lead to more solid conclusions; (2) update data regularly, because this might better reflect the evolution of prices, betterments, and therefore, the potentially recoverable values through the proposed value capture tool; (3) instead of levying total transaction values, this instrument should levy the difference between the transaction value and an average municipal benchmark building value: this would better respect the municipal characteristics and, therefore, support its balanced development.

The main contributions of this article to the planning community are: (1) highlight the importance of planning and management strategies, policies and instruments to tackle real estate and land property issues, and ensure a balanced urban development that is based on the distribution of charges and benefits that arise from tourism-based developments; and (2) reinforce that the betterments engendered by public decisions (from planning, or public investment, or both) should be reassigned to social and community interests, and the construction, maintenance and reinforcement of urban infrastructures. In addition, it could have pedagogical value, which is highlighted by the proposed design of an instrument to capture betterments, and its methodological detailed explanation regarding the data sources and the procedures to follow to implement it in practice.

Data Availability Statement

Some or all data or models that support the findings of this article are available from the corresponding author upon reasonable request (statistical data, computation of betterments, urban development plan of the UP11 of Lagoa).

Acknowledgments

The author thanks the Portuguese Department of Territory for all the given support.

References

Aalbers, M. B. 2019. "Corporate financialization." In *The international encyclopedia of geography: People, the earth, environment, and technology*, edited by D. Richardson, N. Castree, M. F. Goodchild, A. L. Kobayashi, and R. Marston. Oxford, UK: Wiley. https://doi.org/10.1002/9781118786352.wbieg0598.pub2.

Aalbers, M. B. 2016. *The financialization of housing: A political economy approach*. Abingdon, UK: Routledge.

Adair, A., J. Berry, and S. McGreal. 2003. "Financing property's contribution to regeneration." *Urban Stud.* 40 (5–6): 1065–1080. https://doi.org/10.1080/0042098032000074326.

Adair, A., J. Berry, S. McGreal, B. Deddis, and S. Hirst. 1999a. "Evaluation of investor behaviour in urban regeneration." *Urban Stud.* 36 (12): 2031–2045. https://doi.org/10.1080/0042098992520.

Adair, A., J. Berry, S. McGreal, L. Sýkora, A. G. Parsa, and B. Redding. 1999b. "Globalization of real estate markets in Central Europe." *Eur. Plann. Stud.* 7 (3): 295–305. https://doi.org/10.1080/09654319908720519.

Adair, A. S., J. N. Berry, and W. S. McGreal. 2011. "Hedonic modelling, housing submarkets and residential valuation." *J. Property Res.* 13 (1): 67–83. https://doi.org/10.1080/095999196368899.

Alexander, G., E. M. Penalver, J. W. Singer, and L. C. Underkuffl. 2009. "A statement of progressive property." *Cornell Law Rev.* 94 (4): 743–744.

Almeida, J., B. Condessa, P. Pinto, and J. A. Ferreira. 2013. "Municipal urbanization Tax and land-use management—The case of Tomar, portugal." *Land Use Policy* 31: 336–346. https://doi.org/10.1016/j.landusepol.2012.07.017.

Alterman, R. 1988. "Exactions American style: The context for evaluation." In *Private supply of public services: Evaluation of real-estate exactions, linkage and alternative land policies*, edited by R. Alterman, 3–21. New York: NYU Press.

Alterman, R. 2010. *Takings international: A comparative perspective on land use regulations and compensation rights*. Chicago: American Bar Association Publications.

Alterman, R. 2011. "Is capturing the "unearned increment" in land value still a viable idea? A cross- national analysis." In *COBRA 2011—Proc., of RICS Construction and Property Conf.*, 1460–1484. Manchester, UK: Royal Institution of Chartered Surveyors. Accessed September 14, 2020. http://site.cibworld.nl/dl/publications/COBRA_2011.pdf.

Alterman, R. 2012. "Land use regulations and property values: The "windfalls capture idea revisited." In *The Oxford handbook of urban economics and planning*, edited by K. D. Brooks, and G.-J. Knaap, 755–786. Oxford, UK: Oxford University Press.

Altshuler, A. A., and J. A. Gomez-Ibanez. 1993. *Regulation for revenue: The political economy of land use exactions*. Washington, DC: Brookings Institution Press.

Amborski, D. P. 1988. "Impact fees Canadian style: The use of development charges in Ontario." In *Development impact fees*, edited by A. C. Nelson, 52–63. Chicago: Planners Press.

Atmer, T. 1987. "Land banking in Stockholm." *Habitat Int.* 11 (1): 47–55. https://doi.org/10.1016/0197-3975(87)90034-8.

Ayougu, M. 2007. "Infrastructure and economic development in Africa: A review." *J. Afr. Econ.* 16 (1): 75–126. https://doi.org/10.1093/jae/ejm024.

Barlowe, R. 1986. *Land resource economics*. Hoboken, NJ: Prentice-Hall.

Barros, C. I. F. 2011. "Planeamento estratégico de marketing territorial e perspectivas de desenvolvimento na Região Autónoma da Madeira." Master thesis, Faculty of Arts, Universidade de Coimbra.

Bartke, S., ed. 2013. *Science for environment policy—Thematic issue: Brownfield regeneration*. Brussels, Belgium: European Commission.

Besanko, D., and R. Braeutigam. 2011. *Microeconomics*. 4th ed. Hoboken, NJ: Wiley.

Beswick, C., and S. Tsenkova. 2002. "Overview of urban regeneration policies." In *Urban regeneration: Learning from the British experience*, edited by S. Tsenkova, 9–17. Calgary, Canada: Univ. of Calgary, Faculty of Environmental Design.

Bhatta, S. D., and M. P. Drennan. 2003. "The economic benefits of public investment in transportation—A review of recent literature." *J Plann. Educ. Res.* 22 (3): 288–296. https://doi.org/10.1177/0739456X02250317.

Birch, K., and M. Siemiatycki. 2016. "Neoliberalism and the geographies of marketization: The entangling of state and markets." *Prog. Hum. Geogr.* 40 (2): 177–198. https://doi.org/10.1177/0309132515570512.

Bird, R. M., and E. Slack. 2002. "Land and property taxation: A review." Accessed October 20, 2020. http://www1.worldbank.org/publicsector/decentralization/June2003Seminar/LandPropertyTaxation.pdf.

Booth, P. 2012. "The unearned increment: Property and the capture of betterment value in Britain and France." In *Value capture and land policies: Proceedings of the 2011 land policy conference*, edited by G. K. Ingram, and Y.-H. Hong, 74–94. Cambridge, MA: Lincoln Institute of Land Policy.

Borrero, O., E. Durán, J. Hernández, and M. Montaña. 2011. *Evaluating the practice of betterment levies in Colombia: The experience of Bogotá and manizales*. Working Paper. Cambridge, MA: Lincoln Institute of Land Policy.

Bourassa, S. C., and Y.-H. Hong. 2003. *Leasing public land*. Cambridge, MA: Lincoln Institute of Land Policy.

Brown, H. J., and M. O. Smolka. 1997. "Capturing public value from public investments." In *Land use and taxation: Applying the insights of henry George*, edited by H. J. Brown, 17–32. Cambridge, MA: Lincoln Institute of Land Policy.

Caetano, M., H. Carrão, and M. Painho. 2005. *Alterações da ocupação do solo em Portugal entre 1985–2000*. Lisboa, Portugal: Instituto do Ambiente.

Calavita, N., and A. Mallach. 2009. "Inclusionary housing, incentive and land value recapture." *Land Lines* 21 (1): 15–21.

Callies, D. L., and A. Suarez. 2005. "Privatization and the providing of public facilities through private means." *J. Law Polit.* 21: 477–504.

Canning, D., and P. Pedroni. 2008. "Infrastructure, long-run economic growth and causality tests for co-integrated panels." *Manchester School* 76 (5): 504–527. https://doi.org/10.1111/j.1467-9957.2008.01073.x.

Cardoso, I. M., L. M. Almeida, E. Vilares, and F. Ferreira. 2011. *Análise comparativa das Leis dos Solos de Países Europeus—Estudo de enquadramento para a preparação da Nova Lei do Solo*. Documento Técnico No. DGOTDU 8/2011. Lisboa, Portugal: Ministério do Ambiente e do Ordenamento do Território, Direcção Geral do Ordenamento do Território e Desenvolvimento Urbano.

Carroll, D. A. 2008. "Tax increment financing and property value." *Urban Aff. Rev.* 43 (4): 520–552. https://doi.org/10.1177/1078087407308516.

Carvalho, J., and F. P. Oliveira. 2013. "Parecer sobre a Proposta de Lei n° 183/XII—Proposta de Lei de Bases da Política de Solos, de Ordenamento do Território e de Urbanismo."

Cidrais, A. 1998. "O marketing territorial aplicado às cidades médias portuguesas: os casos de Évora e Portalegre." Dissertação de mestrado, Faculdade de Letras da Universidade de Lisboa.

CML (Câmara Municipal de Lagoa). 2009. *Documentos de Prestação de Contas relativos ao Ano Financeiro de 2008*. Algarve, Portugal: CML.

CML (Câmara Municipal de Lagoa). 2010. *Documentos de Prestação de Contas relativos ao Ano Financeiro de 2009*. Algarve, Portugal: CML.

CML (Câmara Municipal de Lagoa). 2011. *Documentos de Prestação de Contas relativos ao Ano Financeiro de 2010*. Algarve, Portugal: CML.

CML (Câmara Municipal de Lagoa). 2012. *Documentos de Prestação de Contas relativos ao Ano Financeiro de 2011*. Algarve, Portugal: CML.

CML (Câmara Municipal de Lagoa). 2020. "O Plano Diretor Municipal de Lagoa, Âmbito e Alcance. Revisão do PDM de Lagoa, Volume I." Accessed November 8, 2020. https://www.cm-lagoa.pt/index.php/pt/atividade-municipal/revisao-pdm-de-lagoa.

CNADS (Conselho Nacional do Ambiente e Desenvolvimento Sustentável). 2013. "Parecer do Conselho Nacional do Ambiente e Desenvolvimento Sustentável sobre a Proposta de Lei n° 183/XII—Proposta de Lei de Bases da Política Pública de Solos, de Ordenamento do Território e de Urbanismo." Accessed December 9, 2020. https://www.cnads.pt/index.php?option=com_docman&task=cat_view&gid=62&Item=84.

Correia, P. 1993. *Políticas de solos no planeamento municipal*. Lisboa, Portugal: Edição da Fundação Calouste Gulbenkian.

Couch, C., O. Sykes, and W. Börstinghaus. 2011. "Thirty years of urban regeneration in Britain, Germany and France: The importance of context and path dependency." *Prog. Plann.* 75 (1): 1–52. https://doi.org/10.1016/j.progress.2010.12.001.

Daniels, T. L., R. H. Daniels, and M. B. Lapping. 1986. "The vermont land gains Tax experience With It provides a useful lesson in the design of modern land policy." *Am. J. Econ. Sociol.* 45 (4): 441–455. https://doi.org/10.1111/j.1536-7150.1986.tb01943.x.

Davy, B. 2007. "Mandatory happiness? Land readjustment and property in Germany." In *International experiences in land readjustment*, edited by B. Needham, and Y.-H. Hong, 37–56. Cambridge, MA: Lincoln Institute of Land Policy.

Degen, M., and M. García. 2012. "The transformation of the "barcelona model": An analysis of culture, urban regeneration and governance." *Int. J. Urban Reg. Res.* 36 (5): 1022–1038. https://doi.org/10.1111/j.1468-2427.2012.01152.x.

DGOTDU (Direção Geral do Ordenamento do Território e Desenvolvimento Urbano). 2011. *Preparação do projecto da nova Lei do Solo: Workshop com especialistas*. Documento de apoio ao debate. Lisboa, Portugal: Direcção Geral do Ordenamento do Território e Desenvolvimento Urbano.

Dikeç, M. 2007. *Badlands of the republic—Space, politics and urban policy*. Malden, MA: Blackwell.

Doebele, W. A., ed. 1982. *Land readjustment: A different approach to financing urbanization*. Lexington, MA: Lexington Books.

Eshuis, J., E. Braun, and E.-H. Klijn. 2013. "Place marketing as governance strategy: An assessment of obstacles in place marketing and their effects on attracting target groups." *Public Admin. Rev.* 73 (3): 507–516. https://doi.org/10.1111/puar.12044.

Eshuis, J., E.-H. Klijn, and E. Braun. 2014. "Place marketing and citizen participation: Branding as strategy to address the emotional dimension of policy making?" *Int. Rev. Admin. Sci.* 80 (1): 151–171. https://doi.org/10.1177/0020852313513872.

Fainstein, S. 2010. *The just city*. London: Cornell University Press.

Fainstein, S. 2012. "Land value capture and justice." In *Value capture and land policies: Proceedings of the 2011 land policy conference*, edited by G. K. Ingram, and Y.-H. Hong, 21–40. Cambridge, MA: Lincoln Institute of Land Policy.

Faludi, A. 2009. "A turning point in the development of european spatial planning? The "territorial agenda of the European Union" and the "first action programme"." *Prog. Plann.* 71 (1): 1–42. https://doi.org/10.1016/j.progress.2008.09.001.

Florek, M., M. Herezniak, and A. Augustyn. 2019. "You can't govern if you don't measure: Experts' insights into place branding effectiveness assessment." *J. Place Manage. Dev.* 12 (4): 545–565. https://doi.org/10.1108/JPMD-10-2018-0074.

Foley, L. 2011. "Disguised increments: the externalities factor in land economics." Accessed February 16, 2019. http://leofoley.com/PDF/Externalities-Disguised-Increments-Traralgon-2011.pdf/.

Gielen, D. M., and E. van der Krabben. 2017. *Developer obligations towards better urban infrastructure*. Working Paper. Cambridge, MA: Lincoln Institute of Land Policy.

Gihring, T. A. 1999. "Incentive property taxation: A potential tool for urban growth management." *J. Am. Plann. Assoc.* 65 (1): 62–79. https://doi.org/10.1080/01944369908976034.

Guinote, J. 2019. "A afetação social das mais-valias no planeamento urbano—A nova lei de solos em Portugal." *GOT* 17: 93. https://doi.org/10.17127/got/2019.17.005.

Guironnet, A., and L. Halbert. 2014. *The financialization of urban development projects: Concepts, processes and implications*. Working Paper No. 14-04. Marne-la-Vallée, France: ENPC Archives Ouvertes.

Hall, P. 1976. "A review of policy alternatives." In *Public landownership: Framework for evaluation*, edited by D. Kehoe, 46–57. Toronto: Lexington Books.

Hall, P. 2004. "Creativity, culture, knowledge and the city." *Built Environ.* 30 (3): 256–258. https://doi.org/10.2148/benv.30.3.256.54306.

Hankinson, G. 2010. "Place branding research: A cross-disciplinary agenda and the views of practitioners." *Place Brand. Public Dipl.* 6 (4): 300–315. https://doi.org/10.1057/pb.2010.29.

Hankinson, G. 2015. "Rethinking the place branding construct." In *Rethinking place branding comprehensive brand development for cities and region*, edited by M. Kavaratzis, G. Warnaby, and G. J. Ashworth, 13–31. Cham, Switzerland: Springer.

Harvey, D. 2000. *Possible urban worlds. megacities lecture 2000*. Amersfoort, Netherlands: Twynstra Guide.

Harvey, D. 2008. "The right to the city." *New left review*. 53: 23–40.

Haughwout, A. F. 2002. "Public infrastructure investments, productivity, and welfare in fixed geographic areas." *J. Public Econ.* 83 (3): 405–428. https://doi.org/10.1016/S0047-2727(00)00164-X.

Herezniak, M., and J. Anders-Morawska. 2015. "City brand strategy evaluation: In search of effectiveness indicators." *J. Place Manage. Dev.* 8 (3): 187–205. https://doi.org/10.1108/JPMD-06-2015-0023.

Hendricks, M., and A. Tonkin. 2010. *Land value capture/taxation (LVC/T) scoping study: Final report*. Cape Town, South Africa: Development Action Group.

Hong, Y. 1998. "Transaction costs of allocating increased land value under public leasehold systems: Hong Kong." *Urban Stud.* 35 (9): 1577–1595. https://doi.org/10.1080/0042098984295.

Hong, Y.-H., and D. Brubaker. 2010. "Integrating the proposed property tax with the public leasehold system." In *China's local public finance in transition*, edited by J. Y. Man, and Y.-H. Hong, 165–190. Cambridge, MA: Lincoln Institute of Land Policy.

Houghton, J. P., and A. Stevens. 2011. "City branding and stakeholder engagement." In *City branding: Theory and cases*, edited by K. Dinnie, 45–53. London: Palgrave Macmillan.

Hui, E. C.-M., V. S.-M. Ho, and D. K.-H. Ho. 2004. "Land value capture mechanisms in Hong Kong and Singapore." *J. Property Invest. Finance* 22 (1): 76–100. https://doi.org/10.1108/14635780410525153.

INE (Instituto Nacional de Estatística). 2009–2018a. *Anuário estatístico da região do algarve*. Lisboa, Portugal: INE.

INE (Instituto Nacional de Estatística). 2009–2018b. *Estatísticas da construção e habitação*. Lisboa, Portugal: INE.

INE (Instituto Nacional de Estatística). 2009. *Estatísticas da Construção e Habitação 2008*. Lisboa, Portugal: INE. Accessed November 13, 2020. http://www.ine.pt.
INE (Instituto Nacional de Estatística). 2010. *Estatísticas da Construção e Habitação 2009*. Lisboa, Portugal: INE. Accessed November 13, 2020. http://www.ine.pt.
INE (Instituto Nacional de Estatística). 2011. *Estatísticas da Construção e Habitação 2010*. Lisboa, Portugal: INE. Accessed November 13, 2020. http://www.ine.pt.
INE (Instituto Nacional de Estatística). 2012a. *Estatísticas da Construção e Habitação 2011*. Lisboa, Portugal: INE. Accessed November 13, 2020. http://www.ine.pt.
INE (Instituto Nacional de Estatística). 2012b. *Censos – Resultados definitivos. Região Algarve - 2011*. Lisboa, Portugal: INE. Accessed August 19, 2020. https://censos.ine.pt/xportal/xmain?xpid=CENSOS&xpgid=ine_censos_publicacao_det&menuBOUI=13707294&contexto=pu&PUBLICACOESpub_boui=156657607&PUBLICACOESmodo=2&selTab=tab1.
Ingram, G., and Y.-H. Hong. 2012. "Land value capture: Types and outcomes." In *Value capture and land policies: Proceedings of the 2011 land policy conference*, edited by G. K. Ingram, and Y.-H. Hong, 3–18. Cambridge, MA: Lincoln Institute of Land Policy.
Kanter, R. M. 1995. *World class-thriving locally in the global economy*. New York: Touchstone.
Kitson, M., and J. Michie. 1997. "Does manufacturing matter?" *Int. J. Econ. Bus.* 4 (1): 71–95. https://doi.org/10.1080/758532195.
Ko, K., and B. Rosenblatt. 2013. "Land Value Capture 101: How to fund infrastructure with increased property values." Accessed August 17, 2020. http://blog.tstc.org/2013/08/19/land-value-capture-101-how-to-fund-infrastructure-with-increased-property-values/.
Kotler, P., and G. Armstrong. 1980. *Principles of marketing*. Hoboken, NJ: Prentice-Hall.
Kotler, P., D. S. H. Haider, and I. Rein. 1993. *Marketing places—Attracting investment, industry, and tourism to cities, states and nations*. New York: Free Press.
Krätke, S. 1992. "Urban land rent and real estate markets in the process of social restructuring: The case of Germany." *Environ. Plann. D: Soc. Space* 10 (3): 245–264. https://doi.org/10.1068/d100245.
Laanly, C., and V. Renard. 1990. "Public land banking." In *Land policy in France*, edited by V. Renard, and J. Comby, 47–56. Paris: EDEF.
Lam, A. H. S., and S. W.-C. Tsui. 1998. *Policies and mechanisms on land value capture: Taiwan case study*. Cambridge, MA: Lincoln Institute of Land Policy.
Lang, T. 2005. *Insights in the British debate about urban decline and urban regeneration*. Working Paper. Erkner, Germany: Leibniz—Institute for Regional Development and Structural Planning.
Lincoln Institute of Land Policy. 2020. "Land value capture—Tools to finance our urban future." Accessed October 31, 2020. https://www.lincolninst.edu/sites/default/files/pubfiles/land-value-capture-policy-brief.pdf.
Martin, J.-I. 1993. "Compte à rebours du promoteur et raisonnement de l'aménageur." In *L'articulation du foncier et de limobilier*, edited by J.-J. Granelle, and T. Vimi. Paris: ADEF.
Mata, J. 2011. *Economia da Empresa*. 7th ed. Lisbon, Portugal: Fundação Calouste Gulbenkian.
Medda, F. R., S. Caschili, and M. Modelewska. 2012. "Financial mechanisms for historic city core regeneration and brownfield redevelopment." In *The economics of uniqueness: Investing in historic city cores and cultural heritage assets for sustainable development*, edited by G. Licciardi, and R. Amirtahmasebi, 213–243. Washington, DC: World Bank.
Mikelbank, B. A. 2004. "Spatial analysis of the relationship between housing values and investments in transportation infrastructure." *Ann. Reg. Sci.* 38 (4): 705–726. https://doi.org/10.1007/s00168-003-0187-0.
Moreno, R., and E. Lopez-Bazo. 2007. "Returns to local and transport infrastructure under regional spillovers." *Int. Reg. Sci. Rev.* 30 (1): 47–71. https://doi.org/10.1177/0160017606296728.
Município de Lagoa. 2018. *Orçamento e grandes opções do plano para 2018*. Algarve, Portugal: Município de Lagoa.
Needham, B. 2006. *Planning, by law and property rights reconsidered*. London: Ashgate.
Needham, B., and Y.-H. Hong, eds. 2007. *International experiences in land readjustment*. Cambridge, MA: Lincoln Institute of Land Policy.
Nelson, A., L. Bowles, J. Juergensmeyer, and J. Nicholas. 2008. *A guide to impact fees and housing affordability*. Washington, DC: Island Press.
Netzer, D. 1998. "Land Value Taxation: Could it Work Today? Land Lines 10." Accessed December 13, 2019. http://www.lincolninst.edu/pubs/426_Land-Value-Taxation—Could-It-Work-Today-/.
Nozick, R. 1974. *Anarchy, state and utopia*. New York: Basic Books.
Nunes, F. 1999. "Processo de Planeamento de Marketing Territorial Estratégico–Um instrumento de operacionalização de estratégias de política para Área Metropolitana do Porto." Dissertação de Mestrado, Faculdade de Arquitectura e Faculdade de Engenharia.
O'Connor, J. 1973. *The fiscal crisis of the state*. New York: St. Martin's Press.
Pardal, S. 2006. "Os planos territoriais e o mercado fundiário." In *Proc., 16th Congresso da Ordem dos Engenheiros*. Ponta Delgada, Azores. Accessed February 16, 2020. https://www.sidoniopardal.com/conferencias.
Parecer da CA. 2018. "Procedimento de Avaliação de Impacte Ambiental do Projeto de Loteamento do NDT Nascente do PU da UP 11 do PDM de Lagoa. Comossão de Coordenação e Desenvolvimento Regional do Algarve, Agência Portuguesa do Ambiente/ARH Algarve, Direção Regional de Cultura do Algerve, Câmara Municipal de Lagoa."
Piketty, T. 2014. *Capital in the twenty-first century*. Cambridge, MA: Belknap Press of Harvard University Press.
Piketty, T. 2015. "Property, inequality, and taxation: Reflections on capital in the twenty-first century." *Tax Law Rev.* 68: 631–648.
Plevoets, B., and J. Sowińska-Heim. 2018. "Community initiatives as a catalyst for regeneration of heritage sites: Vernacular transformation and its influence on the formal adaptive reuse practice." *Cities* 78: 128–139. https://doi.org/10.1016/j.cities.2018.02.007.
Pordata. 2018. "Muinicípios, Finanças Autárquicas, Receitas, Receitas de impostos em % da receita total efetiva das câmaras Municipais." Accessed February 12, 2020. https://www.pordata.pt/Municipios/Receitas+de+impostos+em+percentagem+da+receita+total+efectiva+das+c%c3%a2maras+municipais-563-3130.
Rebelo, E. M. 2003. "Mercado Imobiliário e Transformações Urbanas." Ph.D. thesis, Faculdade de Engenharia da Universidade do Porto.
Rebelo, E. M. 2009. "Land economic rent computation for urban planning and fiscal purposes." *Land Use Policy* 26 (3): 521–534. https://doi.org/10.1016/j.landusepol.2008.07.008.
Rebelo, E. M. 2012. "Planning to fight speculation: Outstanding influences on land rent." Chap. 4 in *Agricultural economics: New research*, edited by T. H. Lee, 89–111. New York: Nova Science Publishers.
Rebelo, E. M. 2014a. "Contributos para o Regime Económico-Financeiro do Solo e Ordenamento do Território: Estudo de caso do Plano de Pormenor da Avenida Papa João XXIII (Fátima)."
Rebelo, E. M. 2014b. "Municipal finance sustainability: A new territorial management instrument to redistribute surplus-values accrued by plans." In *Renaissance of the Regions of Southern Europe—Atas/Proc., 20th APDR Congress*, 1432–1441. Portugal: Universidade de Évora. Accessed August 12, 2020. https://www.apdr.pt/congresso-workshops/historico-de-encontros/20o-congresso/
Rebelo, E. M. 2014c. "Contributos para o Regime Económico-Financeiro do Solo e Ordenamento do Território: Estudo de caso do Plano de Urbanização da Unidade de Planeamento 11 (Lagoa, Algarve)."
Rebelo, E. M. 2017. "Land betterment capture revisited: A methodology for Territorial plans." *Land Use Policy* 69: 392–407. https://doi.org/10.1016/j.landusepol.2017.08.015.
Rezk, E. 2004. "Taxes on land and property in Argentina." In *International handbook of land and property taxation*, edited by R. M. Bird, and E. Slack, 281–285. Cheltenham, UK: Edward Elgar Publishing.
Rosenberg, R. H. 2006. "The changing culture of American land use regulation: Paying for growth with impact fees." *Southern Methodist Univ. Law Rev.* 59: 177.
Sá, A. M. 2005. "A Tributação da Propriedade Imobiliária como Instrumento de Política de Solos." Master's thesis, Dept. of Civil Engineering, Architecture and Georeources, Instituto Superior Técnico.

Sacco, P. L., S. Ghirardi, M. Tartari, and M. Trimarchi. 2019. "Two versions of heterotopia: The role of art practices in participative urban renewal processes." *Cities* 89: 199–208. https://doi.org/10.1016/j.cities.2019.02.013.

Sassen, S. 2000. *Cities in the world economy*. Thousand Oaks, CA: Pine Forge Press.

Savitch, H. V. 2011. "A strategy for neighborhood decline and regrowth: Forging the French connection." *Urban Aff. Rev.* 47 (6): 800–837. https://doi.org/10.1177/1078087411416443.

Scott, A. J. 2006. "Creative cities: Conceptual issues and policy questions." *J. Urban Aff.* 28 (1): 1–17. https://doi.org/10.1111/j.0735-2166.2006.00256.x.

Siethoff, B., and K. M. Kockelman. 2002. "Property values and highway expansion: Timing, size location, and use effects." *Transp. Res. Rec.* 1812 (1): 191–200. https://doi.org/10.3141/1812-24.

Silva, J. B., F. de Deus, R. Tenedório, and J. A. 2012. "Paying as the urban areas grow—implementing and managing urban development charges using a GIS application." *Int. J. Geog. Inf. Sci.* 26 (9): 1689–1705. https://doi.org/10.1080/13658816.2011.645478.

Skaburskis, A., and M. Qadeer. 1992. "An empirical estimation of the price effects of development impact fees." *Urban Stud.* 29 (5): 653–667. https://doi.org/10.1080/00420989220080611.

Smith, J. J., and T. A. Gihring. 2006. "Financing transit systems through value capture." *Am. J. Econ. Sociol.* 65 (3): 751–786. https://doi.org/10.1111/j.1536-7150.2006.00474.x.

Smolka, M. O., and D. Amborski. 2000. *Value capture for urban development: An inter-American comparison*. Cambridge, MA: Lincoln Institute of Land Policy.

Smolka, M. O, and D. Amborski. 2003. "Recuperación de plusvalías para el desarrollo urbano: Una comparación inter-americana." *EURE* 29 (88): 55–77.

Smolka, M. O., and D. Amborski. 2007. *Value capture for urban development: An inter-American comparison*. Working Paper. Cambridge, MA: Lincoln Institute of Land Policy.

Squires, G., and E. Heurkens. 2015. *International approaches to real estate development*. London: Routledge.

Squires, G., and E. Heurkens. 2016. "Methods and models for international comparative approaches to real estate development." *Land Use Policy* 50: 573–581. https://doi.org/10.1016/j.landusepol.2015.10.005.

Soja, E. 2010. *Seeking spatial justice*. London: University of Minnesota Press.

Strong, A. L. 1979. *Land banking*. Baltimore: John Hopkins University Press.

Taylor, L. L., and S. P. A. Brown. 2006. "The private sector impact of state and local government: Has more become bad?" *Contemp. Econ. Policy* 24 (4): 548–562. https://doi.org/10.1093/cep/byl002.

Theurillat, T., and O. Crevoisier. 2013. "The sustainability of a financialized urban megaproject: The case of Sihlcity in Zurich." *Int. J. Urban Reg. Res.* 37 (6): 2052–2073. https://doi.org/10.1111/j.1468-2427.2012.01140.x.

Torrence, M. I. 2008. "Forging glocal governance? Urban infrastructures as networked financial products." *Int. J. Urban Reg. Res.* 32 (1): 1–21. https://doi.org/10.1111/j.1468-2427.2007.00756.x.

United Nations. 1976. "The vancouver action plan—Recommendation D.3." In *United Nations Conf. on Human Settlements*. New York: United Nations.

Urban Development Plan of the Planning Unit UP11, Lagoa. n.d. http://www.dgterritorio.pt/AcessoSimples/pdf/Planta%20de%20Zonamento_LAGOA.pdf.

Walters, L. C. 2011. *Land and propery tax: A policy guide*. Nairobi, Kenya: UN_Habitat and the Global Land Tool Network.

Walters, L. C. 2012. "Land value capture in policy and practice." *J. Property Tax Assess. Admin.* 10 (2): 5–21. *World Bank Conf. on Land and Poverty*.

Webb, M. S. 2013. "How a levy based on location values could be the perfect tax." Accessed March 14, 2020. http://www.ft.com/cms/s/2/392c33a6-211f-11e3-8aff-00144feab7de.html.

Weber, R., S. D. Bhatta, and D. Merriman. 2003. "Does tax increment financing raise urban industrial property values?" *Urban Stud.* 40 (10): 2001–2021. https://doi.org/10.1080/0042098032000116086.

Wolf-Powers, L. 2010. "Community benefits agreements and local gvernment: A review of recent evidence." *J. Am. Plann. Assoc.* 76 (2): 141–159. https://doi.org/10.1080/01944360903490923.

World Bank. 2009. *Worl development report 2009: Reshaping economic geography*. Washington, DC: WorldBank.