



# Urban inequality and the social function of land value capture: The credibility thesis, financing tools and planning in Latin America

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## ABSTRACT

The use of Land Value Capture (LVC) tools in addressing urban inequality is a much-debated problem. A vital aspect of this problem is how the effectiveness of these tools could be measured. To this end, the article focuses on the credibility of LVC tools and assesses this in terms of the extent to which these instruments successfully embody the social function of property. The theoretical perspective of the credibility thesis could be a fruitful approach for understanding how LVC tools materialize (or not) the social function of property. Based on this, the article analyzes whether LVC tools arose endogenously from the interactions between social actors or whether they were exogenously imposed thereby generating the emergence of non-credible institutions. To deal with this complex issue, the article employs a broad qualitative and quantitative dataset (i.e. court cases, interviews, surveys, government/corporate statistics and textual materials), as well as integrated methods including the Conflict Analysis Model (CAM) to measure conflict intensity; the Formal, Actual and Targeted (FAT) Framework to identify actors' perceptual divergences; and the Credibility Scales and Intervention (CSI) Checklist to relate credibility to desired policy effects. As a case-study, the paper examines LVC tools in a socio-economically skewed metropolis in South America: Medellín, Colombia.

## 1. Introduction

Several authors have studied the relation between urban planning and the infamous “unearned increment” that benefits landowners when land value rises for no apparent reason (George, 1880; Hagman and Mieczyski, 1978; Smolka and Amborski, 2003). This relation has a significant impact on urban inequalities because it “carries deep economic, social, and distributive-justice implications” (Alterman, 2012, p. 755).

In Latin America, where socio-economic disparities are pronounced, several authors have researched the antagonistic relationship between land value capture and urban inequality. For example, Furtado (2010, pp. 230–31) duly noted:

“Instead of developing from the ethical principle of justice (...), it seems that in Latin America the idea of land value capture has been adopted as a pragmatic mechanism to recover costs and thus compensate for the chronic shortage of public revenues necessary to finance urban infrastructure projects”.

The idea above coincides with two approaches described by Jaramillo (2008, 2009), who studied the unfair ways in which infrastructures are allocated. The first of these is associated with the socialization of costs and the privatization of benefits. The second concerns what is known as a “vicious circle” resulting from the aggravation of the contradictions highlighted above. Jaramillo proposes a possible way out through the use of LVC tools. These instruments enable the state to redirect increases in land value gained by landowners, speculators and developers towards enlarging the provision of land and infrastructure for socially marginalized populations. Ideally, the approach meaningfully reduces property prices and land retention; allows financially disadvantaged groups to gain access to urban amenities; and re-defines developers' dynamics from speculation to more socially productive activities. Yet... the question is how do these tools work out in actuality?

While examining this question, this article focuses on the South-American metropolis of Medellín. As the second-largest urban, commercial and industrial agglomeration in Colombia with an estimated population of over 4 million people, this mega-city could present an

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insightful case. The city is positioned in the Aburrá Valley, a central region of the Andes Mountains in Latin America. To address rising urban inequality, Medellín implemented a LVC scheme including a comprehensive set of different tools (discussed in detail below). Against this backdrop, the article has as a primary objective to analyze whether the LVC tools arose endogenously or if this institution was exogenously designed and imposed, the analysis of which will use the theory of the credibility thesis.<sup>3</sup>

The article's objective is perhaps as far-reaching as it is complex (involving multiple policy tools and multiple actors each, in turn, holding different views, and distributed over different analytical levels). To effectively unpack such a complicated problem, this article will not only rely on different data sources – qualitative and quantitative – but will also employ a comprehensive array of previously field-tested methods: first, to measure conflict through the Conflict Analysis Model (CAM); second, to examine divergences in actors' perceptions through the Formal, Actual and Targeted (FAT) Institutional Framework; and third, to relate perceptions of desired policy effects with measured credibility via the Credibility Scales and Intervention (CSI) Checklist.

The article consists of five sections. Following the introduction, the second part reviews the theoretical framework in relation to land value capture, the credibility thesis, and the social function of property. The third part explains the methods and data used in the paper. The fourth part presents the research results on the extent to which Land Value Capture tools materialize the social function of property and discusses the credibility thesis applied to such financing instruments. The final part concludes by reflecting on the empirical and theoretical ramifications of the study.

## 2. Theoretical framework

A burgeoning literature has used the credibility thesis and associated methods to analyze the level of social support for property rights in relation to policy interventions.<sup>4</sup> For instance, Nor-Hisham and Ho (2016) used the FAT framework to analyze the adverse impact of exogenously, state-imposed resettlement on customary rights in Malaysia. Sun and Ho (2018) used the CSI Checklist to demonstrate that informal housing in China can equally provide credible tenure for social actors as formal housing. Their study's conclusions were echoed by Celhay and McCawley (2020) who used perceptions of neighborhood security and location as proxies for credibility, showing that *formal* social housing in Chile fails to fulfil basic functions, which are paradoxically provided through *informal* slums. In a study to further the analysis of credibility, state-guided grassland restoration in Inner Mongolia was examined by Fan et al. (2019), who used endogenous transaction costs as a measure of credibility and subsequently used these to evaluate policy options through the CSI Checklist.

Studies on credibility have also given credence to the argument that function plays a pivotal role in understanding informal rights during processes of urbanization. For instance, Zhang (2018) contends that informality in Mumbai (India) persists because it fulfills certain functions and that, although slums are the result of unintentional development by the government, they are deeply rooted in local socio-economic and political practices. Goyal et al. (2022) reach corresponding

conclusions about informal land lease in southern India, and establish that its persistence stems from the endogenous functions it serves for rural smallholders. In a similar vein, Oranje et al. (2019) examine the credibility of informal institutions in South Africa originating from their role in facilitating access to non-metropolitan, urban services as opposed to the largely ineffective, formal planning and governance responses.

The credibility thesis provides a useful approach for understanding the institution of LVC tools as it introduces new postulates that help to rethink certain constraints inherent to neo-liberal approaches in planning (Table 1).

According to the credibility thesis, an institution is defined as “a set of rules that endogenously shapes and is shaped by actors” (Ho, 2016, p. 1129). Based on this, the article examines if LVC institutions arose endogenously from the innumerable interactions between social actors or if they were exogenously designed thereby engendering non-credible, contested institutions.

The rationale behind using the credibility thesis is the assumption that LVC tools were imposed by the government. In result, they cater to an economic function (in a neo-liberal reading of property as a marketable good), rather than being the outcome of endogenous emergence that benefits from a social function under the given conditions. The credibility thesis posits that it could be more insightful to utilize endogeneity and disequilibrium as ontological principles to describe the nature of institutional change, and with these, analyze how the social function of property in Colombia has been formed (Ho, 2017).

The concept of the social function of property as earlier advanced by Duguit (1924) was incorporated into the juridical system in Colombia where this French jurist had a recognized influence (Mercado-Gazabón, 2013). During the constitutional reform of 1936, more precisely, in Article 10 of the Legislative Act 01 through which the Constitution of 1886 was amended, two provisions that define the social function of property were incorporated. The first stipulates that – although private property is safeguarded – the private interest must yield to the public interest for reasons of public utility or social interest provided by law. The second provision is that property as a social function entails certain obligations (Colombia, 1936).

The new Colombian Constitution of 1991 maintains the same understanding of the social function of property to which the ecological function was added in Article 58 (Colombia, 1991). Therefore, the holders of property “have not only benefits but also duties before the rest of the society in respect to social goals and environmental restrictions” (UN-Habitat, 2018, p. 16). According to Henao (2019, p. 31) “the social function gives a use to the property that benefits the entire community, and the ecology function protects the ecosystems, in order to make effective the environmental rights enshrined in our Constitution [...]”.

The social and ecological function of property together with the prevalence of the general interest over the individual, and the equitable distribution of charges and benefits became fundamental pillars of the Territorial Development Law approved in 1997 (Colombia, 1997a, 1997b). With it, the legal framework of today's planning and financing instruments for municipal development in Colombia was established. Colombian municipalities are required to prepare a long-term municipal land planning instrument, which covers land use and municipal investments over a 12-year period, also known as the Land Use Master Plan or LUMP. In that context, the property right “is fully programmed by the provisions of the Land Use Master Plan” being “this instrument where the framework of its use and the conditions for its exercise are defined” (Henao, 2019, p. 36).

Although private property is guaranteed in Colombia, it is considered both a right and a duty. The use and enjoyment of property rights is restricted to the limits established by law, especially the provisions defined in the urban system through which its social function is materialized. More precisely, the Colombian Constitution stipulates that “[...] property is a social function that implies obligations” (Colombia, 1991, art. 58)”. In this way, “[...] property would not even be a right [...] what the Constitution guarantees is the social function of property,

<sup>3</sup> This thesis moots: “What ultimately determines the performance of institutions is not their form in terms of formality, privatization, or security, but their spatially and temporally defined function” and that “institutional function presides over form; the former can be expressed by its credibility” (Ho, 2014, p. 13–14). From this follows that “institutions that exist and persist fulfill a function, and are credible; otherwise they would have fallen into disuse or shifted into other types” (Ho, 2016, p. 1126).

<sup>4</sup> In this context, credibility is defined as “the perception of endogenously, autonomously shaped institutions as a common arrangement” (Ho, 2014, p.16).

**Table 1**  
Neo-liberal postulates vs credibility thesis.

Neo-liberal assumptions	Alternative postulates from credibility thesis
(1) <b>Institutions can be designed exogenously (i.e. intentionally) and subsequently enforced</b>	(1) Institutions result from endogenous, unintentional development. Although actors have intentions, there is no agency that can externally design institutions as actors' actions are part of the same autonomous, spontaneously ordered game. Institutions emerge as an unanticipated outcome of actors' multitudinous interactions, i.e. result from an endogenous, unintended intentionality (Ho, 2016, p. 1124).
(2) <b>Institutional change is characterized by equilibrium</b>	(2) Institutional change is driven by disequilibrium. Contrary to the concept that institutions settle around equilibrium, actors' interactions are seen as an ever-changing and conflicting process in which stable status is never reached. It could be seen as a 'Dynamic -Disequilibrium' or institutional change as perpetual alteration, yet with alternating speeds of change: sometimes imperceptibly slow, sometimes sudden and with shocks (Ho, 2016, p. 1124).
(3) <b>The form of institutions (i.e. formal, secure, and private property rights) is imperative for development</b>	(3) Institutional form is subordinate to function. Stated differently, the use and disuse of institutions over time and space and not their appearance is of relevance for understanding their role in development (Ho, 2016, p. 1125).

Illustrated by author on basis of Ho (2016, p. 1124, 1125).

which translates into the minimum level of enjoyment that grants an interest to the owner of owning a certain asset" (Maldonado, 2008, p. 35).

The implementation of LVC tools such as Betterment Contributions, the Exactions, the Sale of Construction and Development Rights, and the Participation in Land Value Increments materialize the social function of property. This is because these instruments guarantee that land value increases resulting from public works for urbanization and for the allocation or sale of building rights, return to the community. In this case, it is effectuated through the partial collection of funds. In this way, the ownership of property is limited to fulfilling its social function through the capture and distribution of land value increments in accordance with urban regulations.

### 3. Methodology

In a general reading of the credibility thesis, institutions that materialize the social function of property – here: the LVC tools – exist “as an interpretation” (Ho, 2016, p. 1133). In effect, the function of property cannot be established as an objective, a priori reality, but exists by the grace of a *hermeneutic, reiterative interpretation* of the researcher. Simultaneously, institutions' credibility can be measured by using indicators such as:

- (1) Conflict that can be examined via the Conflict Analysis Model (CAM) (Ho and Zhao, 2022; Ho, 2014), a heuristic tool that aims for a holistic understanding of conflict and apart from considering frequency, includes additional indicators such as conflict source, frequency, outcome, timing, intensity, duration, and nature;
- (2) Divergence in actors' aggregate perceptions measurable through the Formal, Actual and Targeted Institutional Framework or FAT Framework (Ho, 2016, p. 1134, 1135). This framework was developed based on the axiom that perceptual differences between what property rights should be formally enjoyed (the Formal), what property rights are actually enjoyed (the Actual), and what property rights are targeted by social actors (the Targeted), is a measure of credibility;
- (3) Lastly, after ascertaining credibility with the use of the Credibility Scales and Intervention (CSI) Checklist, predictions can be made about institutional interventions suited under given conditions (ranging from condoning, facilitating to non-intervention). The

CSI Checklist “links levels of credibility to possible intervention and non-intervention” and assists policymakers in “better reviewing their opportunities and constraints” (Ho, 2016, p. 1139). Here the tool is used to compare perceptions of desired policy effects by different interest groups.

The three analytical instruments – the CAM, FAT Institutional Framework, and CSI Checklist – have been tested in qualitative and quantitative studies as well as for different sectors and contexts such as urban commons, natural resources, informal settlements, and customary rights (You et al., 2021; Fan et al., 2019; Sun and Ho, 2018; Arvanitidis and Papagiannitsis, 2020; Nor-Hisham and Ho, 2016; Wang and Jinlong, 2022).

This research will begin by examining the credibility of LVC tools by considering conflict. In so doing, the research follows a similar application of the Conflict Analysis Model (Ho and Zhao, 2022) such as on land tenure (You et al., 2021), mining (Yang and Ho, 2019), and forestry (Krul et al., 2021). To this end, a set of seven indicators will be examined for each LVC tool (Table 2).

Following the conflict analysis, the study will proceed to examine the perceptual divergences of interest groups. To achieve this, qualitative data from interviews with state actors, corporate actors, academic representatives and social actors will be examined using the FAT Framework and the CSI Checklist (Tables 3 and 4).

This research also analyzes quantitative data from the Medellín Mayor's Office to evaluate the effectiveness of LVC tools; to assess disparities resulting from the distribution of development rights; and lastly, to identify where recovered funds were allocated and who received these funds (as part of the social function of property).

To assess perceptual divergences at *different levels of aggregation*, a ‘multi-angulation’ (Ho, 2016, p. 1130) of data is employed to study how LVC tools materialize the social function of property (Table 5). Note that multi-angulation implies the use of multiple sources (i.e. legal-political, economic and socio-physical data) divided into quantitative information – QT – (i.e. survey, government and corporate statistics) and qualitative data – QL – (i.e. from interviews, participatory observation, focus groups and archives), and the interpretation of these data according to involved stakeholders (i.e. state, corporate, and societal) as well as at different analytical levels (i.e. micro-meso-macro) (Ho, 2016, p. 1131), see Table 5.

**Table 2**  
Credibility of LVC tools via the Conflict Analysis Model.

Model components	Definition
1) Source	Type of conflict
2) Frequency	Incidence or number of times conflict appears during a given period
3) Outcome	Result of conflict (solved, partly solved, unsolved, unknown)
4) Timing	Perceived period of most frequent conflict (linked to historical events)
5) Intensity	Level of litigation (mediation, petitioning, taking to local/higher/supreme court)
6) Duration	Time that conflict lasts measured in days, weeks, months or years
7) Nature	Violent/non-violent

Adopted from [Ho \(2016, p. 1134\)](#).

**Table 3**  
Credibility of LVC tools via FAT framework.

Dimensions	Conceptual question	Operational question
Formal	What property rights should formally be enjoyed?	What LVC tools officially shape property rights?
Actual	What property rights are actually enjoyed?	What LVC tools are seen as most effective for materializing the social function of property?
Targeted	What property rights are targeted?	What LVC tools should be implemented to fulfill the social function of property?

Adapted by author based on [Ho \(2016, p. 1134, 1135\)](#).

### 3.1. Data

The used datasets consist of several types, i.e. a judicial dataset and an empirical dataset, which in turn, comprises interview and survey data. Each will be respectively discussed below. The first dataset is a compilation of the judicial actions filed against the administrative acts issued by the Medellín Mayor's Office for the Participation in Land Value Increments and Betterment Contribution. The author consulted professionals from the legal teams of the Betterment Contribution Fund of Medellín (*Fondo de Valorización de Medellín* – FONVALMED, in Spanish) and the General Secretariat of the Medellín Mayor's Office in 2021. This consultation yielded the number of judicial actions filed in opposition of these LVC tools, allowed access to the files of judicial actions, and provided detailed material on group action lawsuits.

The second dataset includes interviews to assess perceptual differences of involved stakeholders ([Table 6](#)) in the implementation of Medellín's LVC tools. As noted in the methods section, the degree to which perceptions diverge between stakeholders is a measure of the credibility of the LVC tools.

Interviews were conducted in 2021 and 2022 with an official of the Administrative Department of Planning of the Municipality of Medellín (state actor); the Director of the Colombian Chamber of Construction – Antioquia Chapter accompanied by an Urban Curator of Medellín and a member of the Society of Engineers and Architects of Antioquia (corporate actor – Group 1); the project directors of two construction and development companies (corporate actor – Group 2); and an expert in LVC and concurrent university professor (academic representative). Due to their level of knowledge of and experience with the LVC tool, direct questions could be used in relation to the FAT Framework and the CSI Checklist ([Tables 3, 4 and 6](#) and [Appendixes 1–3](#)). The interviewed actors are representatives of the state and corporate sectors demonstrating these stakeholders' perceptions about the use of LVC tools.

Lastly, an online survey was carried out with 20 property owners who had paid into the project of the Betterment Contribution at the Poblado Commune (one of 16 communes, an administrative unit of

**Table 4**  
Perceived policy effects of LVC tools via CSI checklist.

Credibility level	Institutional intervention	Perceived (desired) policy effect
<b>High</b>	Condoning	LVC tools lack added value as they are already accepted in practice
<b>Medium high</b>	Co-opting	LVC tools formalize land value capture as occurring in practice
<b>Neutral</b>	Facilitating	LVC tools support what needs to be done for land value capture
<b>Medium low</b>	Prohibiting	LVC tools define what cannot be done in land value capture
<b>Low</b>	Ordaining	LVC tools stipulate what must be done for land value capture

Adapted by author based on [Ho \(2016, p. 1140\)](#).

**Table 5**  
Multi-angulation of data for analyzing LVC tools.

Source	State	Corporate	Societal
Legal-political	Laws/Decrees (QL/MA)	N.A.	Literature research (QL/MA)
Economic	Statistics (QT/MA)	Online survey (QT)	N.A.
Socio-physical	Interview (QL/MA)	Interview (QL/MI)	Interview (QL/ME)

QT – Quantitative Information / QL – Qualitative Data / MI – Micro-level of analysis / ME – Meso-level of analysis / MA – Macro-level of analysis.

Adapted by author based on [Ho \(2016\)](#).

Medellín). In the survey, the underlying hypotheses of the FAT Framework and the CSI Checklist were transformed into indirect questions considering that the owners are not experts on the LVC tools. The survey measured the appearance of conflicts; prior knowledge about the BC; the destination of the invested resources; the perception of credibility regarding the use of this tool; and the knowledge of other tools ([Appendix 2–3](#)).

## 4. Results

### 4.1. The case-study: land value capture tools in Medellín

As part of the 2014 Land Use Master Plan of the Municipality of Medellín, the Management System for Territorial Equity was defined as:

“[T]he principle of equitable distribution of burdens and benefits, around which the management and planning instruments will be articulated with criteria of equity and social and environmental sustainability, in order to reestablish, from urban practice, the situations of imbalance generated by the assignment of the differentiated norm for each treatment polygon in the municipal territory, by virtue of which the exercise of property rights is restricted or favored in terms of the benefits and burdens assigned from the Land Use Master Plan” ([Council of Medellín, 2014, p. 552](#)).

Its master plan comprises the Complementary Planning Subsystem, the Land Intervention Subsystem, and the Financial Subsystem. It was defined as a subsystem that:

“establishes instruments for the financing of projects associated with the physical-spatial systems, seeking balance, by identifying possible ways of mobilizing these two aspects, within the complementary urban planning instruments, such as Macroprojects, land readjustment, and other complementary instruments, as well as in any urban



**Table 6**  
Stakeholders in implementation of Medellín Municipality's LVC tools.

	DIRECT STAKEHOLDERS		INDIRECT STAKEHOLDERS	
	State actors	Societal actors	Corporate actors	Academic representatives
Betterment Contributions (BC)	Municipality of Medellín (Betterment Contribution Fund of Medellín)	Landowners (who obtain economic benefits with the execution of public infrastructure)	Colombian Chamber of Construction Chapter Antioquia - Real State Association	Local Universities
Exactions (Urban Obligations - UO)	Municipality of Medellín (Secretary of Management and Territorial Control - Secretary of Finance - Strategic Management Council)	Landowners (who receive economic benefits for land value increments that properties acquire for being urbanized, parceled, or built)	Colombian Chamber of Construction Chapter Antioquia - Real State Association	Local Universities
Sale of Construction and Development Rights (SCDR)	Municipality of Medellín (Secretary of Management and Territorial Control - Secretary of Finance - Strategic Management Council)	Landowners (who purchase additional construction and development rights)	Colombian Chamber of Construction Chapter Antioquia - Real State Association	Local Universities
Participation in Land Value Increments (PLVI)	Municipality of Medellín (Administrative Department of Planning - Secretary of Management and Territorial Control - Secretary of Finance - Strategic Management Council)	Landowners (who obtain increases in land value caused by urban actions or public infrastructure)	Colombian Chamber of Construction Chapter Antioquia - Real State Association	Local Universities

Drawn by author based on Mayor's Office of Medellín Decrees 1917 of 2019, 2502 of 2019 and 1163 of 2021 (Medellin, 2019a, 2019b, 2021).

action in application of this Plan" (Council of Medellín, 2014, art. 499, p. 603).

The Financial Subsystem defines a broad array of policy instruments, and amongst these, this article will analyze the following: the Betterment Contributions, the Exactions (Urban Obligations), the Sale of Construction and Development Rights and the Participation in Land Value Increments (bold, Fig. 1). Having reviewed the LVC tools and the Land Use Master Plan of Medellín, the following sub-sections will discuss each of these instruments in detail.

#### 4.1.1. Betterment Contributions (BC)

The Betterment Contributions (in Spanish: *Contribución de valorización*) are defined as a "tax that is charged to the owners and holders, on the real estate due to the economic benefit obtained with the execution of works of public interest, destined exclusively to meet the expenses demanded by said works" (Council of Medellín, 2014, art. 522, p. 614). In Medellín, using Betterment Contributions to finance public works has a long tradition that began in 1938 when Agreement 85 of 1938 was issued which is the city's first administrative act for this contribution (Borrero, 2013). Since then, the Betterment Contributions have been an instrument through which it has been possible to finance the construction of the most important infrastructure works in the city (Alzate-Navarro, 2019).

Despite the success of this LVC tool, in 2001, the Betterment Contributions were no longer used by the municipality, and the agency that managed it was liquidated. The decline in the use of the Betterment Contributions at that time can be explained by "the intensity of the process of configuration of the current legal-technical framework of urban regulation in Colombian territory, which has opened the way to a wide range of land management tools" (Alzate-Navarro, 2019, p. 16).

However, based on the authorization given by the city's Land Use Master Plan of 2006, the Betterment Contribution Fund of the Municipality of Medellín (Fonvalmed) was recreated and subsequently regulated in 2007, while the Statute of the Betterment Contributions of the Municipality of Medellín was issued in 2008. Based on these regulations, the Betterment Contributions project for the Poblado Commune was decreed in 2009 which included the financing of mobility works for this neighborhood of the city.

#### 4.1.2. Exactions (Urban Obligations - UO)

Exactions (in Spanish: *Cesiones urbanísticas*) are "obligations that constitute a compensation that the owner, developer or builder makes in favor of the Municipal Administration, in compliance with the social

function of property, for the authorization received from it to develop, parcel and/or build your property" (Council of Medellín, 2014, Art. 514, p. 612). These types of compensation can be made in cash or in-kind to the municipal administration and are considered as "the most common value capture tool throughout Latin America" (Smolka, 2013, p. 32).

The payment of Urban Obligations in cash is a mechanism that is considered an LVC tool because it is an economic compensation for the land value increment that properties acquire for having the possibility of being urbanized, parceled, or built. This instrument had been implemented in the city since the Land Use Master Plan of 1990, and its use was intensified with the densification process that the city suffered in the last two decades (2000–2020). Thus, based on the provisions of the Land Use Master Plan of 2014, the municipal administration regulated the calculation, settlement, and collection of Exactions to compensate in cash in 2015.<sup>5</sup>

#### 4.1.3. Sale of Construction and Development Rights (SCDR)

The Sale of Construction and Development Rights (in Spanish: *Venta de derechos de construcción y desarrollo*) is an instrument through which "additional benefits expressed in construction and development rights are sold for a monetary compensation that the developers must pay for the right to use these additional rights in receiving areas" (Council of Medellín, 2014, art. 505, p. 609). Law 9 of 1989 authorized municipal councils to determine "[...] the way to transfer development and construction rights between those properties submitted to special urban regimes restrictive of use, density or height and those other owners that want a bonus in height or density" (Colombia, 1989, art. 60). Additionally, Law 388 of 1997 stipulated that "additional construction and development rights, in the amount required for each property, will be enforceable in the moment of effective change or use of the application for a permit for urbanization or construction" (Colombia, 1997, art. 90). However, in 2015, the city of Medellín regulated this LVC tool based on the provisions of the Land Use Master Plan of 2014.

#### 4.1.4. Participation in Land Value Increments (PLVI)

The Participation in Land Value Increments (in Spanish: *Participación en plusvalía*) is an instrument of the Financial Subsystem of the Land Use Master Plan "that allows the Municipal Administration to participate in the increase in the value of the land caused by the urban actions or public infrastructure carried out by it, without any intervention of the

<sup>5</sup> These regulations were replaced in 2019.

private owner of the property, allowing to recover part of this increase in land prices and redistribute it in the territory, through the reinvestment of those resources in urban development” (Council of Medellín, 2014, art. 523, p. 615). This mechanism is directly based on the provision of the Colombian Constitution that stipulates: “Public entities will participate in land value increments generated by their urban action and will regulate the use of land and urban airspace in defense of the common interest” (Colombia, 1991, art. 85).

#### 4.2. The credibility thesis applied to financing instruments

Following the proposed methodology and data described in Sections 3 and 4, the current section aims to answer if, the LVC tools presented in Section 4.1 arose endogenously or whether this institution was exogenously imposed.

##### 4.2.1. Assessing credibility of LVC tools through conflict

The credibility of institutions as measured by LVC tools can be hypothesized as the degree to which they are endogenously formed by the involved actors. As discussed in Section 3, conflict in its multi-variegated manifestations – and not merely as expressed in via frequency – can be an important measure of credibility. By extension, the appearance of conflict could also point to the (potential) transition of the LVC tools from formal, top-down imposed institutions to endogenously evolving, credible institutions that fulfill a social function persisting over time (Table 7).

Of the analyzed LVC tools, it was found that two (Urban Obligations and the Sale of Construction and Development Rights) did not register any conflicts. Of the other two, the Participation in Land Value Increments registered a low level of conflict. Contrarily, the Betterment Contributions registered the most conflicts of which all have become judicial disputes between landowners and the mayor’s office of Medellín. Since the 2009 introduction of the Betterment Contributions at the Poblado Commune, taxpayers have filed 135 judicial actions, i.e. one compliance action,<sup>6</sup> two group actions,<sup>7</sup> 13 annulment actions,<sup>8</sup> and 119 actions for annulment and reestablishment of rights<sup>9</sup> (L. Alvarez - lawyer in charge of judicial defense at Fonvalmed, oral communication, 12-1-2022).

Although judicial actions such as the Compliance and the Group Actions involving all contributors (70.867) demonstrate an active resistance from the landowners, it needs to be noted that the 13 annulment actions and 119 actions for annulment and reestablishment

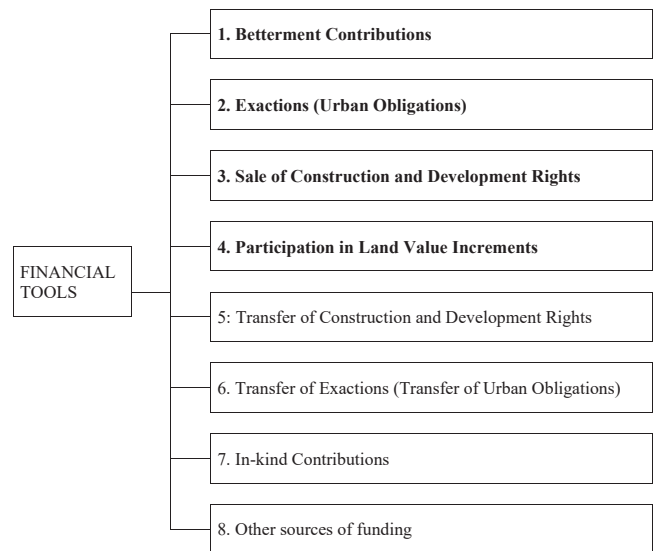


Fig. 1. Financial Subsystem Tools of the Medellín Land Use Master Plan. Note: The studied LVC tools are marked in bold.

Author and Council of Medellín (2014), art. 499 p. 603, 604).

of rights represent only 0.19 percent of the total taxpayers on which the Betterment Contributions were charged. In addition, of these judicial actions, only 33 received a sentence with 32 in favor of the municipality and only 1 to the advantage of the landowners. None of these legal actions achieved their objective in either the first or second judicial instance, although they aimed to nullify the administrative acts through which the Betterment Contributions were implemented (See Table 8).

Another of the LVC tools that has registered judicial disputes is the Participation in Land Value Increments (PLVI). Since the 2016 and 2017 issuance of the administrative acts for capturing the land value increment at the Partial Plan “Colinas del Porvenir”, four landowners initiated legal actions. The conflicts persist because, of the four legal actions, three have not yet received a first instance verdict, and only one was solved in favor of the municipality in the first instance. However, this sentence was appealed by the plaintiff and continues in the second judicial instance in the Administrative Court of Antioquia (See Table 9).

Finally, by applying multi-angulation, the interviewees were asked if they considered that the LVC tools of the Medellín LUMP arose based on practices that were already in use and thus rallied credibility among involved actors. The interviewees agreed that the only LVC tool that met these criteria was the Betterment Contributions although it had fallen into disuse in recent years. This opinion by and large concurs with the results of the conflict analysis.

##### 4.2.2. Examining credibility of LVC tools via perceptual divergences

Two instruments were used to examine the perceptual divergences of interest groups: (1) the FAT Framework and (2) the CSI Checklist. To begin with the first, as presented in Table 10, the interviewed actors have different perceptions of the Formal. When asked about which LVC tools shape property rights, their answers diverged ranging from considering all of the instruments to only referring to a selection of them.

For example, state actors restrict their consideration of the Formal to the UO and SCDR, which can be explained in light of the significant land value increases stemming from public actions. On the other hand, the academic representative states that *all* LVC tools shape property rights as these instruments are part of the fulfillment of the social function of property; the prevalence of the general interest over the individual; and the equitable distribution of charges and benefits. Finally, from a pragmatic perspective, the corporate actors of Group 1 consider the BC, UO, and SCDR as instruments that have “simple” procedures facilitating the shaping of property rights. Interestingly, corporate actors of Group 2

<sup>6</sup> Regarding the Compliance Action, Law 393 of 1997 establishes that it “will proceed against any action or omission of the authority that breaches or executes acts or facts that allow deducing imminent breach of regulations with force of Law or Administrative Acts” (Colombia, 1997, Art. 8).

<sup>7</sup> Law 472 of 1998 defines the group action as “those actions filed by a plural number or a group of people who meet uniform conditions with respect to the same cause that caused individual damages for said people” (Colombia, 1998, Art.3). According to this law, “The group action will be exercised exclusively to obtain the recognition and payment of compensation for the damages” (Colombia, 1998, art.3).

<sup>8</sup> About the annulment action, Law 1437 of 2011 stipulates that “Any person may request by himself, or through a representative, that the nullity of administrative acts of a general nature be declared invalid” (Colombia, 2011, art. 137). This Annulment Action “will proceed when they have been issued in violation of the rules on which they should be based, or without jurisdiction, or irregularly, or with ignorance of the right to a hearing and defense, or through false motivation, or with deviation from the attributions of the person who issued them” (Colombia, 2011, Art. 137).

<sup>9</sup> For the action of nullity and restoration of the right, Law 1437 of 2011 establishes that: “Any person who believes that he or she has been injured in a subjective right protected by a legal norm, may request that the particular administrative act, express or presumed, be declared null and void, and restore the right; he may also request that the damage be repaired” (Colombia, 2011, Art. 138).

**Table 7**  
Credibility of BC and PLVI using the Conflict Analysis Model.

Components	BC	PLVI
1) Source	Legal	Legal
2) Frequency	Average of several per year (135 in total)	4
3) Outcome	Solved (35)/withdrawn (5)/ongoing (100)	Solved (1)/Ongoing (3) – First Instance
4) Timing	Linked to Municipal Act of Implementation	Linked to Municipal Act of Implementation
5) Intensity	Lawsuit in court (First/Second instance)	Lawsuit in court (First instance)
6) Duration	Since 2009 until present	Since 2015 until present
7) Nature	Non-violent	Non-violent

BC: Betterment Contributions / PLVI: Participation in Land Value Increments.  
Author based on oral communications (2022).

state that, when the resources collected with instruments as the BC and PLVI are allocated for constructing public infrastructure, they shape property rights through the increment of land value.

Similar perceptual divergences between actors could be observed when they were probed about the Actual. Some mentioned all tools (academic representative), while others mentioned different sets (state and corporate actors). When the dimension of the Targeted was addressed, the position of state actors and academic representative was the same on the question what other LVC tools should be implemented to fulfill the social function of property, and both groups agreed that all LVC tools should be implemented. The opinion of the academic representative in this dimension is noteworthy as he recognizes the importance of implementing LVC tools without any discretion or partiality to increase the credibility of these instruments. His perception is complemented by the views of the corporate actors of Group 1 regarding the need to broaden the range of LVC tools that must be applied with different criteria and with management and leadership. Conversely, the corporate actors of Group 2 feels that the BC should be executed in a general manner to fulfill the social function of property as it increases land value and the quality of urban life and has a long history of implementation.

After having established the perceptual divergences between the various groups of social actors, the research employed the Credibility Scales and Intervention (CSI) Checklist to assess the credibility of LVC tools in relation to the perceptions of state, corporate and societal actors (Table 4). In effect, interviewees were presented with the desired policy effects enumerated in the CSI Checklist, which were then related to a given level of credibility.<sup>10</sup> When interviewees were asked which of the desired policy effects of Table 4 best defined the implementation of the LVC tools, the state and societal actors agreed on the statement that the “LVC tools have supported what needs to be done in terms of land value capture”. The result indicates that interviewees deem that the analyzed LVC tools feature a neutral level of credibility while state intervention was felt to have rightfully adopted a facilitating approach. Contrarily, the corporate actors of Group 1 and Group 2 rated the same desired effect of the LVC tools differently and deemed these to possess the lowest level of credibility.

#### 4.2.3. Credibility of Betterment Contributions via owners' perceptions

This study also used a survey involving 20 property owners who paid into the Betterment Contributions (See Appendix 3). The project was executed in Poblado Commune just south of Medellín's downtown area and is a major center of industrial and commercial life. Regarding conflict as a measure of LVC tools' credibility, the survey found that only

<sup>10</sup> The five desired policy effects of interventions in the CSI Checklist are: “LVC tools have not been useful because they are accepted in practice”; “LVC tools have formalized the land value capture that has been taking place in practice”; “LVC tools have supported what needs to be done in terms of land value capture”; “LVC tools define what cannot be done about land value capture”; and “LVC tools stipulate what must be done in terms of land value capture.”

three of the 20 property-owners filed administrative actions against the collection of the BC. This demonstrates that the BC is relatively accepted by this group of owners, which may be explained in part because of its legal regulation. It was found that 13 of the 20 property owners were previously aware of the BC (representing 65 % of those surveyed). In additional information provided by the respondents, there is clear evidence of previous knowledge about this LVC tool, and it can be safely concluded that the BC is a mechanism that is well known by this group of owners.

With regard to the knowledge of the destination of the resources collected by the BC, 13 of the 20 owners were aware of the destination. Moreover, four of the six additional responses demonstrated that the respondents had knowledge about the infrastructure built using this LVC tool. Similar results were found regarding the perception of the credibility of the BC as 13 of the 20 owners considered this contribution as credible. Simultaneously, differences in opinions are evident in the additional information provided by the respondents, which shows that, even though the BC is well-known, it is not widely considered as credible by this group of owners. The research also probed owners' views on the possibility of using the BC to finance other infrastructure in the city. It was found that 13 of the 20 owners agreed with this possibility. Finally, in relation to property owners' knowledge about other LVC tools, 15 of the 20 owners do not know the UO, SDCR and PLVI, which represents the overall majority of the respondents. In fact, only three of the 20 owners know the PLVI, and just two respondents know the UO. This result shows that the remainder of the LVC tools has a low recognition among this group of owners.<sup>11</sup>

## 5. Concluding remarks

Urban inequality is a hotly debated issue in urban planning and policies, not in the least, in the Latin American geographical context. Various scholars have posited that LVC tools may play a critical role in addressing this problem, as these could ideally enable government to redirect unjustly gained land value increments towards more socially productive uses, thereby giving greater reign to the social function of property. At the same time, however, assessing the effectiveness of LVC tools is no sinecure. For one, they comprise different instruments, which each in turn, generate varying levels of conflict, involving different actors with diverging perceptions, and positioned at different levels of analysis. This article is a demonstration of this complexity.

To unpack the problem of policy effectiveness, this article focused on the credibility of LVC tools and used the theory of the credibility thesis to understand whether or not the LVC tools successfully materialized the social function of property. By using the case-study of the Colombian metropolis of Medellín, the article gauged whether LVC tools as defined in Medellín's Land Use Master Plan arose endogenously or whether this

<sup>11</sup> To draw further conclusions from the investigation it would be necessary to compare these results with answers of the respondents outside the Poblado Commune who were asked to pay other LVC fees as well. However, this transcended the scope of this article and is a subject for future research.

**Table 8**

Group and compliance actions against Betterment Contributions, Poblado Commune.

Type of judicial action (number)	Amount of BC (in US\$)	Number of landowners	Defendant (State actor)	Judicial instance			
				First Instance	Result (Date)	Second Instance	Result (Date)
Compliance Action (1)	114.257.914	70.867	Betterment Contributions Fund of Medellín	11th Administrative Oral Court of the Medellín Circuit	Judge denied claim, considering plaintiffs had another legal defense mechanism to achieve legal compliance (22/01/2015)	2nd Orality Chamber - Administrative Court of Antioquia	2nd Orality Chamber of Administrative Court of Antioquia confirmed sentence of judge in 1st Instance as there was no proven breach of rules alleged by plaintiff (25/03/2015)
Group Action (1)	114.257.914	70.867	Municipality of Medellín - Betterment Contributions Fund of Medellín	2nd Administrative Court of Medellín Circuit	Judge denied claim of group action (13/10/2015)	<i>This group action did not reach the 2nd instance</i>	
Group Action (1)	114.257.914	70	Betterment Contributions Fund of Medellín	14th Administrative Court of Medellín Circuit	<i>In process</i>		

Author based on files of Group and Compliance Actions against Action Groups project of Betterment Contributions at Poblado Commune (L. Alvarez - lawyer in charge of the judicial defense at Fonvalmed, oral communication, 2-3-2021).

**Table 9**

Annulment &amp; reestablishment of rights against PLVI at Partial Plan “Colinas del Porvenir”.

Type of judicial action	Amount of PLVI (in US \$)	Number of landowners	Defendant (State Actor)	JUDICIAL INSTANCE			
				First Instance	Result (Date)	Second Instance	Result (Date)
Action for annulment & reestablishment of rights (against Decree 437 of 2015 and Resolutions 31913 & 48287 of 2016)	14.506	1 (One of the landowners of lot with real estate registration 22023)	Municipality of Medellín	10th Administrative Oral Court of Medellín Circuit	Judge denied claim (23/01/2020)	1st Orality Chamber - Administrative Court of Antioquia	<i>In process</i>
Action for annulment and reestablishment of rights (against Decree 437 of 2015 - Art. 61 and Resolutions 31922 & 48288 of 2016)	78.207	1 (One of the landowners of lot with real estate registration 759397)	Municipality of Medellín	Administrative Court of Medellín Circuit	<i>In process</i>	<i>This group action did not reach 2<sup>nd</sup> instance</i>	
Action for annulment & reestablishment of rights (against Resolution 12960 of 2017)	726.008	1 (Landowner of lot with real estate registration 181460)	Municipality of Medellín - Secretary of Finances - Undersecretary of Incomes	2nd Orality Chamber - Administrative Court of Antioquia	<i>In process</i>	<i>This group action did not reach the 2<sup>nd</sup> instance</i>	
Action for annulment and reestablishment of rights (against Resolutions 31915 & 48286 of 2016)	27.781	1 (Landowner of lot with real estate registration 295715)	Municipality of Medellín	2nd Orality Chamber - Administrative Court of Antioquia	<i>In process</i>	<i>This group action did not reach 2<sup>nd</sup> instance</i>	

Author based on files of Actions for annulment and reestablishment of rights against the Participation in Land Value Increments at the Partial Plan “Colinas del Porvenir” (C. Velez - lawyer of Administrative Department of Planning, oral communication, 25-6-2021).

**Table 10**

Perceptual divergences of actors on LVC tools via FAT Framework.

Dimension	Question on LVC tools	State actor	Academic representative	Corporate actor (Group 1)	Corporate actor (Group 2)
The Formal	Which LVC tools shape property rights?	UO/SCDR	All LVC tools	BC/UO/SCDR	BC/PLVI (when revenues are used to build public infrastructure)
The Actual	Which LVC tools are most effective in materializing social function of property rights?	UO/SCDR	All LVC tools	BC/UO/SCDR	BC/PLVI (when revenues are used to build public infrastructure)
The Targeted	What other LVC tools should be implemented to shape property rights and fulfill social function of property rights?	All LVC tools contemplated in LUMP	All LVC tools contemplated in law must be implemented without discretion or partiality	SCDR & PLVI (In Large Scale Urban Projects and Urban Expansion Areas)/BC (in specific areas)/UO (Adjusted)	BC

Note: BC: Betterment Contributions / UO: Urban Obligations / SCDR: Sale of Construction and Development Rights / PLVI: Participation in Land Value Increments / LUMP Land Use Master Plan.

Drawn by author based on interviews.



institution was exogenously designed and imposed. A wide variety of data sources – both qualitative and quantitative – were used, whereas a broad set of analytical instruments were deployed, examining conflict, divergences in perceptions between actors, and credibility in relation to desired policy effects. As could be seen throughout the article, diverse results were found when applying the theory to measure if, and if so, to what extent these planning tools materialized the social function of property.

First, it was found that certainly not all LVC tools were rated similarly. Amongst these, the Betterment Contributions registered the greatest intensity of conflict as evident through the incidence of legal cases, and the level at which these cases were contended (i.e. court of first or second instance). Second, the research found clear perceptual divergences over the use of LVC tools along dimensions of the Formal and the Actual. Contrarily, actors' perceptions of the Targeted by and large converged on the view that all LVC tools should be implemented as to achieve a general implementation without any discretion or partiality. Third, according to social actors' perceptions of desired policy effects, the research yielded a contrast between state and societal actors (who agreed to accord a neutral level of credibility to LVC tools in terms of their desired effects) vis-à-vis corporate actors (who consider these as endowed with significantly lower credibility). Based on these findings, it could be inferred that the BC arose endogenously while the UO, PLVI, and SDCR are likely exogenously imposed, generating non-credible institutional arrangements.

Having said this, urban inequality and the role of land value capture in driving it, remains a deeply entrenched and therefore also contested issue, not only in the Latin American context, but also around the world. It is therefore that future research needs to be conducted to examine the scope, role and impact of LVC tools in order to improve their use in tackling questions of socio-economic deprivation and marginalization. This article aimed to provide some groundwork for doing so in a highly comprehensive manner predicated upon the methodologies of the credibility thesis and the use of mixed data sources.

## Abbreviations

BC: Betterment Contributions

CAM: Conflict Analysis Model

CSI: Credibility Scales and Intervention Checklist

FAT: Formal, Actual and Targeted Institutional Framework

FONVALMED: *Fondo de Valorización de Medellín*

LUMP: Land Use Master Plan

LVC: Land value capture

MA: Macro-level of analysis

ME: Meso-level of analysis

MI: Micro-level of analysis

MILC: Multidimensional Index of Living Conditions

PLVI: Participation in Land Value Increments

QL: Qualitative Data

QT: Quantitative Data

SCDR: Sale of Construction and Development Rights

UO: Urban Obligations

USD: United States Dolla

## CRedit authorship contribution statement

**Oscar PEREZ-MORENO:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

## Disclosure statement

No potential conflict of interest was reported by the author.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

No data was used for the research described in the article.

## Appendix 1

### Questions used for interviews with state, corporate, and societal actors<sup>12</sup>

1. In accordance with the implementation of the Land Value Capture (LVC) tools of the Financial Subsystem of the Medellín Land Use Master Plan of 2014, do you think that these instruments are helping to materialize the social function of property?
2. In your opinion, what has been the greatest conflict (legal, social, economic, political, etc.) that has arisen in the implementation of the LVC tools of the Financial Subsystem of the Medellín Land Use Master Plan of 2014?
3. According to your perception:
  - 3.1 Which LVC tools shape property rights?
  - 3.2 Which LVC tools are considered the most effective in realizing the social function of property?
  - 3.3 What other LVC tools should be implemented to shape property rights and to fulfill the social function of property?
4. In your opinion, which of the following postulates best describe the implementation of LVC tools? Please choose only one and, if you consider it necessary, justify your choice.

<sup>12</sup> Interviewers: Official of the Medellín Mayor's office (state actor), director and two advisers of the Colombian Chamber of Construction Chapter Antioquia (Corporate actors), and an LVC professor (societal actor).

n°	
1	LVC tools have not been useful because land value capture is accepted in practice
2	LVC tools have formalized the land value capture that has been taking place in practice
3	LVC tools have supported what needs to be done in terms of land value capture
4	LVC tools define what cannot be done about land value capture
5	LVC tools stipulate what must be done in terms of land value capture

5. Do you consider that the LVC tools of the Financial Subsystem of the Medellín Land Use Master Plan of 2014 arose based on mechanisms and practices that were already operating in the city and that had credibility among the actors involved?

## Appendix 2

### Questions used for interviews with societal actor (landowners)<sup>13</sup>

1. Are you the owner of a property included inside the project of Betterment Contribution at the Poblado Commune?
  - a. Owner of one (1) property
  - b. Owner of two (2) or more properties
2. What is the address of your property included inside the project of Betterment Contribution at the Poblado Commune?
3. Did you pay the contribution of the project of Betterment Contribution at the Poblado Commune?
  - a. Yes
  - b. No
  - 3.1 If you answered NO to question 3, you can provide additional information about the reasons why you did not pay this Betterment Contribution.
4. Did you fill any administrative or judicial action against of the Betterment Contribution at the Poblado Commune?
  - a. I did an administrative action (right to petition, reconsideration or appeal, etc.)
  - b. I did a judicial action (lawsuit, group action, etc.)
  - c. I did not do any administrative or judicial action
  - 4.1 If you wish, you can provide additional information about your answer to Question 4:
5. Before being notified of the Betterment Contribution at the Poblado Commune, did you know this contribution?
  - a. Yes
  - b. No
  - 5.1 If you wish, you can provide additional information about your answer to Question 5:
6. Do you know in which public works the resources from the Betterment Contribution at the Poblado Commune have been invested?
  - a. Yes
  - b. No
  - 6.1 If you wish, you can provide additional information about your answer to Question 6:
7. Do you consider that Betterment Contribution at the Poblado Commune has credibility?
  - a. It has credibility
  - b. It has no credibility
  - 7.1 If you wish, you can provide additional information about your answer to Question 7:
8. Do you agree that the Betterment Contribution be used to finance other public works in the city of Medellín?
  - a. Yes
  - b. No

<sup>13</sup> Interviewers: Landowners who paid the project of Betterment Contribution at the Poblado Commune.

8.1 If you answered YES to question 8, you can provide additional information on which works and in which sectors of the city the Betterment Contribution should be used.

9. Do you know of any of the following land value capture instruments?

- Participation in Land Value Increments
- Exactions (Urban Obligations)
- Sale of construction and development rights
- None of the above
- Other

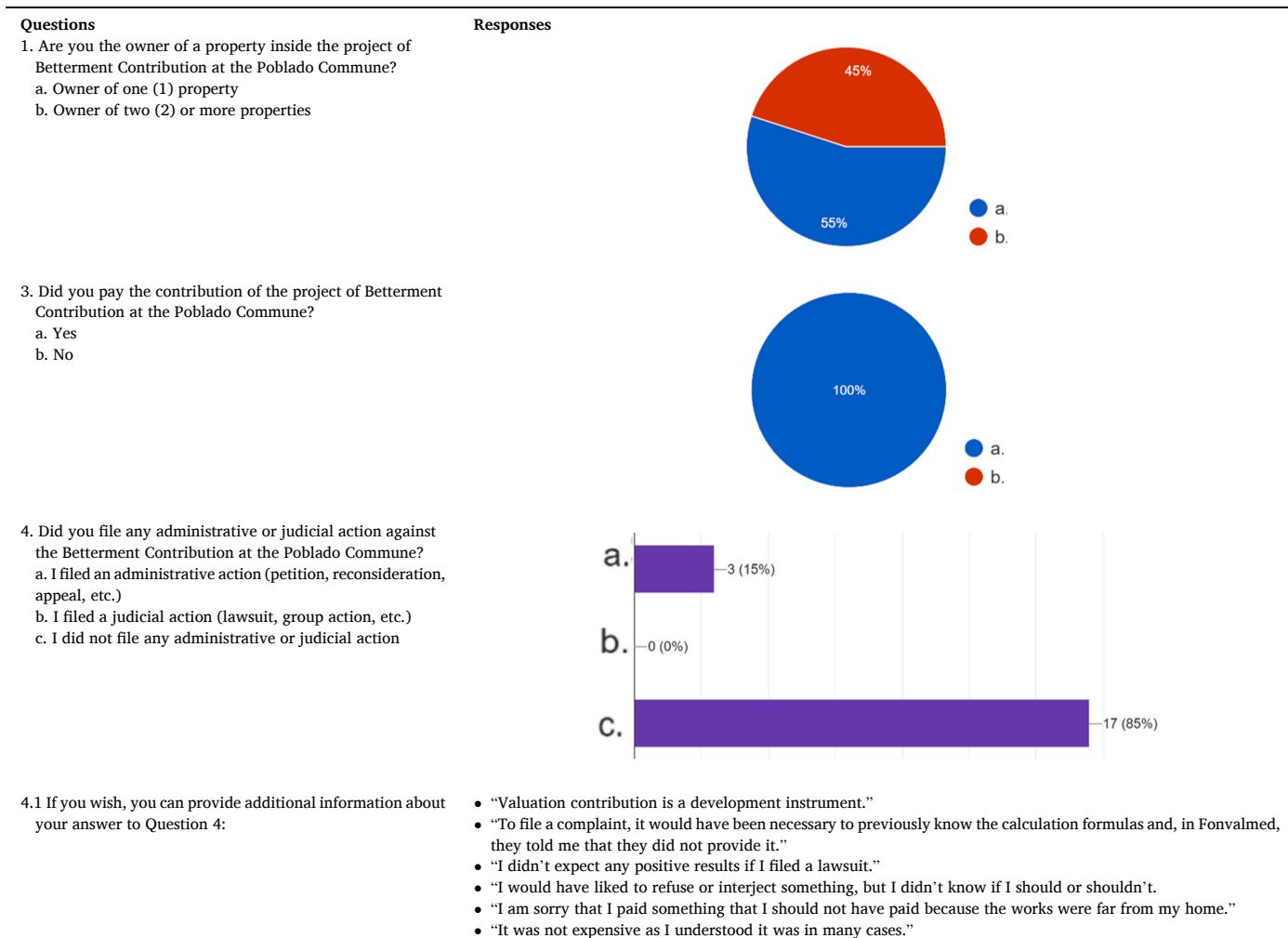
9.1 If you wish, you can provide additional information about your answer to Question 9:

10. Authorizes the use of the information provided in this survey so that they may anonymously be part of the research being carried out on the "MATERIALIZATION OF THE SOCIAL FUNCTION OF PROPERTY RIGHTS THROUGH LAND VALUE CAPTURE TOOLS". This information will be used solely for the academic purposes of this research.

- Yes
- No

### Appendix 3

#### Assessing the credibility of Betterment Contribution, Poblado Commune via perceptions of property-owners

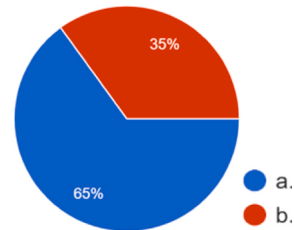


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5. Before being notified of the Betterment Contribution at the Poblado Commune, did you know the contribution?

- a. Yes  
b. No

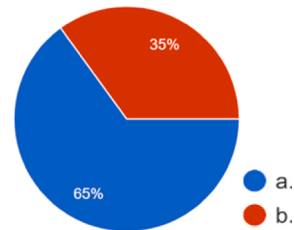


5.1 If you wish, you can provide additional information about your answer to Question 5:

- "I know BC as a financial mechanism for public works."
- "I knew what was published in press articles."
- "I had already been charged with BC for a plot of land."

6. Do you know in which public infrastructure the resources from the Betterment Contribution at the Poblado Commune have been invested?

- a. Yes  
b. No

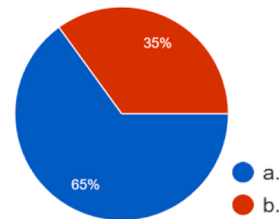


6.1 If you wish, you can provide additional information about your answer to Question 6:

- "Contracting problems led to deficiencies and delays in some works."
- "I knew about the projects because they were exhibited in a shopping center."
- "Not specifically, but the investment in roads and sidewalks is evident."
- "I know the works that have been carried out, but there are others pending."
- "Works in the lower and upper cross sections of the Poblado."
- "I don't know exactly, but I think that the works include bridges over the transversals streets."<sup>14</sup>

7. Do you consider that Betterment Contribution at the Poblado Commune has credibility?

- a. It has credibility  
b. It has no credibility

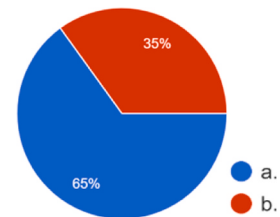


7.1 If you wish, you can provide additional information about your answer to Question 7:

- "The works in general were completed."
- "I believe, without knowing details, that they have been properly used and the works look good."
- "Some works seem improvised, do not have a good design, and they realized their mistakes after it was already done, a total rudeness."
- "Delay in execution and non-compliance of design."
- "It seems disproportionate in its value and in the real benefit on my properties price."
- "Improvements are seen in the road infrastructure at the Commune."

8. Do you agree that the Betterment Contribution be used to finance other public works in the city of Medellín?

- a. Yes  
b. No



8.1 If you answered YES to question 8, you can provide additional information on which works and in which sectors of the city the Betterment Contribution should be used.

- "It is important that the distribution is fair and equitable."
- "High-impact infrastructure works."
- "In general, finishing infrastructure what is missing in the transversals area."
- "It must be clear what infrastructure and what its benefit is."
- "It should be at the Poblado Commune, that is, the area from which it was paid and where the land value increment should be seen. For the other infrastructure of the city there are other budgets from which already has been drawn."

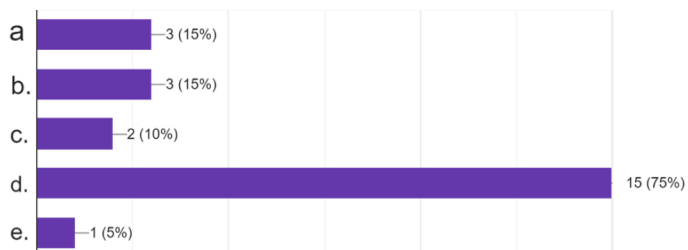
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<sup>14</sup> Transversals are two streets that connect the Poblado Commune in the north-south and south-north direction.

(continued)

9. Do you know of any of the following land value capture instruments?

- a. Participation in Land Value Increments
- b. Exactions (Urban Obligations)
- c. Sale of construction and development rights
- d. None of the above
- e. Other



9.1 If you wish, you can provide additional information about your answer to Question 9:

- "I think this is only applicable for companies with construction projects, not for people".
- "I don't know what that is."
- "Yes of course, I know them."

Source: Drawn by author based on online surveys.

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