The Fair Exchange: Public-Private Agreements for Zoning Variances in Local Town Planning

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Abstract. This study investigates the fairness of public-private agreements for zoning variances within the Italian urban planning framework, which mandates that at least half of the additional property value generated by such agreements be returned to the community through a land value recapture mechanism. The research develops an analytical model grounded in property valuation theory, employing the residual method and discounted cash flow analysis to estimate development values before and after a zoning variance. The case study focuses on an agreement in Padua involving the transfer of development rights between two sites: the so-called Basso Isonzo area and the so-called former Rizzato area. Before the agreement, the combined development value of both sites was approximately €3.5 million. Following the zoning variance, which enabled changes in land use and the inclusion of student housing, the development value rose to €6.7 million, yielding an added value exceeding €3.1 million. According to national regulations, the statutory financial return to the community should amount to approximately €1.6 million; however, the analysis reveals the actual financial benefit secured by the municipality was only 18% of the legally required share, with the deficit offset by the inclusion of non-financial benefits. This discrepancy raises concerns regarding information asymmetries between public and private partners. Another source of concern is the reliance on non-financial benefits to justify the agreement. The findings highlight significant equity issues in land value recapture practices and suggest the need for improved valuation ability within planning authorities to ensure fair public-private exchanges in urban transformation processes.

Keywords: Public-private partnerships · Public-private agreements · Zoning variance · Property valuation · Residual method · Discounted cash flow analysis

1 Introduction and Background Literature

In Italy, since the introduction of Law 1150 in 1942, town planning has been characterized by a top-down approach, where lower-tier local plans are required to follow and strictly conform to the middle-tier provincial plans, which in turn are to follow and strictly conform to the top-tier regional plans [1–4]. Over time, organic, nationwide reform attempts essentially failed [5]. Although the above system remains in place – yet often disregarded, according to some observers [6, 7] – the town planning landscape has

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undergone remarkable changes over the last quarter-century or so [8]. The top-down approach has been heavily criticized, primarily due to its lack of flexibility, the excessive time required for implementation, and the lack of implementation on many occasions [9]. Since territorial planning is a primary responsibility of regional governments, several of them adopted a second wave of autonomous laws between the late 1990s and early 2000s, reforming part of the legal framework dealing with town planning rules and procedures [10–12]. Among others [13, 14], one of the most significant innovations introduced by the regional laws is the new active role for private entities, such as landowners and real estate investors, which can contribute to shaping the content of urban transformation projects through agreements with local public bodies that are empowered to exercise town planning functions [15].

When the aforementioned agreements entail a zone change request – meaning a zoning variance so that the involved private entity may obtain permission to build a structure different than the original intended use or larger than previously allowed – another recent legal innovation comes into play (Law 164 of 2014 art. 17 cl. 1 and Law 120 of 2020 art. 10 cl. 1, which modify the Presidential Decree 380 of 2001 art. 16 cl. 4). Indeed, introducing a kind of betterment levy or land value recapture mechanism [16, 17], it is now mandatory for the involved public bodies to assess the additional land and property value potentially originating from the zoning variance, and to obtain a payment equal to at least half of that extra value [18, 19]. The sums thus obtained should be used to finance public works, community services, and social housing.

This work aims to assess the allocation between a local public body and a private developer of the added land and property value originating from a specific agreement for a zoning variance, which also involves the transfer of development rights between two areas. The case study we focus on in this work is of significant interest, as it casts doubt on the actual equity and fairness of the agreement, suggesting that the municipality has been able to obtain properties and payments representing only a minority of the additional land and property value when closing the deal. If this is actually the case, further questions arise. Here are the most compelling ones. Is there evidence that the possibly low degree of fairness in the agreement somewhat depends on a regime of high information asymmetry and, ultimately, the impaired ability of the public body to assess the added value of the involved properties? Is the possibly low degree of fairness in the agreement balanced – in part, at least – by other non-monetary or even intangible community benefits, and, if so, how are they accounted for?

Aiming to address the research questions outlined above, the remainder of this paper is organized as follows. Section 2 defines the method within the framework of real estate appraisal and property valuation theory; it also describes the specific model used to assess land and property value appreciation generated by an urban transformation project, as well as its fair apportionment between the private entity promoting the project and the public body empowered to approve it. Section 3 introduces the case study used to test the model, namely an urban transformation project in the city of Padua, Northeastern Italy, which involves changes in the town planning regulations previously in force and the transfer of development rights between a suburban and a semi-downtown area. Section 4 presents the results and discusses them specifically as far as the land and property value appreciation and the fairness of the public-private agreement are concerned. Finally,

Sect. 5 draws the conclusions and paves the way to further development of the research strand focusing on the fair public-private exchange in urban planning.

2 Method and Model

Property valuation is characterized by a hierarchy of approaches, methods, and models [20–23]. The three approaches that shape the top layer of the hierarchy, along with the related economic principles, are as follows. The market approach stems directly from the economic principle of price equilibrium; accordingly, the value of a property – the so-called subject – can be identified by analyzing similar assets – the so-called comparables – that have been traded in the same market, provided their characteristics and prices are known [24, 25]. The cost approach has its roots in the economic principle of substitution; therefore, the value of a property can be identified based on the cost incurred to obtain a new asset of equal utility, thus suitable for replacing the subject, net of the appropriate depreciation [26, 27]. Finally, the income approach hinges on the economic principle of benefit anticipation, whereby the value of a real estate asset can be derived by converting its future cash flows into a current capital value [28]. Each approach is further characterized by a few methods, which form the second layer of the hierarchy. These methods, in turn, are applied through specific appraisal or assessment models, constituting the third layer of the hierarchy.

The research questions we address here encompass issues related to land and site valuation, which is usually carried out under the framework of the above-mentioned income approach [29], using the residual method [20, 30] or development method [31], primarily through applications of the discounted cash flow model [31–33].

The development method is specifically defined as "A method of estimating land value when […] development [is] the highest and best use of the parcel of land being appraised. All direct and indirect costs and entrepreneurial profit are deducted from an estimate of the anticipated gross sales price of the finished lots; the resultant net sales proceeds are then discounted to present value at a market-derived rate over the development and absorption period to indicate the value of the raw land." (p. 354) [34]. In the residual or development method, first, the gross development value or gross sales price of the finished buildings on a site is estimated according to the notion of its highest and best use; then, direct and indirect development costs are deducted.

The discounted cash flow (DCF) model identifies "the value of an asset" based on "the present value of the expected cashflows on the asset, discounted back at a rate that reflects the riskiness of these cashflows" (p. 696) [35]. The origins of the notion of discounting date to the first decades of the nineteenth century, with works on the topic of interest authored by a few economists [36–39]. Early applications in the realm of property valuation can be traced back to the late 1960s and early 1970s [40–44]. Therefore, in the DCF model [45–47], the timing of costs and revenue of a land development project is made explicit, so that the same expenses and inflows are discounted back to the present using an appropriate discount rate [48–50].

Let us denote the gross development value – or the gross sales price of the finished buildings on a site, if you will – as P, and the total direct and indirect costs that a developer is expected to incur as C, where C includes the developer's profit. Both P and

C are forecasts of values that are likely to be seen in the real estate and construction markets in the near future [51]. Let us also define T (with $t = 1..T$) the timespan required for development completion, including the specific time frame for obtaining building permits and drawing detailed designs, as well as the construction and absorption phases. Finally, let us assume that y is a discount rate representative of the developer's risk and expected return, estimated according to the cost of capital notion, and specifically to the expected return on equity. According to the residual method [52] and the DCF model, the land development value V can be identified as follows:

$$V = \sum_{t=1}^{T} (P_t - C_t)/(1 + y)^t \tag{1}$$

Since we are interested in identifying the additional land and property value A potentially originating from the zoning variance, let us denote with V' the land value before and with V'' 'the land value after the public-private agreement for the zoning variance is established, both calculated according to previous Eq. (1); therefore:

$$A = V'' - V' \tag{2}$$

The financial community benefit B stemming from the public-private agreement and the zoning variance, based on the legal framework presented in the introduction, is identified as at least half the value obtained with the previous Eq. (2), thus:

$$B \geq \left(V'' - V'\right)/2 \tag{3}$$

3 Case Study and Data

3.1 Public-Private Agreement Involving the Transfer of Development Rights

The public-private agreement for the regeneration of the so-called former Rizzato site and the enlargement of the so-called Basso Isonzo public park was negotiated in the time span of late 2020 and early 2022 between the municipality of Padua and the landowner of the involved areas, a major company operating in large-scale retail trade in Northeastern Italy, which manages nearly 600 supermarkets. Approved by the municipal council in April 2022, it is now part of the city's general town plan (Fig. 1), with the following specific regulations.

Before the agreement was reached, the two areas were completely independent in their planning regulations. The so-called Basso Isonzo area, located southwest of the historical center of the city, was intended to accommodate 30,020 cubic meters (equal to 10,000 square meters) of residential buildings, as outlined in a detailed plan approved in March 2009 and in effect until April 2025. The area was owned by a charitable institution – a Public Institution of Assistance and Charity, as defined by the Italian legal system – and was sold to the current owner in January 2021 for an undisclosed price.

The so-called former Rizzato area, located north-east of the historical center of the city, was intended to accommodate a business district of about 30,100 cubic meters (approximately between 9,000 and 10,000 square meters), with offices (80% of the

square footage) and commercial areas (the remainder 20% of the square footage) as specific functions. The municipal council approved the site's detailed plan in November 2001, and a building permit was issued in October 2019.

The public-private agreement aims to establish the following zoning variance (Figs. 2 and 3). The former Rizzato site retains its previous planning regulation as far as shop footage is concerned. In contrast, the footage for offices is partly cancelled, partly intended to enlarge the shopping area, and partly converted to other uses. In contrast, the Basso Isonzo site loses all of its previous development potential. Furthermore, for the purpose of transferring development rights, the Basso Isonzo area is identified as the sending site, and the former Rizzato area is recognized as the receiving site. Accordingly, the residential footage previously located in the Basso Isonzo area is transferred to the former Rizzato area, partly for dwellings and partly to accommodate a student housing facility (Fig. 4). Once the development rights are transferred, the Basso Isonzo site, totaling 30,056 square meters, will be transferred to the municipality free of charge to become a public park. The overall value of the transfer is estimated at Euros 270,504, based on a land unit value of 9 Euros per square meter, and it represents part of the additional land and property value potentially originating from the zoning variance, half of which the private entity is required to pay to the public body.

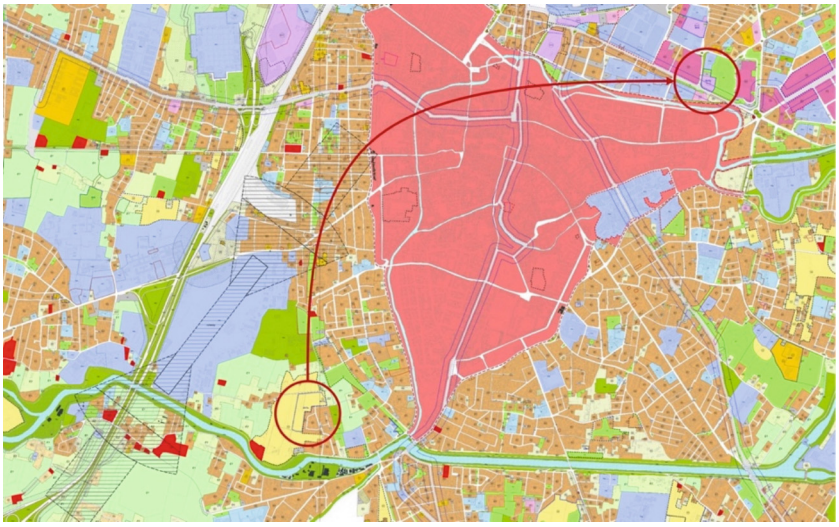

Fig. 1. Excerpt from the general town plan, lastly adopted by the Municipality of Padua, showing the two areas involved in the public-private agreement and the transfer of development rights.

3.2 The Public-Private Agreement in the Context of Padua's Current Urban Transformation Processes

The description in the previous subsection makes it clear that the two projects remained unrealized for many years. Therefore, the public-private agreement and the related zoning

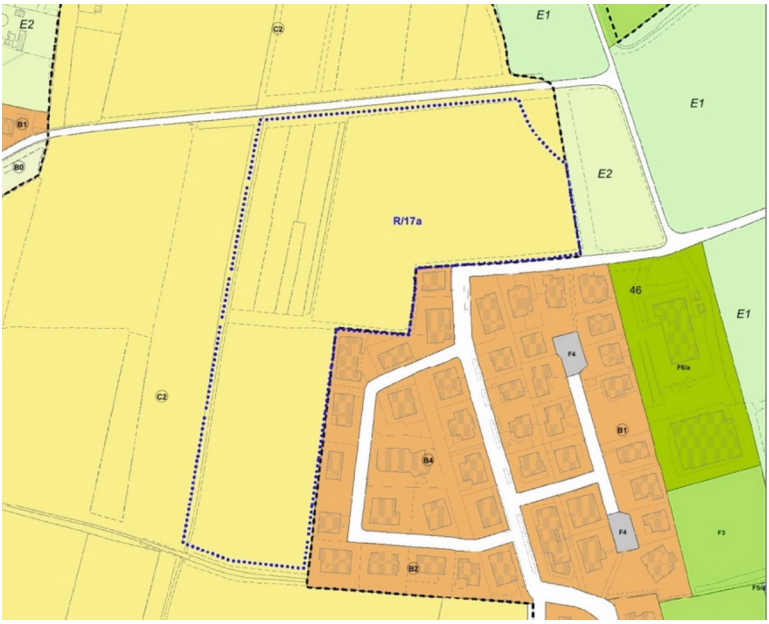

Fig. 2. Excerpt from the general town plan, lastly adopted by the Municipality of Padua, showing the sending site, namely the land parcels from which the development rights originate.

variance aim to define a new, more profitable project that is much more likely to be carried out.

It seems worth noting that, over the last two decades or so, this fate has been shared by several other urban renewal projects in Padua (a selection is shown in Fig. 5). Many of these cases also share other characteristics with the case study analyzed here (Fig. 6). Sometimes, such as in the well-known cases of the former Gasometer area (center-right panel) and the so-called former Ifip site (center-left panel), a detailed plan was approved over the years 2000s, but to no avail. Oftentimes, in more recent years, following one or more ownership changes, the new property owners have required a zoning variance, and a public-private agreement has been drafted. Not to mention that most of these cases now feature the planned construction of private purpose-built student accommodations [53–55] – sometimes subsidized under the auspices of the European Union (EU), especially the NGEU fund [56, 57], and specifically Italy's post-COVID recovery strategy, namely, the National Recovery and Resilience Plan [58, 59] – which are nowadays a trending topic in the urban renewal transactions across the city, much like elsewhere in Europe [60–62].

3.3 Data Sources

Below are the sources used to estimate costs and revenue – see earlier Eq. (1) – for the development projects before and after the establishment of the public-private agreement for the zoning variance.

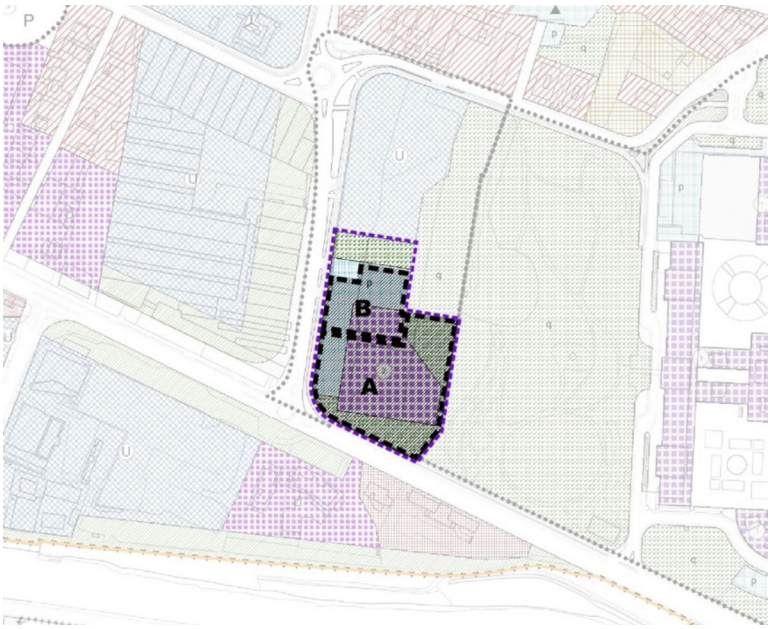

Fig. 3. Excerpt from the general town plan, lastly adopted by the Municipality of Padua, showing the receiving site, namely the land parcels to which the development rights are transferred.

	Development potential	
	Before the agreement (m2)	After the agreement (m2)
Basso Isonzo site		
Residential	10,000	0
former Rizzato site		
Shops	1,868	3,400
Offices	7,500	0
Residential	0	5,380
Student housing	0	7,250

Fig. 4. Transfer of development rights scheme.

As far as development costs are concerned, the appraisal of construction costs (*Cc*) relies on information from the main costbook on the Italian construction industry [63, 64]. Specific construction cost data are estimated based on the following case studies: a multifamily residential building, a shopping mall, an office building, and a hotel and accommodation. Planning fees (*Pf*) are estimated based on the latest reference values adopted by Padua's municipal council. Ancillary cost items are calculated as a percentage

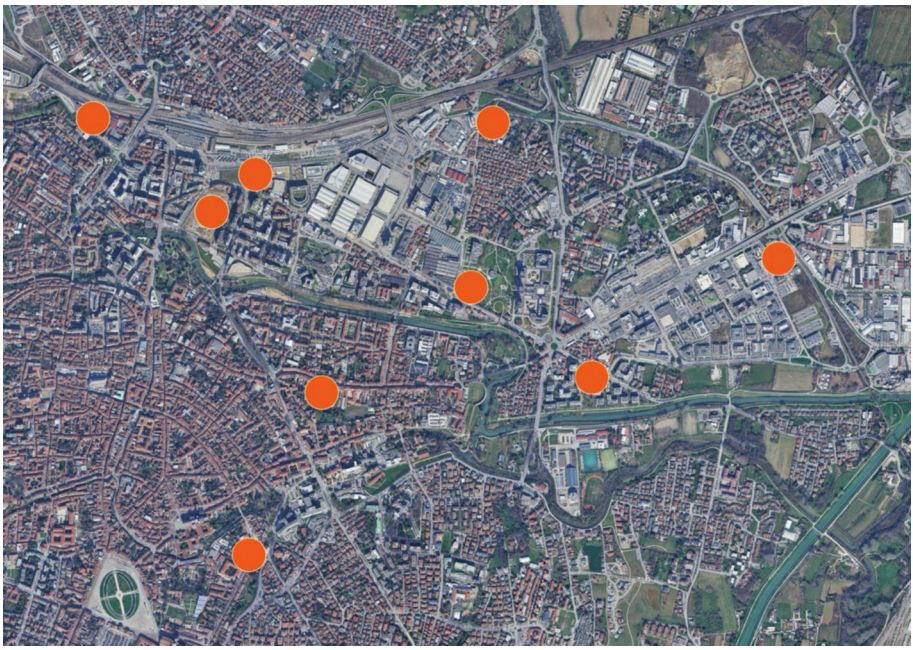

Fig. 5. Overview of urban renewal sites in Padua's central and semi-downtown areas.

of other costs, in accordance with local customs: design fees (Df) are set at 8% of Cc; borrowing costs (Bc) are 4% of the sum of Cc, Pf, and Df, also assuming a debt proportion of 50%; developer's profit (Dp) is 10% of Cc.

The revenue estimate is based on the figures provided by the real estate market monitor, managed by the Italian Revenue Agency [65–67], for both residential and commercial properties. The latest available data dates to the second half of 2024. According to the monitor, the so-called former Rizzato site lies within the boundaries of the C2 homogeneous area (Fig. 7, right panel). In contrast, the so-called Basso Isonzo site is part of the C6 homogeneous area (Fig. 7, left panel). The revenue from the student housing – namely, its market value – is estimated using a direct capitalization procedure. Thus, the ratio of its prospective rents to an all-risk yield is applied, and both values are derived from the data published in the aforementioned market monitor.



Fig. 6. Selection of urban renewal sites in Padua's central and semi-downtown areas.



Fig. 7. Overview of the homogeneous areas according to the real estate market monitor of the Italian Revenue Agency.

4 Results and Discussion

4.1 Development Value before the Public-Private Zoning Variance Agreement is Established

The assessment of the development value for the so-called Basso Isonzo and former Rizzato areas is affected not only by the estimated costs and revenue, as in the previous subsection, but also by different assumptions concerning timing and discounting, which depend on project sizes and risk profiles.

Table 1. Basso Isonzo area, before the agreement.

	Quantity	Unit value	Total value
	(m2, pct., y)	(Euro/m2)	(Euros)
Revenue			
Residential	10,000	2,850	28,500,000
Total revenue			**28,500,000**
Development costs			
Construction cost (*Cc*)	10,000	1,540	15,400,000
Planning fees (*Pf*)			1,472,000
Design fees (*Df*)	8.0%		1,232,000
Borrowing costs (*Bc*)	4.0%		1,086,240
Developer's profit (*Dp*)	10.0%		1,540,000
Total development costs			**20,730,240**
Time (revenue)	6.0		
Time (development costs)	3.0		
Discount rate	5.5%		
Development value			**3,015,351**

Timing depends on the project's size and also accounts for the time spans characteristic of similar work. Housing in the peripheral Basso Isonzo area is bound to be the last fully taken up by the players on the demand side of the local real estate market, along with the offices in the semi-downtown former Rizzato area. Instead, commercial and student housing are expected to deliver at a faster pace and experience shorter market absorption times. Discounting reflects the project's risk profile. The highest risk is associated with offices, followed by shops, while residential and student housing have a significantly lower risk.

In summary, the development values before the agreement – thus, according to the planning regulation without the zoning variance – amount to approximately 3 (Table 1) and 0.5 million Euros (Table 2), respectively.

Table 2. Former Rizzato area, before the agreement.

	Quantity	Unit value	Total value
	(m2, pct., y)	(Euro/m2)	(Euros)
Revenue			
Commercial	1,868	3,700	6,911,600
Offices	7,500	2,100	15,750,000
Total revenue			**22,661,600**
Development costs			
Construction cost (*Cc*)	9,368	1,395	13,068,360
Planning fees (*Pf*)			3,007,000
Design fees (*Df*)	8.0%		1,045,469
Borrowing costs (*Bc*)	4.0%		684,833
Developer's profit (*Dp*)	10.0%		1,306,836
Total development costs			**19,112,498**
Time (revenue)	4.0		
Time (development costs)	2.0		
Discount rate	7.3%		
Development value			**495,510**

4.2 Development Value after the Public-Private Zoning Variance Agreement is Established

Before the zoning variance agreement, the two areas were planned for separate, independent development. Once included in the agreement as sending and receiving sites, the sending site loses its development potential. However, the development value rises significantly - approximately 6.7 million Euros (Table 3). This is due to the transfer of development rights and changes in allowed uses. The commercial footage increases, the use shifts from offices to dwellings, and a student housing facility is included. These changes provide a significant boost to the project's economic viability.

Table 3. Former Rizzato area, after the agreement for the zoning variance.

	Quantity	Unit value	Total value
	(m2, pct., y)	(Euro/m2)	(Euros)
Revenue			
Commercial	3,400	3,700	12,580,000
Residential	5,380	2,600	13,988,000
Student housing	7,250	2,900	21,025,000

(*continued*)

Table 3. (*continued*)

	Quantity	Unit value	Total value
Total revenue			**47,593,000**
Development costs			
Construction cost (*Cc*)	16,030	1,595	25,567,850
Planning fees (*Pf*)			3,738,000
Design fees (*Df*)	8.0%		2,045,428
Borrowing costs (*Bc*)	4.0%		1,254,051
Developer's profit (*Dp*)	10.0%		2,556,785
Total development costs			**35,162,114**
Time (revenue)	4.0		
Time (development costs)	2.0		
Discount rate	5.7%		
Development value			**6,655,874**

4.3 A Few Remarks on the Fair Exchange Topic

The overall development value was approximately 3.5 million Euros before the agreement, then rising to nearly 6.7 million Euros once the agreement for the zoning variance is established. Accordingly, the added land and property value exceeds 3.1 million Euros, of which approximately 1.6 million Euros (Table 4) should be returned to the community to finance the construction of public infrastructure and facilities.

The zoning variance identifies the financial community benefit at 286,112 Euros – including 270,504 Euros, namely, the value of the Basso Isonzo area, and an additional 15,608 Euros – which is a figure far lower (barely 18%) than the one assessed here (Fig. 8). Nonetheless, the Municipality of Padua ultimately approved the zoning variance based on the acknowledgment of an occurring non-financial benefit, specifically that the landowner agreed not to exercise all the development rights previously granted.

Table 4. Summary of the results.

	Before		After
	Basso Isonzo	Former Rizzato	Former Rizzato
Development value (*V*)	3,015,351	495,510	6,655,874
Development value (*V*)	3,510,860		6,655,874
Added value (*A*)			3,145,014
Community benefit (*B*)			1,572,507

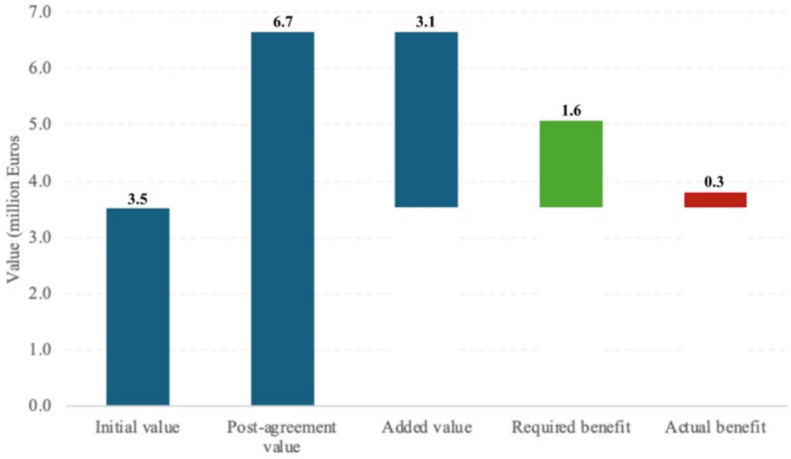

Fig. 8. Value flows.

This raises several issues. First, the national regulation concerning land value recapture explicitly states that half of the added land and property value must be provided as a financial benefit, meaning a direct payment. Secondly, the municipal government's belief that lower urban density stands as a community benefit is at odds with its goal to control and limit land take. In the third place, the corresponding value of the non-financial benefit – thus the renounced development rights – is assessed based on the market value of those same development rights, which is arguably a very loose estimate from the community's perspective. These issues cast doubt on the actual fairness of the public-private exchange, with advantages leaning toward the private entity.

5 Conclusions and Further Developments

In this paper, we focus on public-private partnership practices in town planning, specifically on public-private agreements meant to define the content of zoning variances. The Italian legal system includes a land value recapture mechanism, under which at least half of the added value resulting from the zoning variance must be returned to the community. Once the analytical model is developed within the framework of property valuation approaches and methodologies, we examine a case study, in the city of Padua, northeastern Italy, of a zoning variance deriving from a public-private agreement. We find evidence questioning the fairness of that agreement, as the financial community benefit paid by the private entity to the public body is far less than half the estimated increase in land and property value (Fig. 9).

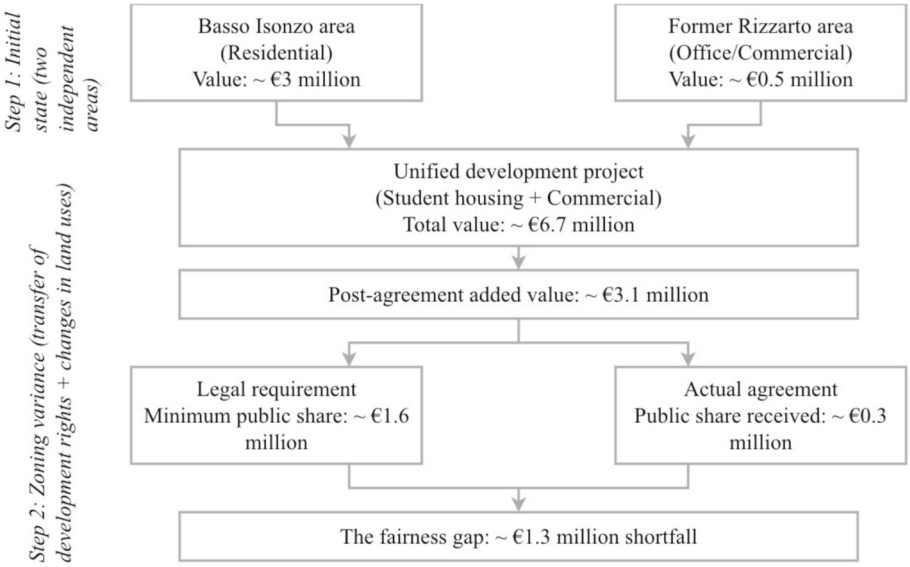

Fig. 9. Assessment of value flows and identification of the fairness gap.

Given the significant equity issues in land value recapture practices, further development of this research strand should focus on the potential role played by information asymmetry between private entities and public bodies, as well as on the valuation capacity within public bodies. The evidence here suggests the need for improved valuation methodologies and governance mechanisms to ensure fair public-private exchanges in urban transformation processes.

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