

# ATI Working Paper

## Charges for Building Rights – Brazil's Successful Experiment with Value Capture

*Martim Smolka*

# **Charges for Building Rights – Brazil’s Successful Experiment with Value Capture**

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## **ABSTRACT**

This paper argues that a major new value capture tool – charges for building rights – can be a significant source of public revenue. This type of fee has the advantage not only of generating much-needed financing for urban infrastructure and services, but also of addressing a fundamental social equity issue in land policy. After outlining the arguments for value capture and providing a brief history of its application, the paper describes the highly successful implementation of building rights charges in São Paulo, Brazil. This case study also illustrates how this tool can be used to increase local administrative capacity to invest in urban infrastructure and services as well as in social housing.

**Keywords:** Building rights charges; value capture; urbanisation; infrastructure investment

**JEL Codes:** H27; H71; O23

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## 1. The Case for Value Capture

Rapid urbanisation, especially in developing countries, creates mounting demand for costly infrastructure and services to support the mix of gated communities and high-end developments competing for space with informal settlements at the urban fringe. Planners who share responsibility for some of this haphazard growth are learning the importance of land use regulations and, more importantly, the significant redistribution of wealth that accompanies unregulated growth.

The stakes are high when it comes to land price increases resulting from public infrastructure investments, including roads, water, sewerage and electricity. The so-called urban multiplier effect – the increased value of land when converted from rural to urban use – is typically more than 4:1. Data collected globally on urbanisation by Angel and Mayo (1996), and more recently in countries across Latin America (Bouillon 2012), confirm this order-of-magnitude increase in parcel prices.

In São Paulo's high-end areas, the value that developers are willing to pay for the right to build at a floor area ratio (FAR) of two or three (rather than the basic FAR of one) may fetch well over US\$1,500 per square meter (Sandroni 2011). In another example, conversion of land from residential to commercial use – in areas like El Chico in Bogota, Colombia – raised prices by an average of 50 per cent (from \$2,143 to \$3,214 per square meter) in high strata areas and about 30 per cent in median-income neighborhoods. An area in the north of Bogota have plots designated for residential use at a FAR of 2.2 that are valued at \$1,285 per square meter, whereas in a similar area zoned for commercial use and offices at a FAR of 2.7, the price is well over \$2,500 (Borrero 2018).

Value-capture policies provide a way to recover these large land-value increments and to use this new revenue not only to pay for public investment in infrastructure and social housing, but also improve local land use management practices. The social-justice argument for value capture is that all taxpayers bear the costs of providing adequate transportation, water and sewage systems, and open space to meet more intensive land use, but only certain landowners reap the benefits. Under the equity principle that the public sector cannot favour one citizen over another, public investment and regulations affecting land values must be uniform across

a city. If they are not, the government must take measures to redistribute the benefits and burdens of investment and regulations.

Capturing incremental land value for the benefit of society can take a variety of forms, including taxes, contributions, fees, exactions and regulatory charges (Smolka and Amborski 2007, Smolka 2013). These tools vary from explicit (such as betterment contributions) to implicit (such as land leasing, land banking, and expropriation). Other options include land readjustment, which involves negotiations with landowners that would potentially benefit from an urbanisation project, and exactions, which are fees paid for specific land use concessions or flexibility. The revenues collected by value capture tools are included in the municipal budget and are typically managed by the local treasury secretary, although some proceeds may take the form of in-kind compensation.

## **2. Growing Popularity of Land Value Capture**

The notion of paying for the benefits of public investment was well established as early as the Roman Empire, and countries from Europe to the Far East have used a variety of value-capture tools ever since that time. Recent applications include a newly granted right in England to tax the increase in value from the rezoning of land, and charges in France for building rights over and above a certain baseline density. In Spain, municipalities capture part of the value increase of urban expansion by requiring landowners to cede some serviced building plots to the municipality, provide the land needed for infrastructure, and pay the costs of service provision, overheads and a profit margin (Muñoz Gielen 2010).

In Latin America, Colombia's Law 388 of 1997 and the Brazil's Statute of the Cities of 2001 set the parameters for much of the legislation passed elsewhere in the region. Colombia's Law 388 introduced the notion that public actions that improve urban land uses, including air space, give the public the right to participate in the resulting land value increments. The law also specifies the sources of these benefits – conversion of rural land to urban uses, changes to zoning and density regulations, and higher allowable rates of land occupation – and the share that local or district councils may take from those sources. National and local legislation throughout Latin America now includes provisions for some form of value capture.

Several factors account for this growing popularity. The global trend toward fiscal decentralization – giving municipalities greater fiscal autonomy but also greater responsibility for service provision – has pushed local governments to find new revenue sources. Meanwhile, cities around the world face the challenge of funding a growing backlog of infrastructure improvements. Indeed, in the United States alone, the gap in infrastructure investment has been estimated at over \$3.6 trillion. With governments also under pressure to address social inequalities, value capture tools provide a way to mobilise new and more flexible funds to finance special public programs.

### **3. Relationship of Value Capture to Property Taxation**

Property taxes may be a form of value capture in that, aside from taxing building values, they apply to accumulated increments in land value. This fact has led to the misconception that implementing value capture tools is “on top of” property taxes and thus represents double taxation. But as the Brazilian Supreme Court has ruled, value capture is not a tax but rather a charge imposed for the use of “additional building rights that are not part of the owner’s assets but a public good that belongs to the city as a whole” (Rabello de Castro 2012: 18). In essence, one cannot be taxed for something one does not own.

Similarly, to a land value tax, charges for additional building rights fall entirely on landowners, do not distort the economics of land use decisions, and do not generate the excess burden (deadweight loss) common to most taxes (Oates and Schwab 2009). Another advantage of value capture tools is that they have the potential to fully capture the value of public expenditures for infrastructure and service improvements, changes in norms and regulations affecting land uses, and other locational attributes that are capitalised in land prices, while property taxes do not.

Lastly, from the strict point of raising overall local public revenues the property tax is likely to be more effective than value capture. In effect, the former may be accomplished with better fiscal practices as for example updating existing cadasters and value maps, review of exemptions, improving taxpayers’ compliance incentives and the like. The weak technical expertise to promote such improvements reinforced by the unpopularity of the property tax and mounting resistance to any increase in the overall tax burden creates though a barrier to count much on property tax reforms to raise local revenues. The non-tributary nature of most

value capture tools – especially those associated with charges to building rights – added to its designation for capital expenditures is attractive to local authorities eager to promote large-scale urban redevelopments projects especially in degraded areas and investments in urban infrastructure or social housing in general.

#### **4. Evolution of Charges for Building Rights in São Paulo**

As noted earlier, exactions compel landowners to make cash or in-kind contributions in exchange for special approvals to develop or build on their land. These contributions may be stipulated through subdivision or development agreements or negotiated on an individual basis. While exactions are the most common land-based financing tool used around the world, officials are often unaware that they are a form of value capture. For example, linkage operations are a type of exaction, allowing developers to build at a higher density or floor area ratio (FAR) in exchange for contributions toward affordable housing or other community benefits.

In Brazil, building charges have evolved over time from *ad hoc* exactions into set fees calculated according to predefined criteria and applied to all properties in a specific area. In 2014, the City of São Paulo instituted a basic FAR of one that gives all landowners the same building rights, and a maximum FAR that ranges from one to four depending on city zoning. By setting a universal basic FAR and charging for any additions to that FAR, the city managed to split the interests of developers and landowners, practically eliminating major legal appeals to charges for additional building rights (*Outorga Onerosa do Direito de Construir*, OODC).

These charges are based on the notion that the right to develop land at densities above the basic FAR must be bought from the public as the legitimate owner of those rights. OODC also applies to other types of administrative changes that yield more profitable land uses, such as conversions from rural to urban uses or the rezoning of areas for renovation or commercial purposes.<sup>2</sup> The value that developers are willing to pay for these additional building rights is substantial. In São Paulo's high-end neighborhoods, for example, the

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<sup>2</sup> A variant of charges for such changes in building rights is given by the 1997 Law 388 in Colombia through the *Participación en Plusvalías* instrument, whereby 30 to 50 percent of the assessed increased land values resulting from administrative actions may also be subject to partial recovery by the public (Maldonado 1998).

charges for building structures are two or three times higher than the basic FAR, often well over US\$500 per additional square meter (Sandroni 2011).

**Figure 1: Two buildings in Curitiba, Brazil**



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Figure 1 shows two buildings in Curitiba, Brazil. The owners of both buildings paid for the right to build at densities above the basic FAR of about six stories. The building design on the left highlights the area for which building rights were charged.

To get a sense of the revenues to be generated from building rights charges, take the following concrete case (simplified for exposition purposes). A developer is interested in a plot of land with 3,200 square meters (at US\$6,4 million), and the goal is to build a structure of 8,000 square meters based on the maximum FAR of 2.5. This implies an additional area of 4,800 square meters (1.5 additional FAR x 3,200 square meters). The right to build at this higher density may be acquired for US\$9.6 million, or at a cost of US\$2,000 per additional buildable square meter. This is the amount the developer would have to pay for another neighboring plot of land with 4,800 square meters and a FAR of one to be able to build at the same density.

In practice, the formula for calculating building charges is of course more complicated. The developer built a 27-story structure of 16,500 square meters, since about 8,500 square meters of the area used for garage, terraces, and other uses are considered as “non-computable.” That is, the additional 4,800 square meters (additional FAR of 1.5) are net of all these uses.

Moreover, the assessed value of land that goes into the formula to calculate the compensation is often short from the full market value. That is, aside from a neighboring plot may not be available the additional building rights (virtual plots) are usually acquired at lower than the imputed value for such benchmark plot. In addition, from the developer's perspective, building at higher density on the original 3,200 square-meter plot may be more profitable depending on economies of scale and other factors related to high-rise versus low-rise designs.

To get a sense of the revenues to be generated from building rights charges, take the simplified case of a developer buying a parcel with 3,200 square meters priced at \$6.4 million. The goal is to build a structure of 8,000 square meters based on the maximum FAR for the area of 2.5. To do so, the developer has to buy the rights to build at that higher density by adding the cost of 4,800 square meters (1.5 additional FAR x 3,200 square meters) to the purchase price. The US\$2,000 charge per additional buildable square meter brings the total cost of the parcel to US\$9.6 million. This is the amount it would cost the developer to buy a neighboring plot of land with 4,800 square meters and a FAR of 1 to build at the desired density.

In practice, the formula for calculating building charges is of course more complicated. Say the developer in this case builds a 27-story structure of 16,500 square meters, but about 8,500 square meters of the area are used for a garage, terraces, and other "non-computable" uses, i.e., the additional 4,800 square meters of buildable space are net of these uses. From the developer's perspective, building at higher density on the original 3,200 square-meter plot may be more profitable than buying a larger plot depending on economies of scale and other factors related to high-rise versus low-rise designs.

The redistributive power of OODCs is considerable. The \$9.6 million collected for this single project could subsidise some 320 new units of social housing. In other words, the cost of each of the 32 additional luxury apartments would pay for ten low-income housing units.

The City of São Paulo collected more than US\$1 billion in payments from building rights from 2006 to 2017. But even accounting for the slowdown in collections during Brazil's recent recession, revenues from OODCs have fallen far short of their potential for several reasons. In particular, the city did not set a universal basic FAR until recently, and the



cadaster values used to benchmark building charges are known to vary in accuracy with zones falling below 30 percent of the full market value. Moreover, discounting factors applied for certain structures (e.g., environmentally sustainable buildings), exemptions for social housing and other non-computable areas of a high-rise (often above 50 per cent of the total area as in lobby hall, playgrounds, balconies etc.), further reduce the potential net collection on public sales of building rights. .

At their full potential, revenues from additional building charges could account for well over 50 per cent of local investment capacity, adding at least 40 per cent to the amount currently allocated to social housing and urban infrastructure. When sales of Certificates of Additional Potential Construction Bonds (CEPACs) are included, the pool of funds available for public investments would be even higher.

## **5. São Paulo's Success with CEPACs<sup>3</sup>**

Certificates of Additional Potential Construction Bonds (CEPACs) are a special form of building rights charges that are used to finance urban operations (UOs), i.e., large-scale projects in delimited areas and supported by improved infrastructure. These redevelopment projects typically have building rights over and above those imposed by existing zoning ordinances. Unlike OODC payments that are managed from the general fund, CEPAC revenues must be invested in infrastructure and social housing within the UO area.

CEPACs are an ingenious answer to the difficult task of valuing building rights because the cost of the bonds is based on how much developers are willing to pay for those additional rights in a competitive market. The bonds are issued by the municipality and regulated by the *Comissão de Valores Mobiliários* (CVM, the Brazilian equivalent of the US Securities and Exchange Commission) and then sold by electronic auction in the São Paulo Stock Exchange. CEPACs were sanctioned by the Brazilian Land Development Act of 2001 and implemented in 2004.

CEPACs offer some noteworthy advantages. First of all, they address the difficult issue of assessing the market value of the increment resulting from public investments in UOs, and they reduce the transaction costs involved in negotiating the impacts of the project on

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<sup>3</sup> This section draws heavily on Sandroni's 2010 and 2013 papers and especially on Smolka 2013.

individual properties. In addition, CEPAC auctions help local administrations anticipate the funds they need to invest in urban infrastructure and services in the redevelopment project. Moreover, selling CEPACs in tranches makes it possible to monitor and finely calibrate the market. The fact that the funds are earmarked also reinforces developers' confidence in the system and prevents legal appeals.

Auctions of CEPACs may be public (to acquire development rights) or private (as a currency with which to pay contractors). The face value of a new offering of CEPACs starts with the value from the previous auction. In the seven auctions for the Faria Lima UO, for example, the offered value started at US\$550 in 2004 and ended at US\$2,100 in 2010. Values for the Agua Espraiada UO increased from US\$172 in 2004 to US\$636 in 2012. All CEPACs offered were sold in 8 of the 15 auctions, and bidders paid large premiums in 9 of those auctions. Counting the revenues from just these two UOs, the city raised more than US\$2.7 billion.

CEPACs have been used to finance a variety of infrastructure investments and social programmes. For example, revenues helped to put to defray US\$150 million of the costs for the São Paulo's new Ouro metro line and supported construction of an iconic bridge that cost over US\$100 million. Some \$57 million of the CEPAC funds were also used to develop new homes for 552 families from Jardim Edith, a slum located in one of the city's most expensive areas, in a new social housing project in a neighboring area.

Although São Paulo has been the most successful, other Brazilian cities have also issued CEPACs. For instance, all of the building rights issued for the Porto Maravilha revitalisation project in Rio de Janeiro's old port area were sold to a single buyer, the Real Estate Development Fund created by Caixa Econômica Federal (CEF), the Brazilian social and housing bank. Law 101 of November 2009 authorised the issuing of 6,436,722 CEPACs for a total of 4,089,502 square meters of additional building rights at a cost US\$1.75 billion. The municipality of Rio de Janeiro thus obtained substantial upfront funds to cover the costs of redevelopment. In addition, responsibility for auctioning CEPACs for this project in the future falls to CEF rather than the city.

CEPACs are also partially funding the Linha Verde UO in Curitiba (Soffiatti 2012). This project involved converting a congested national highway into an urban avenue, including

extension of a bus rapid transit line, addition of new green areas and increasing land use density. For this US\$600 million investment, a municipal decree in 2012 authorised the release of 4,830,000 CEPACs and a minimum initial price of US\$100 per CEPAC. The first auction attracted 18 bidders for the 141,588 bonds offered, and a group of three bidders associated with a shopping centre development acquired 70 percent of the CEPACs.

## **6 Conclusion**

Value-capture policies and tools are undeniably gaining new acceptability around the world. Initiatives to experiment with the basic economic principles behind value capture have grown in both number and innovation, and value capture tools are often being used in combination with traditional revenue-generation efforts.

Public authorities are beginning to realise that they can raise substantial revenues to support the public good from the beneficiaries of their administrative decisions. They can negotiate and charge for changes in land use rights to generate those revenues, while also promoting a fairer distribution of the social costs and private benefits of urbanisation.

Although the actual dollar value of revenues generated from value capture is still relatively small, the examples of São Paulo's application of OODC to high-end individual projects and the auctioning of building rights through CEPACs show that the potential payoffs are significant. At the same time, the impact of value-capture policies on real estate development has been minimal and developers' willingness to pay is directly linked to perceived benefits.

Changing from a regime where landowners capitalise unearned income from public investments to one where private benefits are balanced with social costs requires a major cultural shift – one that is likely to meet significant resistance. But the future of cities now depends on developing effective land-based tools to finance urban development, and planners and local treasuries alike should consider adding value capture instruments to their toolboxes. Indeed, improved understanding of the links between public investments and increases in land value is an essential part of building new fiscal and planning cultures that will strengthen collection of property taxes and other local revenues while improving urban management overall.

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