Value Capture: a Land Based Tool to Finance Urban Development

Martim O. Smolka

Toronto, February 2, 2015
Value capture around the world!
Some caveats!

- Focus on the Latin American Experience
- Admit ignorance on Canadian experience - David to cover
- Transportation applications?
Topics

- Antecedents
  - Value capture not new and done in practically all countries/jurisdictions - often unnoticed;
  - Justification/purpose - a no brainer?
  - Recent popularization

- The menu of instruments: commentaries

- Some notable and effective experiences
Definition of value capture

Value capture refers to the recovery by the public of the land value increments (unearned income or plusvalías) generated by actions other than the landowner’s direct investments.

Increments resulting from the landowners efforts are rather the exception to the rule...
Value capture
longstanding presence in legal and planning agenda

- Not new - historical precedents
  - Filipines & Manuelles Ordinances of 16th century
  - 1791 Arch. Mangin’s proposal - to reform Paris (then Haussmann)
  - More recent in UK, Germany, France, Japan, Spain, US ... Canada?
  - Precedents in Latin America
    - Bridge of the Commons Bogota 1809
    - 1909 Sao Paulo pavement fee (idem Chile 1927/1953)
    - Honduras since 1940, Guatemala 1956...
    - All countries some proviso
  - UN-Habitat - Vancouver declaration of 1976

El Puente del Común, en Bogotá, Colombia, fue construido en 1809 utilizando una forma de contribución de mejoras.
### Why Value Capture?

#### Efficiency
- Marginal benefit to individual plots covering for marginal cost imposed to whole city.
- Thus broad acceptability incl. among mainstream economists.

#### Equity
- Some landowners more benefitted than others from public interventions.
- Survey among practitioners in LAC.

#### Sustainability
- Aligning urban development with the resulting land value appreciation ...
- No brainer - ref Shoup.

#### Pragmatic
- Generate needed local revenues - high potential.
- Relevance when gauged against local investment capacity.

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**Not necessarily to raise revenues**
Urbanization generates strong windfalls (especially in third world countries)

<table>
<thead>
<tr>
<th>Urban multiplier</th>
<th>Typically over 400% when rural land is converted to urban uses (Mayo et alii 1996, Bouillon 2013)</th>
</tr>
</thead>
</table>
| Land development mark-up | • Fully serviced land US$145/m²  
|                         | • Fully serviced land 10 to $35/m² (Vetter et alii 2012)                                        |
| Valorization from public investment | Ica Ucayali (Lima) investment of S/9.5KK => land appreciation of S/94.5 KK (2011/13) - source new ordinance project. |
| Valorization           | • Developers bidding over US$500/m² for additional FARs ref. OUFL in SP (Sandroni 2012)           |
| Expectations on new urbanization project | • $/M² > 8x from 5/1992 to 11/1993 - Ciudadela Desepaz (Cali, Co) by virtue of public announcements of to happen in the area. (Bonilla, 1997) |

None of these increments accruing to landowners resulted from their efforts.
## Effects of Administrative Land Use Changes on Land Prices (Stylized Facts)

<table>
<thead>
<tr>
<th>Type of Land Use Change</th>
<th>Price before Change (US$/m²)</th>
<th>Increment (%)</th>
<th>Price after Change (US$/m²)</th>
<th>Windfall on 5,000 m² (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural to Urban Conversion</td>
<td>2</td>
<td>400</td>
<td>10</td>
<td>40,000</td>
</tr>
<tr>
<td>Building Norms</td>
<td>100</td>
<td>80</td>
<td>180</td>
<td>400,000</td>
</tr>
<tr>
<td>Zoning Regulations</td>
<td>200</td>
<td>100</td>
<td>400</td>
<td>1,000,000</td>
</tr>
</tbody>
</table>

Source: Prepared by the author.
Value Capture a ‘no brainer’?

Why is it so hard to finance the public infrastructure that increases the value of serviced land by much more than the cost of the infrastructure itself? (Shoup 1994 p. 236 236)
Absolute increment in land price (US$/m²) due to access to infrastructure and distance to center\(^1\) vs. Urbanization Costs (US$ per 1000 m² usable area)\(^2\)

<table>
<thead>
<tr>
<th>Access to additional service</th>
<th>Distance to center, km</th>
<th>Investment Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5-10</td>
<td>15-20</td>
</tr>
<tr>
<td>+ Water</td>
<td>11.1</td>
<td>5.1</td>
</tr>
<tr>
<td>+ Paving</td>
<td>9.1</td>
<td>4.8</td>
</tr>
<tr>
<td>+ Plumbing</td>
<td>8.5</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Source:

1 - M.V. Serra, D. Dowall e D.M. da Motta – Analise do Mercado de solo urbano em Metropoles do Brasil – a RM do Recife - Agosto de 2003 – pg 65, World Bank, Cities Alliance, IPEA, and FIDEM
Growing popularization

- Explicit in new national urban development laws
  - Colombia (1997), Brazil (2001), => Ec, Uy, Arg etc.
  - Unjustified enrichment with no cause
    - § in most Constitutions

- Multilateral agencies
  - WB, IADB, UN-Habitat

- Media
  - Economist, Financial times etc.

- Recent books – Value capture to transport investments
  - E.g. Suzuki et alli, Mathur
Value capture tools - like Pasta! an ample menu of possibilities
## Sample of alternative LAC instruments

<table>
<thead>
<tr>
<th>Type</th>
<th>Instrument</th>
<th>Illustration</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxes</td>
<td>Land Value Tax</td>
<td>Mexicali, Mexico</td>
<td>Charge exclusively on land as opposed to buildings (thus incentivized)</td>
</tr>
<tr>
<td></td>
<td>Temporary property tax rate increase</td>
<td>Buenos Aires subway, Argentina</td>
<td>Benefits to all citizens!</td>
</tr>
<tr>
<td>Fees</td>
<td>Betterment Contributions</td>
<td>Bogota over $1 billion (since 1921)</td>
<td>Up top cost or share of lvi Virtually in all countries</td>
</tr>
<tr>
<td></td>
<td>Linkage fees</td>
<td>Many cities in Brazil in the 90's</td>
<td>Charges to additional building rights - over and above existing maximums</td>
</tr>
<tr>
<td>Regulatory</td>
<td>Certificates of building potential rights (CEPACs)</td>
<td>Agua Espraiada &amp; Faria Lima Ave in SP; Green Line, Curitiba; Porto Maravilha, RJ</td>
<td>Auctioning in the open market - anticipatory, Urban Operations</td>
</tr>
<tr>
<td></td>
<td>Exactions</td>
<td>Impacto Vial in Guatemala</td>
<td>Charges sharing of land value increment resulting from administrative act</td>
</tr>
<tr>
<td>Partnerships</td>
<td>Land readjustment</td>
<td>Simesa project in Medellin Colombia</td>
<td>Recovery of urbanization costs through sales and redistribution of benefitted land</td>
</tr>
<tr>
<td></td>
<td>Urban operations</td>
<td>Puerto Madero in Buenos Aires, Argentina</td>
<td>Partnerships, to supersede regulations in large scale redevelopment projects</td>
</tr>
<tr>
<td>Others</td>
<td>Transfer of Development Rights</td>
<td>3rd Perimetral Avenue in Porto Alegre, Br</td>
<td>Building rights as currency to acquire land from frontage properties to new avenue</td>
</tr>
<tr>
<td></td>
<td>Public land procurement</td>
<td>Nuevo USME Operation, Bogota Colombia</td>
<td>Public acquisition of land at prices before the announcement</td>
</tr>
</tbody>
</table>
Value capture tools - Other regions

1. Land value increment tax - Korea, Taiwan
2. Impact and development charges and fees, US
3. Charges to building rights - PLD France (OODC)
4. Urban Operations, ZACs etc
5. Land leasing (public) - Hong King, R’dam
6. Tax Increment Financing - TIF
7. Special districts - BIDs
8. Land Banks - Territorial reserves (Mex)
9. Expropriations
10. Preemption rights
‘Common’ among instruments

Generating fact: land value increment (current, past or future)

Associated to immediate urban benefit

Payment not always in money

Ad-hoc, not permanent

Objectives not necessarily to raise revenues
## Incidence of value capture

<table>
<thead>
<tr>
<th>Incidence</th>
<th>Instrument</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>Progressive tax on idle land</td>
<td>Many cities in Brazil</td>
</tr>
<tr>
<td>New ones</td>
<td>Participation in Plusvalias</td>
<td>Colombia, Co</td>
</tr>
<tr>
<td><strong>Project/s or plot/s</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>Charges on building rights (OODC)</td>
<td>Sao Paulo, Brazil</td>
</tr>
<tr>
<td>Multiple</td>
<td>Office of the Historian revolving fund</td>
<td>Cuba</td>
</tr>
<tr>
<td><strong>Payment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voluntary</td>
<td>Publicly owned land</td>
<td>Puerto Madero, Ar</td>
</tr>
<tr>
<td>Negotiated</td>
<td>Declaratory of Priority development</td>
<td>Bogota, Co</td>
</tr>
</tbody>
</table>
## Financing Alternatives

One size DOES NOT fit all!

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Land Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existing</td>
</tr>
<tr>
<td>Existing</td>
<td>Property Tax</td>
</tr>
<tr>
<td>New</td>
<td>Betterment</td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
</tr>
</tbody>
</table>
Some notable experiences

- Betterment Contribution
  - Colombia
  - Ecuador (Cuenca)

- Charges on Building rights in Brazil
  - OODC
  - CEPACs
Betterment Contribution in the municipality of Cuenca, Ecuador

<table>
<thead>
<tr>
<th>Regularity</th>
<th>• Last 10 years 1,800 public works projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>• US$200 p/capita (&gt; Bogotá’s US$150)</td>
</tr>
<tr>
<td></td>
<td>• ~ US$106 M =&gt; paving 270 km of roads.</td>
</tr>
<tr>
<td>Performance</td>
<td>• 90% of households – paying &lt; 4 years,</td>
</tr>
<tr>
<td></td>
<td>• 95% of projects collecting 60% in BC</td>
</tr>
<tr>
<td></td>
<td>• only 3% noncompliant contributors.</td>
</tr>
<tr>
<td>Year</td>
<td>Event Description</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1976</td>
<td>Solo CriadoFrench - 'Plafond Legal de Densite'</td>
</tr>
<tr>
<td>1980's</td>
<td>Linkage Operations</td>
</tr>
<tr>
<td></td>
<td>SP - $150 million 1988/1998 15,000 social housings</td>
</tr>
<tr>
<td>1990's</td>
<td>Urban Operations</td>
</tr>
<tr>
<td>1988</td>
<td>Brazilian New Constitution</td>
</tr>
<tr>
<td></td>
<td>Articles 182 and 183</td>
</tr>
<tr>
<td>2001</td>
<td>The 'City Statute' - land development act</td>
</tr>
<tr>
<td></td>
<td>Selling of Building Rights - OODC</td>
</tr>
</tbody>
</table>
In Curitiba, Brazil, the taller building on the left graphically illustrates the area above the basic FAR of about six stories for which building rights were charged. The taller building on the right also paid for additional building rights, but did not dramatize that fact in its design. © Gislene Pereira

Note:
The City of São Paulo recently reduced all basic FAR to = 1!

City of São Paulo = About $762 million, since 2004 (US$130 million in 2013)
What are CEPACs?

Certificates of Additional Development Potential

A bond issued by the Municipality - yet not implying in public debt - ref. legal issues

Sold by electronic auction in the São Paulo Stock Exchange Market and controlled by CVM (=SEC)

Created in 1995, sanctioned by the 'City Statute' (Brazilian Land Development Act) of 2001
CEPACs - overview

- Innovative instrument of Value Capture
- Applied in Urban Operations (UOs)
- CEPACs is a Bond used to acquire
  - Additional building rights
  - Changes in land uses
- In SP, 2004/12, in 2 major UOs
  - Faria Lima and Agua Espaiada
  - Over $2,5 Billions of revenues
  - Ref: 22.5% of Property Taxes
- Other applications in Rio, Curitiba etc.
Notable cases: CEPACs in S. Paulo

Additional FARs licensed against CEPACs auctioned in the market

Jardim Edith slum occupants resettled in new building in the same area funded by CEPACs

Lessons from LAC experience

**Revenues**
- Still short of potential - yet relevant if compared to enhancement of local investment capacity;

**Successes**
- Associated to spin given to address local needs (rather than direct emulation)

**Resistance**
- The 4 I’s (Ideology, Interest, Inertia and ... Ignorance)
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e-mail: msmolka@lincolnilinst.edu
http://www.lincolnilinst.edu
<table>
<thead>
<tr>
<th>Tool</th>
<th>Incidence</th>
<th>Context</th>
<th>Process for Capturing Value</th>
<th>Advantages</th>
<th>Cautions</th>
<th>Pre-Existing Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procurement</strong></td>
<td>ESC</td>
<td>Land needed for new public projects, such as low-income housing</td>
<td>Confiscation of changes in land value from prior use</td>
<td>Public investments made prior to development</td>
<td>Arbitrary decisions from unprepared courts</td>
<td>Legitimate public utilities to participate in the process</td>
</tr>
<tr>
<td><strong>Property or Land Value Tax</strong></td>
<td>EMC</td>
<td>Properties benefiting from citywide improvements</td>
<td>Rate imposed on land value component</td>
<td>Universality and regularity</td>
<td>Land vs. building component of property value</td>
<td>Continuous updating of value maps and cadastres</td>
</tr>
<tr>
<td><strong>Exactions</strong></td>
<td>NSV</td>
<td>Public concessions on new developments</td>
<td>In-kind or monetary compensation</td>
<td>Flexibility allowing for unanticipated developments</td>
<td>Manipulation or stakeholder influence</td>
<td>Access to information about private gains and public impacts</td>
</tr>
<tr>
<td><strong>Betterment Contribution</strong></td>
<td>EMC</td>
<td>Provision of local public works</td>
<td>Cost recovery or sharing</td>
<td>Beneficiaries invest in the project</td>
<td>Accurate assessment of potential benefits</td>
<td>Capacity of beneficiaries to participate and pay</td>
</tr>
<tr>
<td><strong>Transfer of Development Rights</strong></td>
<td>ESC</td>
<td>Public interest in designated property</td>
<td>Compensation with rights given in other properties</td>
<td>Building rights used as currency to fund public projects</td>
<td>Accuracy of conversion rates for development rights</td>
<td>Availability of building rights in the transfer areas</td>
</tr>
<tr>
<td><strong>Land Readjustment</strong></td>
<td>NMV</td>
<td>Urbanization of a new area or reconfiguring of existing parcels</td>
<td>of shares in the redeveloped land</td>
<td>Funding of new urban infrastructure</td>
<td>Obstructions from unwilling landowners</td>
<td>Power to negotiate with all affected participants</td>
</tr>
<tr>
<td><strong>Charges for Building Rights</strong></td>
<td>NSC</td>
<td>Single building license</td>
<td>Land assessment techniques</td>
<td>Compensation to the public for existing infrastructure</td>
<td>Allegations of acquired rights</td>
<td>Land monitoring and cadastral systems</td>
</tr>
<tr>
<td><strong>CEPACs</strong></td>
<td>NMC</td>
<td>New or redeveloped projects with broader urban impacts</td>
<td>Public auction</td>
<td>Transparency and accuracy in transactions and assessments</td>
<td>Market volatility; gentrification</td>
<td>Public credibility and capacity for financial management</td>
</tr>
</tbody>
</table>
Porto Maravilha, Rio de Janeiro - *Illustrative image old harbour*: US$ 4 billions project
Additional Building Potential to be converted into CEPACs (in millions of sqm per sector)

Total = ~4 milhões de m² adicionais
Rio de Janeiro Porto
Maravilha revitalization project

- Single buyer/bidder in 6/13/2011
  - the Real Estate Development Fund Porto Maravilha) created by CEF - pension funds (FGTS).
- 6,436,722 CEPACs for 4,089,502 sqm of additional building rights
- Paid $1.75 Billion to the Mayor’s office of Rio.
  - US$271 per CEPACs
- In 10/22/2012 CEF offered 100,000 CEPACs
  - Revenues of US$15 million from sale of 26,086, at min price of US$ 575 each
- Appreciation of 112%
Curitiba Linha Verde

- Linha Verde = conversion Highway BR116 into an urban avenue
  - City expansion and cutting across 22 neighborhoods of the city.
  - The project includes the extension of a BRT line, opening green areas and higher density land uses.

- $600 million investment

- 4,830,000 CEPACs at initial price of $100,
  - Municipal - Decree 134 of 26/01/2012

- June 2012 first auction in SP Bovespa
  - 18 bidders to 141,588 bonds in offer.
  - A group of 3 bidders - ref shopping center acquired 70% of the CEPACs
  - Expected $30 million, but only $14.2 million - CEPACs at $100! minimum legal
  - $100 = estimated market value by a private consultant - feasibility study
Linha Verde

Site Curitiba
Mayor’s office

Gazeta do Povo
27/06/2012

Southern track – 2010
From Saffioti 2012
Urban Operations (UOs) in São Paulo

- 13 on-going UOs in São Paulo
  - 4 from 1990 to 2002
  - 5 currently functioning (103 Km²)
  - 8 proposed Master Plan of 2002 yet to be approved (200 Km²)
- .20% of city area (300/1,500 Km²) or 30% of urbanized area
- CEPACs used in 2 of them
  - Faria Lima and
  - Agua Espraiada
- Most recent (new): Agua Branca UO

III Perimetral Ave in Porto Alegre

12.3km of ext and 40m wide
Exclusive track for BRTs

132,000 m² acquired w/TDR as currency

<table>
<thead>
<tr>
<th>Funding</th>
<th>Mun + IDB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Execution cost</td>
<td>U$ 53.0 millions</td>
</tr>
<tr>
<td>Land acquisition</td>
<td>U$20.0 millions</td>
</tr>
<tr>
<td>Consensual public acquisition</td>
<td>US$ 3.2 millions</td>
</tr>
<tr>
<td>Contested acquisition</td>
<td>US$ 4.0 millions</td>
</tr>
<tr>
<td>Acquired w/TDRs (65% of the total)</td>
<td>US$ 9.8 millions</td>
</tr>
</tbody>
</table>

Source: UZON, Néia. Uso de la transferencia del potencial constructivo para la adquisición de inmuebles: la experiencia de Porto Alegre.

Toronto Feb 2, 2015
Martim O. Smolka

Foto de Gilberto Simon
In Furtado et alli 2012
The Haussmann System

- Sell back the land expropriated at the value warranted for lots along newly created avenues
- Financial benefits were limited by high expropriation costs - determined by a jury of property owners - at skyrocket prices
- How did you make your fortune? ... I was expropriated
- => only 20% total costs were offset

Source: Kirkland, Stephane, “Paris Reborn: Napoléon III, Baron Haussmann, and the Quest to Build a Modern City” St. Martin’s Press, NY 2013, pg 138
1791, Architect Charles Mangin’s
Proposal submitted to the Nat’l Assembly to reform Paris:
The acquisition and resale of houses and land would yield a continuous profit that could be gathered in a fund for the improvement of Paris and used to pay for the squares and public monuments in the proposed plan.

Haussmann strongly influenced by Mangin.

Build a new square where the place du Chatelet stands today and then publically redevelop all of central Paris piece by piece, using the proceeds from previous development.

Financial Times - January 23, 2015 2:45 pm

Why Britain’s ‘broken’ planning system means local people miss out

By Anna Minton

Why speculators are benefiting from rising land values instead of local communities as was originally intended

http://www.ft.com/intl/cms/s/2/0f72b534-9ccb-11e4-971b-00144feabdc0.html#axzz3PkJdads
Britain’s planning laws

An Englishman’s home

The shortage of housing is a gathering national crisis. Rev up the bulldozers

NOW that the economy is at current coalition last growing again, the local democr

...Local governments, which are short of cash these days, could be allowed to charge developers much more. But the ideal solution would be a tax on the value of land. This would be low or zero for agricultural land and would jump as soon as permission to build is granted. It would prod builders to get to work quickly. It would also help to capture the gains in house prices that result from investment in transport or schools.

The Economist, January 11th 2014, pg 12
Vancouver Declaration (UN-Habitat 1976) Recommendation D3.b:

The unearned increment resulting from the rise in land values resulting from change in use of land, from public investment or decision, or due to general growth of the community must be subject to appropriate recapture by public bodies (the community), unless the situation calls for other additional measures such as new patterns of ownership, the general acquisition of land by public bodies.

Recent books


## Taxing land value

**Consensus among Nobel prized economists!**

<table>
<thead>
<tr>
<th>Economist</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul Samuelson (1970)</td>
<td>Pure land rent is in the nature of a 'surplus' which can be taxed heavily without distorting production incentives or efficiency.</td>
</tr>
<tr>
<td>James Tobin (1981)</td>
<td>I think in principle it's a good idea to tax unimproved land, and particularly capital gains (windfalls) on it</td>
</tr>
<tr>
<td>Franco Modigliani (1985)</td>
<td>It is important that the rent of land be retained as a source of government revenue.</td>
</tr>
<tr>
<td>James Buchanan (1986)</td>
<td>The landowner who withdraws land from productive use to a purely private use should be required to pay higher, not lower, taxes.</td>
</tr>
<tr>
<td>Robert Solow (1987)</td>
<td>For efficiency, for adequate revenue and for justice, every user of land should be required to make an annual payment to the local government equal to the current rental value of the land …</td>
</tr>
<tr>
<td>William Vickrey (1996)</td>
<td>Applying a tax to land values also means removing other taxes. This would so improve the efficiency of a city that land values would go up more than the increase in taxes on land.</td>
</tr>
<tr>
<td>Joseph Stiglitz, (2001)</td>
<td>… using land rents as the basis of taxation is an argument that I think makes an awful lot of sense because it is a non-distortionary source of income and wealth</td>
</tr>
</tbody>
</table>

Toronto Feb 2, 2015      Martim O. Smolka
Alejo Carpentier
(1904-1980)

Two mechanisms move the world: sex and ‘plusvalías’

Cuban novelist, essayist and musicologist - with heavy in the development of Latin-American literature – one of the most important writers of the XX century Winner of the Cervantes Prize in 1977
Agua Branca - Urban Operation

- 1989 - 1.2 million of m2 of (cautionary) additional building area proposed - later (optimist) increase to 1.8 million m2
- 2015 - 2.190.000 CEPACs divided as
  - 1.605.000 - residential w/ initial price at ~$600/CEPAC
  - 585.000 non residential w/ initial price at ~$700/CEPAC
- Potentially over $1,4 Billion! revenues depending on bids
- Area under deep transformations
- Property market declining with economic recession - Negative GDP for 2015!
OPERATION
The ‘mechanics’ of CEPACs – 1

- Total amount of CEPACs in an UO is predetermined
  - According to what present and future infrastructure can support

- Possible uses of CEPACs
  - Mainly additional FAR
  - But also to change land uses, footprint, etc
  - To pay contractors if they accept

- Variations of m² per CEPAC in different areas compensate for land value differences
  - e.g. from .8m² to 2.8m² in OUFL - see map

- Once the stock of buildable m² in a sector is exhausted undeveloped lot in the area can no longer use CEPACs
  - Developer better link ones CEPACS immediately to the lot
The ‘mechanics’ of CEPACs – 2

- Private and public auctions
  - Public - to acquire development rights
  - Private - as a ‘currency’ to pay contractors

- Face value
  - Realized value from previous auction
  - (Note: exception for outlier in 2008!)

- Revenues in excess can be invested in financial market
  - Up to 2013 => financial revenues of $300,000,000

- Specific uses for revenues
Auctions of CEPACs

- CEPACs issued by EMURB (the urban development agency) for the Municipality
  - EMURB also responsible for management and information on investment program for the UO

- Fiscalizations by CEF (a social federal bank)

- Each auction linked to defined investments
  - Infrastructure, social housing etc

- CVM (Brazilian equivalent to SEC)
  - Authorizes auctions in the Stock Market
  - Registers UO to which CEPACs are linked
  - Is informed of any initiative to change the Master Plan
Auctions highlights

- Offered values per CEPACs ranged:
  - In Faria Lima UO - US$550- in 2004 up to US$2,100- in 2010
  - In Agua Espraiada UO - from US$172.- in 2004 up to US$636.- last one in 2012

- Ratio of # of CEPACs offered and effectively sold
  - In 8 out of the 15 auctions total amount of CEPACs offered were entirely sold

- Premiums in 9/15 auctions
## Public and Private Auctions of CEPACs in Faria Lima UO, São Paulo, 2004–2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Type</th>
<th># CEPACs Offered</th>
<th># CEPACs Sold</th>
<th>Price (US$)</th>
<th>Income (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Public</td>
<td>90,000</td>
<td>9,091</td>
<td>550</td>
<td>5,000,050</td>
</tr>
<tr>
<td>2004</td>
<td>Private</td>
<td>na</td>
<td>24,991</td>
<td>550</td>
<td>13,745,050</td>
</tr>
<tr>
<td>2005</td>
<td>Public</td>
<td>0</td>
<td>9,778</td>
<td>550</td>
<td>5,377,900</td>
</tr>
<tr>
<td>2006</td>
<td>Public</td>
<td>10,000</td>
<td>2,729</td>
<td>550</td>
<td>1,500,950</td>
</tr>
<tr>
<td>2006</td>
<td>Private</td>
<td>na</td>
<td>6,241</td>
<td>550</td>
<td>3,432,550</td>
</tr>
<tr>
<td>2007</td>
<td>Public</td>
<td>156,730</td>
<td>156,730</td>
<td>620</td>
<td>97,172,600</td>
</tr>
<tr>
<td>2007</td>
<td>Private</td>
<td>na</td>
<td>72,942</td>
<td>620</td>
<td>45,224,040</td>
</tr>
<tr>
<td>2008</td>
<td>Public</td>
<td>83,788</td>
<td>83,788</td>
<td>769</td>
<td>64,432,972</td>
</tr>
<tr>
<td>2008</td>
<td>Private</td>
<td>na</td>
<td>2,500</td>
<td>863</td>
<td>2,156,250</td>
</tr>
<tr>
<td>2009</td>
<td>Public</td>
<td>100,000</td>
<td>55,612</td>
<td>850</td>
<td>47,270,200</td>
</tr>
<tr>
<td>2009</td>
<td>Public</td>
<td>30,000</td>
<td>1,521</td>
<td>858</td>
<td>1,304,258</td>
</tr>
<tr>
<td>2009</td>
<td>Public</td>
<td>120,000</td>
<td>120,000</td>
<td>2,100</td>
<td>252,000,000</td>
</tr>
<tr>
<td>2010</td>
<td>Public</td>
<td>92,151</td>
<td>92,151</td>
<td>2,000</td>
<td>184,302,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>682,669</strong></td>
<td><strong>638,074</strong></td>
<td></td>
<td><strong>722,918,820</strong></td>
</tr>
</tbody>
</table>

Source: Sandroni (2012).
CEPACs Authorized for the Agua Espraiada UO, São Paulo, (through January 31, 2013)

<table>
<thead>
<tr>
<th>Authorized distributions by CVM</th>
<th>CEPACs</th>
<th>US$</th>
<th>US$ per CEPAC (average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14/7/2004</td>
<td>299,368</td>
<td>51,404,360</td>
<td>172</td>
</tr>
<tr>
<td>10/1/2007</td>
<td>317,781</td>
<td>65,304,996</td>
<td>206</td>
</tr>
<tr>
<td>23/12/2008</td>
<td>186,740</td>
<td>103,640,520</td>
<td>555</td>
</tr>
<tr>
<td>5/9/2008</td>
<td>1,099,880</td>
<td>386,461,945</td>
<td>351</td>
</tr>
<tr>
<td>9/2/2012</td>
<td>1,360,338</td>
<td>865,676,658</td>
<td>636</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,263,907</strong></td>
<td><strong>1,447,488,659</strong></td>
<td><strong>443</strong></td>
</tr>
<tr>
<td><strong>Private Offers</strong></td>
<td>127,092</td>
<td>25,664,266</td>
<td>202</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>3,390,999</strong></td>
<td><strong>1,473,152,925</strong></td>
<td><strong>434</strong></td>
</tr>
<tr>
<td><strong>Used for a License / Completed Projects</strong></td>
<td>-2,333,897</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Remaining in Circulation</strong></td>
<td>1,057,102</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total CEPACs</strong></td>
<td>3,750,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Balance</strong></td>
<td>359,001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Municipality of São Paulo, Secretariat of Urban Development
Auctions: explaining volatility
(variable results over the 20 auctions)

- Pre-existing building/development rights charges
  - CEPACs implied in >350% raise of $/m²

- Real estate business cycle
  - e.g. 2004 and economic crisis in late 2008

- Ratio of stock of CEPACs in private hands to actual use

- Political instability - changes in public administrations
  - Uncertainty w.r.to continuity of tool

- Irrational(?) speculative behavior by private agents
  - Developer paid 140% overprice only to observe price dropping 50% in a subsequent auction!
EVALUATION
Risks with CEPACs – 1

- Prices may float as with any other bond
  - Real estate market
  - Systemic - financial market

- Public transferring development rights to the buyer
  - No financial claims against the public administration
  - No public liability (due compensations to private) with fall in land prices or exhaustion of buildable m2 in a given sector

- Legal injunctions affecting the UO
  - E.g. non-removal of slums - (Jardim Edith ZEIS)
Risks with CEPACs – 2

- Changes in supra municipality conditions
  - E.g. new environmental restrictions affecting the UO
  - In Rio no land use plan approved by City Council!
- Timing of auctions at public adm. Discretion
  - Eager developers may depend on secondary market
- No guarantee of public expenditures in items auction linked to
  - If given auction does not generate sufficient revenues
Advantages of CEPACs

- Auction overcomes need for calculation of land value increment
- Anticipation of funds for public administration to invest – economies with urban infrastructure and services
- Selling by ‘tranches’ – allows monitoring and fine calibration of the market
- Earmarked – confidence of developers
Benefits

- City benefitting from investments in UOs
  - E.g Stayed Bridge and access to Imigrantes highway
  - Social inclusion
    - ZEIS in Jardim Edith
    - In neighborhood relocation of slums dwellers

- Establishing a culture of value capture
  - Citizen pedagogy regarding unearned LVI

- New revenues
  - Release of public revenues for other uses
Problems with existing instruments

- Minimum of 50%
  - Negotiations above
- Calculation of the benefit
  - The actual value of the additional building rights - (otherwise land value increment)
- Form of payment
  - in works (infra) or social housing elsewhere
- Timing
  - Infrastructure tied to developers projects
Criticisms

- Support from a relative sophisticated capital market
  - credibility of the bonds - access and disposal.
  - limited use in less developed areas;

- Two cases FL and AE: cherry of the cake
  - Other UOs not so attractive to investors

- In UO FL revenues in excess with no major investment pending
  - May generate wasteful/superfluous expenditures
  - Ref Ponte Estaiada (needed ...but, could be cheaper)
Criticisms

- Its 'preferential option' for high-end projects.
  - In low-income housing and areas.
    - lower payment capacity on the one side and
    - perceived negative externalities on the other may draw
      building rights bids below the public investment threshold costs.
    - need to add a subsidy for the low-income housing => noises in
      the auction process;

- gentrifying UO likely to be more successfully
  - intra-urban differentiation and with that social segregation.
  - The acid test: UO precedes CEPACs or opportunity to use CEPACs define UO
Conclusion

- **CEPACs** - an evolving, ingenious and effective tool
  - Learning by doing
  - Overcome problems with previous tools
  - Growing effectiveness
  - Generate non-trivial revenues

- **Not the silver bullet - relevance to well-defined and specific situations**
  - Requires sophisticated financial and planning institutions

- **Handle with care when attempting replication**