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Executive Summary

- Land Value Capture is an effective alternative solution for infrastructure financing
- Current methods in the United Kingdom has the issue of being capable of only extracting a small amount of value
- Common methods implemented internationally are classified as betterment tax, accessibility increment contribution and joint development
- Effective examples of new forms have been done in Australia and the United States
- An evolution of joint development has been successfully implemented in China by the term Predetermined Land Reserve

1 Introduction

- 1.1 This submission is for the Land Value Capture inquiry from the Communities and Local Government Committee (CLG). The author of this submission is currently a postgraduate student for the MSc Urban Economic Development Program at The Bartlett Development Planning Unit, University College London. The purpose of this submission is to practice the obtain theory from the course of study and to contribute a solution for the country's development in infrastructure financing. This paper explains the definition of land value capture, a review of its current practice in the United Kingdom, illustrate effective international practices and provide recommendations for further research.

2 Definition of Land Value Capture

- 2.1 In the past, the cost of public transport was covered by fare payers and general taxation. However, the demand for improved mobility and accessibility from the rapid population growth pressures the need for other financing methods. A widely considered effective alternative solution for this is land value capture. The common understanding for this term is methods of financing for transport infrastructure by capturing the added value of land due to increased accessibility (Medda, 2012). To further explain, the development of new or existing transport nodes shall increase the value of land surrounding as well as the benefit for the owners (Mathur and Smith, 2013).

3 Current Land Value Capture Practices in the United Kingdom: CIL

- 3.1 The Community Infrastructure Levy (CIL) practiced in the United Kingdom is a shift from betterment tax to negotiated settlement of contributions to the cost of infrastructure provision. The levy is payable for development that creates net additional floor space above 100 square meters or any form of new single houses and flats. Developments in forms of charitable, social or self-built housing are exempted from the levy. The CIL rates are based on evidence of infrastructure funding needs and potential economic impact according to development strategy (MHCLG, 2014).
- 3.2 According to Transport for London or TfL (2012), existing value capture mechanism such as the CIL has the problem of only extracting only a small fraction of land value gains from transport investment, in an ad hoc and poorly targeted manner. In their effort to improve the accuracy of captured land value uplifts, governments charged high tax rates on new development. Benefits for commercial development is more feasible to extract using the business rates retention offer as a potential model. However, there is no equivalent model for residential development which makes it difficult to fund transport-led housing expansion in cities such as London. Smart solutions should be explored through current data technology that enables authorities to analyse economic impacts of infrastructure to land value.

4 Land Value Capture Methods currently practiced internationally

- 4.1 The methods for land value capture can be in the form of cost-recovery through taxation schemes and levies or even financing by the private sector seeking to gain the additional value of the property. Medda (2012) stated it can be grouped into three methods: betterment tax, accessibility increment contribution and joint development mechanism.

4.2 Betterment Tax

4.2.1 Betterment tax is a value capture levy that is charged to the landowners and development stakeholders that benefit from increased accessibility, reduced congestion and pollution, and lower transport cost as a result of the transport investment (Ibid). Betterment tax seeks to recover the construction and maintenance cost of the public transportation based on the captured amount from the added value of land. This makes it an equitable, easily understood and efficient levy because the lands worth is acquired through joint community effort. Moreover, this tax encourages private landowners to avoid speculation thus creates incentives for higher density urban development.

4.2.2 Lawrence (2012) claims that such LVC that focuses on cost recovery like betterment tax requires a careful estimation of relevant costs, the identification of affected land, and an allocation process for assigning an appropriate share of cost to each land parcel. To achieve this value capture requires four elements: public action or investment, a valuation process that identifies change in the land value and its taxable value, maintenance of a high levy rate, and sufficient collection efforts. These elements have proven in several cases to be difficult to implement. A core constraint is the lack of a sustained political will to collect betterment levies, as it is difficult to determine how land-use change may affect land values.

4.2.3 Examples of new forms for betterment tax

4.2.3.1 *Broad-base land tax in Australia*

4.2.3.1.1 A broad-based land tax would involve removing many exemptions to existing taxes on land value, streamlining charging process and phasing out other charges such as stamp duties. This is considered an efficient and sustainable approach to value capture in Australia as it removes inefficient taxes such as stamp duty. The impact and administrative burden of this reform could be streamlined by broadening state-based charges and aligning payments with property rate cycles (Infrastructure Australia, 2016). This is set for implementation in Sydney and Melbourne which will save home buyers up to AUD 40,000 and 55,000 respectively while donating billions of dollars to fund schools and hospitals.

4.2.3.2 *Data-driven methodology in the United States*

4.2.3.2.1 Using a diverse range of large-scale data for New York City (NYC) and the surrounding region, Falcocchio et al (2017) provided a data-driven approach to contribute a special assessment fee to cover annual rail operating and maintenance cost to those that benefit from transit service.

4.2.3.2.2 An analysis was made for the implicit subsidies to commercial properties in proximity with high density public transportation nodes and worker-hours lost due to delays. The results showed that a marginal special assessment of USD 0.50 to 1.00 per square foot, equivalent to a marginal increase in the office property equivalent tax rate between 0.3% to 0.6% could yield between USD 332 and USD 664 annually to support the Metropolitan Transportation Authority's operating budget.

4.3 Accessibility Increment Contribution (AIC)

- 4.3.1 This method attracts private investors to invest in areas of low accessibility with assurance that their taxes will finance the infrastructure which will provide net financial gain. A common tool for this is tax increment finance (TIF) which is used in government-led urban redevelopment projects and transport improvement which is in collaboration with the private sector (Medda, 2012).
- 4.3.2 The AIC programs are self-financing mechanisms based on public-private-partnerships. These are often operated through tax incentives, in form of tax relief or tax breaks, or through tax disincentives. Various financing devices and tools are used by the public sector to increase investments, which includes “pay as you go” approach in which the tax increment is collected on a regular basis upon the project completion (Ibid.).
- 4.3.3 The increased land value from this method is based on the willingness to pay for the reduction in economic cost of commuting, which is reflected in the increased real estate price. This value uplift from infrastructure investment will be monetised overtime through special taxation, with incremental tax impacts to increase over the assessment timeframe (McIntosh, 2014).
- 4.3.4 Doherty (2004), identified the limitation of AIC methods is it focused on residential value that it does not place an additional tax burden on business. Moreover, it does not cover the maintenance costs because its validity ends post-project completion. Nevertheless, this method is still considered strong for improving the accessibility and mobility for local areas which previously lacked connectivity.

4.3.4.1 Example of New Form of AIC: Transit Tax Increment (TTIF) in Australia

4.3.4.1.1 McIntosh (2014), proposed TTIF as a means of funding investment in integrated land use and transit projects in low-density car-dependent cities. The four steps of this framework are: (1) assess relevant land and property taxing legislation and policies and define the zone for a tax increment districts (TID), (2) analyse the willingness to pay for transit accessibility and transit-oriented development, (3) conduct TID financial analysis to forecast revenue generation and viability, and (4) propose a project-specific TTIF implementation strategy. Using the case of Perth, McIntosh stated that the TTIF model can fund large government transit projects such as the city's Mandurah line.

4.4 Joint Development

4.4.1 The two previously discussed land value capture methods are based on the implementation of fiscal regimes. Selecting and implementing these regimes require fiscal decentralization that challenge local authorities and has been deemed complex and costly in past practices (Dye and England, 2010). In a joint development project, local authority or government allows private financing schemes that cannot be done through fiscal regimes to promote residential and/or commercial development near transport nodes, with the objective effectively finance transport infrastructure (Weber,2010). The US Department of Transportation (2004) views the option of private sector involvement enabled through joint development as significant ways to decrease project cost, mitigate public risk, and increase the quality of transport infrastructure.

4.4.2 Joint development has the advantage of removing the need to identify the direct or indirect impacts of transport infrastructure because of the construction cost-sharing agreement between public agencies and private developers (Doherty, 2004). Both parties can clearly benefit from this method: private developers benefit from potential customers resultant from improved accessibility and public sector will be partially relieved of the burden from infrastructure financing.

4.4.3 As there are various models according to the countries specific conditions, joint development can be categorized into two dimensions: (1) whether the development property is owned by the public or private sector, (2) whether the transactions are based on property or development rights. In transactions involving publicly owned property, underdeveloped land adjacent to transport nodes and owned by the public sector is sold or leased. Public agencies may acquire land as an investment for infrastructure projects which will generate profits from its sale after increased value. The government benefits from the control over the timing, pace and character of future development surrounding transport infrastructure. For transactions involving development rights, governments grant development rights on publicly owned land to promote the site's development and generate revenues to finance public transportation (Zhao et al, 2012).

4.4.4 The public sector may also implement joint development on privately owned land. In this method, public entities exact land from private owners, who in exchange receives benefits in form of property improvements. This is an extensively used model in Japan, known as land re-adjustment policy. The public sector acquires parcels privately owned land for infrastructure development which uplifts the value of remaining parcels. For transaction involving development rights, public agencies may incentivise private developers to increase the density of areas surrounding transport nodes or allow the conversion of residential-to-commercial use that generates more profit that can contribute to public transport funding (Ibid.).

4.4.5 To evaluate the joint development method, Zhao identified a set of criteria: economic equity, social equity, revenue adequacy and sustainability, and political and administrative feasibility. Joint development is economically efficient because it reduces public sector investment in infrastructure with potential to promote local economic development resulting from increased accessibility and agglomeration economies. It can solve concerns over geographic equity if matched with benefits and costs for dwellers of various locations. The increase of mobility create may increase fare revenues and improve the economic condition of the surrounding area. Joint development is more politically acceptable as traditional taxation methods invoke public opposition and distort consumer behaviour.

4.4.5.1 *Examples of Joint Development: Contra Costa Centre (CCC) transit village in California, US*

4.4.5.1.1 With the rapid economic growth around the Bay Area Rapid Transit (BART), the CCC village was a product of a partnership between local government authorities, BART and private developers which started in 2006. The project consists of 1550 space parking garage, 422 residential apartments, 100 for-sale condominiums, 35,590 square feet retail space, and 270,000 office space. The land was leased to developers over a term of 99 years which is estimated to be USD 700 million to 1 billion. The county expects to receive a return on investment of 7%, giving a high joint revenue growth potential. The annual lease revenues are expected to grow significantly. The county and BART receive minimum guaranteed rent, percentage rent, bonus rent, and participation rent on sale of condominiums (Mathur and Smith, 2013).

4.5 New Method: Predetermined land reserve (PLR) mode in mainland China

4.5.1 After attempts of implementation, it was concluded that joint development could not be directly implemented in the mainland China because of different land development and utilization systems. Here, the development of land is divided into two stages. The first stage is the government authorization to select land to be developed. The second state is to develop property on the land, such as commercial development. The supply of land for non-public welfare can only be realized through bidding, auction and allocation (Sun et al, 2017).

4.5.2 To adapt the concept of joint development, China introduced the concept of predetermined land reserve (PLR). “This is a new mode of financing by utilizing land reserve and its essence is to link the reserve of specific land parcels with rail transit projects and get benefit from the predetermined land reserve to replenish rail transit investment directly” (Sun et al, 2017, p.63). PLR combines the diversified land reserve in the primary market with large urban rail transit projects. The mechanism of PLR is shown in figure 1.

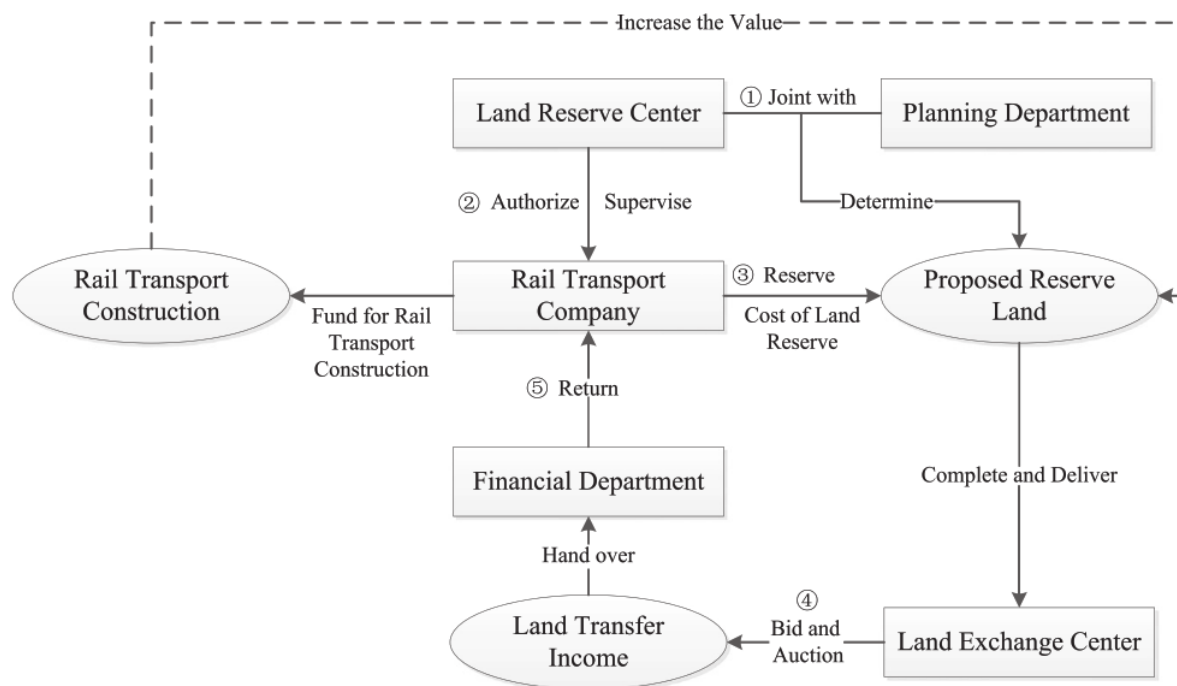


Figure 1 Framework of Predetermined Land Reserve (Source: Sun et al. 2017. A financing mode of Urban Rail transit based on land value capture: a case study in Wuhan City)

4.5.3 To elaborate, PLR begins with the Land Reserve Centre and Planning Department jointly determining the proposed reserve land parcels. To commence development, Rail Transit Company needs to require authorization and accept supervision from Municipal Land Reserve Centre. The company itself is responsible for financing the development. After the reserve work is finished, rail transit company delivers the land parcels to the Municipal Land Exchange Centre or Land Reserve Centre. The latter trades the parcel through bidding and auction and obtains the land transfer income. The land transfer income will be handed over to Financial Department before being returned to rail transit company. The purpose of this is to deduct necessary taxes, land reserve costs and other transaction costs to have the company receive net profits.

4.5.4 As joint development is a mature land value capture method, PLR is an innovation emerging from China's land policy and law. The objective of PLR is to achieve a standard, circular and sustainable financing mechanism to promote construction of rail transit while lowering government spending. While joint development generally involves developers, PLR is operated by the rail transit company`. As China's government fully owns all of the country's land, the PLR method reserves land around railways which will be developed and financed by rail transit companies. A PLR project only involves the first-stage development of land. Its work scope of land reserve is ended before the land transaction (Sun et al, 2017).

4.5.4.1 PLR Implementation in Wuhan, China

4.5.4.1.1 Wuhan is among the earliest cities that have obtained the right to plan and construct urban rail transit in China. The project commenced with its first line in December 2000 which was finished in 2004. By the end of 2012, the total length of Wuhan's rail transit is 73.4 km that is shaped as an "H" across Yangtze River which also includes a metro line. The goal is to complete 220 km which includes 7 metro lines. The land parcel was traded by Wuhan Metro Group at the price of USD 0.58 billion, which was a record for the city. After the project completion, housing prices were able to maintain a steady growth.

5 Conclusion

5.1 Land value capture has proven to be an effective tool for infrastructure financing. With the rapid growth of cities, this is a solution to meet the highly demanded infrastructure as governments cannot entirely rely on fiscal revenue. The different methods of land value capture show that there are various ways of implementation based on a country's characteristics. Public authorities from other countries have produced innovative new methods based on the three groups as mention earlier. This shows evidence of governments responding to change in political and economic structures.

6 Recommendations

6.1 The purpose of this paper is for the Communities and Local Governments Committee (CLG) to explore new methods for land value capture. Examples illustrated can provide good learning points for current developments in the United Kingdom. The data driven method implemented in NYC could give an example to improve the CIL. Joint Development is a feasible way to accelerate transport construction which could be done in projects such as Crossrail 2. The PLR is a topic that should be further explored by local officials as it has proven to be an effective innovation for the world's largest and fastest growing economy. Further research on these new methods is recommended to gain deeper understanding on its potential for adaptation in the nation.

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