

A Reinterpretation of Coase's Land Monopoly Model: Locational Specificity and the Betterment Potential of Land as *de jure* and *de facto* Property*

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Abstract

On the grounds of two unique features of land, *locational specificity* and *capacity for betterment* through *in-situ* entrepreneurial transformation, this monograph uses three real world examples to qualify Coase's idea, mentioned in two of his works on the Federal Communications Commission (FCC), that a state monopoly of land is *undesirable* for allocating land due to

the huge transaction costs of non-price allocation. These two features of land enable the creation of institutional arrangements constraining such costs occasioned by rent-seeking or rent dissipation envisaged by Coase. Breaking new theoretical grounds in understanding planning beyond a matter of property rights assignment and attenuation, the three examples show that where the state has an effective monopoly of land supply, it does not behave like a private land monopoly but, subject to constrained rent-seeking, enables, and also possibly brings about the *betterment* of land and its redistribution by *government planning*. The examples, two of which testify to a Coase Theorem predicated on Coase's first work on the FCC, also shed light on the question of property boundaries as an *ex ante* planning tool for *de jure* property or an *ex post* outcome of development. The monograph shows that the transaction costs of both dividing and recombining tradable land, as physically unitized into land parcels within a layout, are greater than partitioning and re-partitioning marketable segments of radio frequencies.

Preamble.

The first person who, having fenced a plot of ground, took it into his head to say this is mine and found people simple enough to believe him, was the true founder of civil society (Smith and

Zaibert 1996: 1 quoting Jean-Jacques Rousseau, *Discours sur l'origine et les fondements de l'inégalité parmi les hommes* 1754: Deuxième Partie, opening paragraph).

In an attempt to provide an ontology of land, Smith and Zaibert (1996) quoted Rousseau who made boundary delineation of “territorial space” (Crevoisier 1999) by a fence the basis of civil society.

Nature has made the world a unit, with each part increasingly dependent upon the rest of the world for continued advancement. Contrary to the reciprocal plan of Nature, Man, with his greed and feeling of self-importance, has worked relentlessly for centuries to hack the surface of the earth into small bits, politically. And each of these tries to make itself a self-sufficient entity until it sees something it wants in the possession of another. Expansion follows, with attendant wars, to the point where the aggressive state has acquired all it dares to take at the time, or until a stalemate is reached. In the first instance a boundary is needed... (Gear 1941: 81).

Gear (1941) saw boundaries of such territorial space as contestable frontiers which “boundary conscious” states would soon reduce to lines.

It is a simple truism that socially land boundaries mean different things to different people. The landlord is not so much interested in the

boundaries, being invisible legal entities, of his/her land *per se* as in the enclosed space defined by them he/she can effectively enjoy as a proprietor. When the boundaries with adjoining properties are confused or disputed, the professional assistance of the land surveyor and adjudication by the courts are necessary. For a resident, the boundaries of his county, local government area, or municipality have social, economic, and political significance, as they may delimit the catchment of public services, cultural identities, and the extent of political influence in a wider national context. To a sovereign state, its international boundaries as stable borders or, perhaps, changeable frontiers (Anderson and O'Dowd 1999, Paasi 2002) are critical more for the things that may happen inside the realm than for their actual physical features.

In any event, land boundaries, as mappable conceptual lines, do shape the location and shape of the space they enclose as a piece of property, zone, region, or country with implications for its use, management, rights, and liabilities. Therefore, they are important for town and country planning, which is partially a map-based attempt to handle cross-boundary matters such as externalities or external effects and regional conservation (Yung and Belsky 2007; Rickenbach et al 2011). These matters are generated in one place, but spill over to surrounding places. Researchers who highlight the

importance of boundaries in planning and development have followed this generalisation (Feiock and Carr 2001; Bradley 2015).

A land boundary-conscious or sensitive mind conceives of a boundary as an effective vertical screen of infinite vertical height, and a depth and extent tapering towards the centre of the Earth, that runs along an invisible line on the Earth's ruffled surface to form a cadastral border. (Platt 1991) This encloses the land so that nothing uninvited or unwelcomed may enter the space within. However, what matters to the land owner, as with officers of state in the case of their country, is what happens within the borders so defined.

To achieve more effective exclusion, a boundary as a conceptual line for enclosing land can be made visible by erecting physical structures such as moats, fences, walls, or barbed wires to mark it. These structures may, in due course, become significant in their own right independent of their original exclusion function, which somehow helps to improve the enclosed plot of land. The Great Wall of China as a defensive border is a classic example of this. The boundary it represented has long ceased to serve its function of excluding outsiders, but the structures that form this boundary have survived as signs that point to something worthy of appreciation – as heritage buildings. When these structures that delineate exclusive

boundaries are destroyed, but subsequent planning maps retain their alignments, these boundaries must be of great social significance, as mapping is a social activity.

1. Introduction: planning of land & property rights

That land is “unique” is a familiar saying but is conceptually rarely much discussed at length in economic or planning and development research, not to mention any discussion of its institutional implications. The notion of uniqueness as “specificity” in relation to land is a well-used concept in urban studies. However, the application is generally to *land use* (Nicholas 1991; Baudry and Thenail 2004; Duncan et al. 2010), *land use regulations* or certain *property developments*, or *a place* (as for instance by Strange (1997)) rather than to the nature of land itself as articulated by Corbin (2003). As this work is inter-disciplinary, drawing ideas from both *neo-institutional economics* and *planning*, there is a need to appreciate the differences and similarities of these two disciplines in respect of land. The views of the economist and planner towards land are distinct but there is a common tendency to be a-spatial.

The economist's view of space is a-spatial in the sense of being abstract rather than concrete (Crevoisier 1999) ¹ in that it treats land either as a referent *point* for transport cost calculations or an input measured in terms of *area* for the purpose of calculating its yield, as exemplified in the empirical studies on property rights assignment by Libecap (1996, 2007) and Akee (2006). Neither the location nor the actual shape of the land in question is factored into the equation.² "Location" in land economics in particular is typically defined as an abstract positional point. For instance, Lucas and Rossi-Hansberg³, like Alonso on whose famous land use model sociologist Guest (1978) and transport economists Banister and Berechman (2003) relied, referred to a "location" not in terms of any actual place but distance from a referent point (be it the "centroid" of the CBD or city border). There is a huge volume of literature generated by economists who favour a mathematic, game-theoretic approach to deal with "land," which is known

¹ Crevoisier (1999) distinguished "concrete spaces" or "territorial spaces" from "abstract space" or "vector space" in economics.

² Agricultural economists have an interest in the influence of the configuration or shape of land lot or terrain on productivity (see, for instance, Voltr 2011), but generally economists have not considered boundary shape as a key matter.

³ Lucas and Rossi-Hansberg (2002) is talking about certain "location's distance from the city center" (p.1446).

as “cake-cutting” a two-dimensional good (i.e., dividing land as if cutting a cake) with a view towards obtaining a fair cut for each participant (Chambers 2005, Dall’Aglio and Maccheroni 2009, Segal-Halevi 2017). Land boundaries were specifically mentioned in the literature, but more as concepts in a theoretical or virtual exercise than as actual subdivisions.

The planner’s profession is about delineation of land into parcels. It seems to follow that research on physical planning should consider area, location and boundary alignment taken together. However, that is not often the case. Planning researchers who adopt a critical approach, for example one informed by class theory, treat space as a matter of social relationships or as a social phenomenon with its physical instantiation in a specific place and extent as an epiphenomenon – the physical instantiation is thus held meaningless without the social context and tends in consequence to be ignored. (Blomley 2014) Strict empiricists in their studies generally follow the approach of the neo-institutional economist and similarly lose focus on the brute physico-geographical aspect. For them land within a state is divided and laid out with a network of connecting routes and can be regarded as *institutional capital* for development as well as acting as a *constraint* on modifying any development or redevelopment of the sort often described as “fragmentation of ownership”. In this case the attention of

planning researchers is skewed towards seeing property boundaries as *problems* or *constraints* for development within and between them rather than the very *preconditions* for or *results* of development: a matter we shall consider further below.

Where neo-institutional economists and planning researchers do refer to land boundaries, the concern is thus not its shape other than where this affects or is affected by a general rule against (further) *subdivision*. Such a rule is of concern to the institutional economist or planner for avoiding over-densification, traffic congestion or ribbon development along routes and similar. The interest in subdivision is basically a matter of its legality and constitutionality (Heyman and Gilhool 1964, Lester 1983, Reynolds 1989) rather than its effects on resource allocation unless redevelopment is involved⁴. It follows that research involving lot shapes (Matsumura et al. 2017) is a rarity. Nonetheless boundaries are acknowledged as means for or signs of exclusion.

To most neo-institutional economists, a land boundary is principally about constraining rent dissipation due to open access. Coasian thinking

⁴ A good exception is Spalatro and Provencher (2001) regarding the effect of minimum lot width zoning on property values.

may contribute to this indifference to land boundaries to the extent that as property boundaries are seen as just one thing in the “bundle of rights” that are tradable, they are not considered to be of particular significance. To the planning researcher, a land boundary is about social exclusion, spatial equity, etc.

In short, by and large neither neo-institutional economist nor planning researcher has focused on boundary shapes as policy variables or as a consequence of some determinants. How such boundaries influence investment or social behaviour have not been brought into the lime light. In fact, the origin of such boundaries (i.e., how, when and why they emerged in the first place) has at worst been largely forgotten or at best relegated to matters of economic or planning history, or simply historical geography (Gear 1941): in short, as things of the past.

By researching the past, historians do offer a lot of insights for modern appreciation about the significance of these man made lines, which tend to remain stubbornly intact and any major alteration of them involves huge political transaction costs. The history of the “long lots” or “ribbon lots” in America (Hart 1968; Jordon, 1974, Hilliard 1982) and Australia are cases in point.

This monograph follows up an idea in Lai and Davies (2017) that a *boundary* is an essential element of land under an exclusive property rights regime. Where land is monopoly owned and tightly controlled by the state, it is its enclosure by boundaries, as planned or zoned property, that uniquely matters. This monopoly is of great theoretical interest as it is an ideal case, which Nobel laureate Ronald Coase (1965) used in comparison with a government monopoly the U.S. Federal Communications Commission (1959), in which he criticized the FCC's legal monopoly of radio frequencies, arguing that price competition was a better allocation mechanism.

Our explanation articulates with but goes beyond the standard neo-institutional economic understanding that ownership, effectively enforced, is the solution to the problem of the "tragedy of the commons" due to open access (Hardin 1968) and the resulting "rent dissipation" (Cheung 1970), a concept to which we shall return. To set the scene for our journey to canvass the role of land boundaries in planning, a general review of *neo-institutional* economic analysis of government planning is helpful.

A conventional neo-institutional analysis of planning, whether by edict as imposed top-down or by agreement, focuses on two aspects of property rights: *attenuation* and *assignment* of rights (Lai 1996, 1997, 2005a). The first early drew the attention of libertarian researchers, who

were dissatisfied with the adverse economic effects of government planning (mainly by legislation) intended to restrict or even nullify, that is, attenuate private property rights. Government-imposed exclusive zoning, downzoning and compulsory purchase of private land by the state, often for urban renewal projects involving private developers all have such effects. Such “socialization of development rights” infringes or interferes with private property rights in the name of the public interest and causes economic loss to the proprietors affected, often without actually enhancing the values of the properties in the neighbourhood (Lai et al 2018). Libertarian thinkers like Hayek criticized this as a big attack on personal liberty (Hayek 1960).⁵

As government planning under legislation invariably compromises private property rights and invariably involves non-price allocation of development rights by the visible hand of politicians and/or bureaucrats, economically wasteful “rent dissipation” and “rent-seeking” activities (including corruption), concepts which will be detailed in Section 3, follow.

⁵ See Lai (1999, 2002) for some *interventionist* views of Hayek towards town planning. See also Moroni (2018) for an excellent balanced discussion of property rights in relation to human rights.

The libertarian assault on government planning was a reaction to a justification for interventionist planning resting on perceived Pigovian market failure. By definition such an approach does not trust the natural forces of the land market to provide public goods or resolve “externalities” that necessarily cross boundaries. The assault reinforces a false plan/market dichotomy and ignores the historical fact that the state in its political capacity was the founder of private property rights in land, in its public capacity was the original town planner, and in its civil capacity can make contracts with owners or users of land without coercion. One might add finally that in its judicial capacity the state is also often the ultimate protector of private property (Lai 2016).

Lai (1996, 1997) and Webster and Lai (2003) pointed out that government planning can also assign new rights not previously existing other than by up-zoning and inclusive zoning, bringing about new urban development possibilities. Lai, Davies and Lorne (2016) specified that “rights assignment”, as action that is other than an outcome of an exchange of rights as a result of “Coasian bargaining”, may create new property rights. Suffice it to say that where resources were originally common, assignment of a degree of novel exclusive property rights over or entitlements to such resources would constrain rent dissipation and create an environment in

which spatial investment and innovations (Andersson and Moroni 2014, Andersson and Andersson 2017) are possible.

Though their works did refer to property boundaries, Lai (1997) Webster and Lai (2003) and Lai, Davies and Lorne (2016) followed the conventional neo-classical treatment of property rights as a *bundle* of enforceable entitlements and duties, and boundaries were somehow treated as part and parcel of this bundle of abstract rights and liabilities to assign or re-assign. It is not very clear as to whether these lines, as an *institutional feature*, are theoretically significant mainly because they are *de jure referents* for exclusion or access restrictions (Sjaastad and Bromley 2000; Lai and Ho 2016) and *vehicles* to enhance resource quality and value (Allen 1991; Webb 1996; Feiock and Carr 2001; Lai, Davies, and Lorne 2016), or, rather, as in themselves *forms* of betterment. The latter thought is based on drawing an analogy between diamond cutting and layout planning: a process of subdividing or “partitioning” (Buchanan 1993) of a vast piece of land into smaller units can be compared to the cutting of raw diamonds into jewelry.

Buchanan’s (1993) “partitioning” of rights expressly included the physical division of land rather than a mere legal separation of a bundle of rights over land, like the division of rights into equitable and legal ownership,

single, joint and shared tenancy, etc. Like other economists, he might not have been aware of the fact that the land, once subdivided, can almost never be recombined.

This work addresses this question stressing the last two possibilities. In particular, it seeks to show that government planning may also bring about betterment in land by way of organising development units in terms of configuration, area and location by boundary delineation and positioning with adjoining properties. Above all, it also explains that boundary delineation could well be an *ex post* outcome due to betterment.

The inquiry, articulating concepts connected in **Figure 1**, is Coasian not only because it involves the concept of transaction costs (Coase 1937, 1959, 1960) as applied to planning inquiry (Alexander 1992; Lai 1994, 1997, 2005b, 2011; Webster and Lai 2003; Buitelaar 2004) but also because its setting is provided by two rare expositions on land allocation by Coase (1965, 1972) himself.

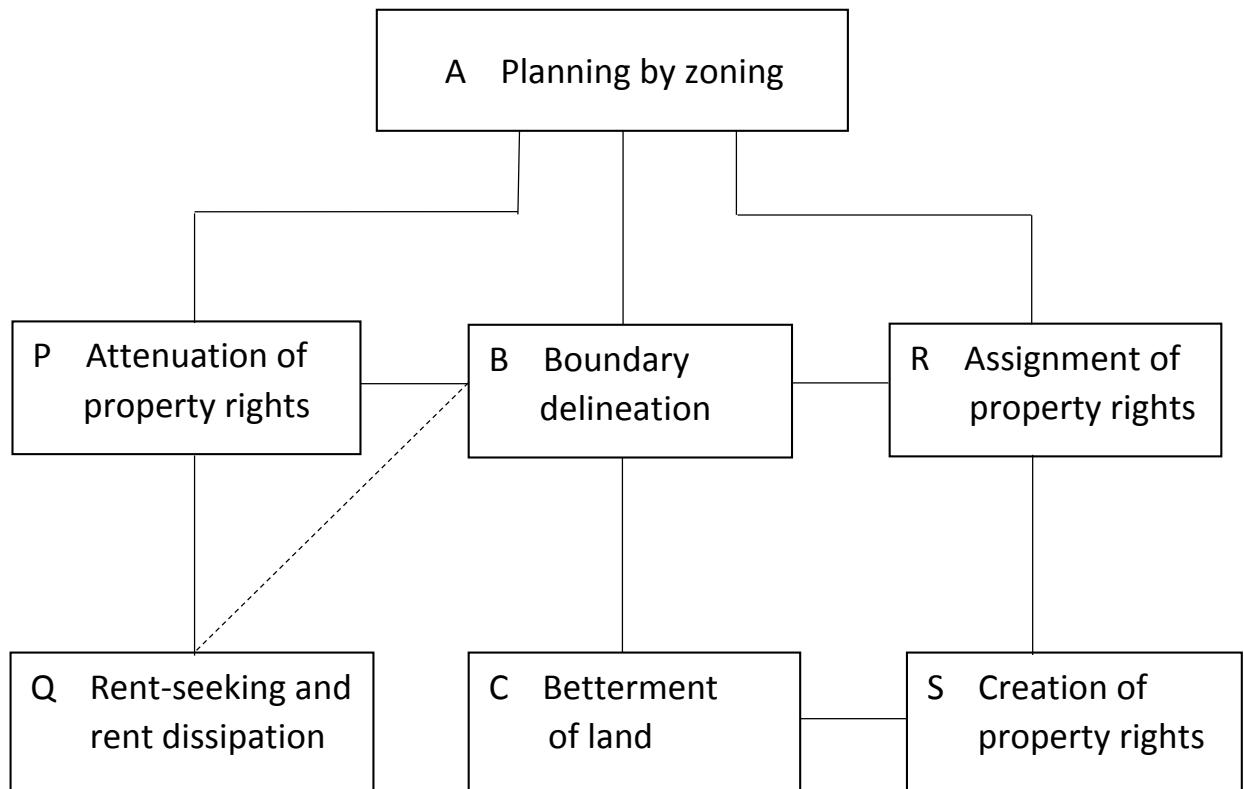


Figure 1. Property rights, betterment and property boundaries in planning

2. Contextualizing Coase's discussion on land

Coase himself seldom wrote specifically on land or changes in the use of land, (i.e., the domain of *land use planning* and *property development*) – with three important exceptions (Coase 1960, 1965, 1972), the last two of which anchor this discussion of the uniqueness of land.

In “The Problem of Social Cost”, Coase (1960) used a *land use conflict* story involving two commercial farms sitting on adjoining pieces of land (one used for cattle ranching and another for wheat farming) to show that

private settlement can be a better alternative to zoning or a court battle, as it maximises the joint value output of both plots of land rather than passively separating the two uses or punishing the wrongdoer in tort for trespassing. Coase's story actually consists of two sets of (tripartite) externalities. Under common law (English law), Continental, or traditional Chinese law/customs, the wheat farmer A is the innocent third party who suffers from the performance of the contracts between the cattle farmer B and his customers Q. Under Hindu custom, the cattle owner B is the innocent third party who suffers from the contract between the wheat farmer A and his customers Z⁶.

Stigler generalized Coase's story into the so-called Coase Theorem. The "invariant" version of this Theorem holds that given the assumptions that: (a) transaction costs are zero; and (b) property rights are clearly defined, then, (x) the ways rights and liabilities are assigned or exchanged (pattern of/design of law, institutions, etc.) WILL NOT affect (y) resource allocation. In other words, y is independent of (and invariant to) x. The "optimality" version of this Theorem holds that given (a) and (b), y will always be efficient. Both versions deal with exchange only and the two strong assumptions preclude innovations.

⁶ As free passage of his animals are affected.

In analyzing the practice of the Federal Communications Commission, in the journal *Land Economics*, he (Coase 1965) eloquently compared the allocation of land to the allocation of radio frequencies. Recall that Coase (1959) had earlier argued that market allocation of frequencies was a more efficient option to allocation according to bureaucratic discretion by the Federal Communications Commission. Coase (1965) now argued that if there were a “Federal Land Commission”, a government body, allocating land on the same principles and means of the Federal Communications Commission, the land market could not function efficiently.

No business would have any interest in economizing in the use of its land. Changes in land-use would come about only with great difficulty and would depend to a large extent on land becoming valueless in existing uses. Economic growth in the United States would be slowed by the shortage of land and the problem would no doubt call for Presidential attention (Coase 1965: p.163).

Obviously Coase presumed that any such Federal Land Commission would use the same mechanism as the Federal Communications Commission in allocating resources by non-price competition. Indeed, such a Federal Land Commission would behave like an ordinary planning authority so familiar to various types of practitioners in property development, but Coase

was not positioning it as a town planning commission, which does not normally sell land as a good.

“What has emerged can best be envisaged by imagining a situation in which a Federal Land Commission (the FCL (sic)) was given control over all the land in the United States and was instructed to dispose of it to users without charge. The position then would be that land could be obtained from the FLC for nothing or it could not be obtained at all. In these circumstances, applications for land from business, industry and individual would pour in to the FLC. Existing users, who would gain no financial advantage from disposing of their land to others, would resist any attempt to dispossess them of the land they were using. The excess demand over supply for land in many parts of the country would be appalling. The reasons advanced by the various claimants as to why they needed the land would be compelling and, up to a point, true. Extensive hearings would be required to determine what use should be made of any piece of land. The purposes for which the land was required would have to be examined, the character, competence and financial qualifications of the various applicants investigated. When land was awarded for one purpose, continuing inspection would be required to make sure that the way the land was used had not been changed without first having obtained permission from the FLC.” (Coase 1965: p.163)

The above is a situation of what the economist calls rent-dissipation: the transaction costs of non-price competition by such means as lobbying and litigation for land allocation are huge. The question is: What would

Coase have said if the “Federal Land Commission” were owned publicly and yet operated according to ordinary business principles (as in the case of Hong Kong as explained in the first case study below) in land allocation? How would such a “Federal Land Commission” operate as a private enterprise? Would it also act like a predatory monopoly, or a rent-seeking bandit?

Granted that land *as space* is identical in nature to radio frequencies as a “durable good”, this question is the same as what would happen if the imaginary “Federal Land Commission” was owned by a monopoly, which is not a-historical as we shall see.

In a paper published in the *Journal of Law and Economics*, Coase (1972) explained that this monopoly would charge a competitive rather than a monopoly price. In Coase analysis, interestingly, land was sold either at a flat monopoly price “A” based on marginal cost (MC) equals marginal revenue (MR) (i.e., $MC=MR$) or a competitive price “B” lower than this single price “A”⁷. No price discrimination was anticipated and the pricing regime was like that presumed by Samuelson (1961, p.151) for arguing that the

⁷ The explanation of Coase was made at page 143 with reference to a diagram at page 144.

lighthouse should not be priced due to zero MC – a presumption not rebutted by Coase, apparently unaware of the age old practice that light dues, a user charge, were levied according to tonnage (Lai, Davies, and Lorne 2008). Coase's (1972) analysis will be put into context by the case of sale of land by auction in Hong Kong since 1841 in the second case study.

To better understand the gap between economic theory (Coase 1965, 1972) and reality to be revealed in our case studies, there is a need to appreciate some fundamental differences between land and radio frequencies as economic goods in terms of partitioning (sub-dividing) and repartitioning (re-dividing or not after re-combination). Economists distinguish between exchange and production. This is why the famous book of Alchian and Allen (1977) was entitled *Exchange and Production*. The former is about barter and trade. The latter involves investment and innovation. Coase was concerned *only* with the *exchange* aspect when he compared land to radio frequencies, taking each as a commodity *per se*. He had no intention to dwell on the *production* aspects of the resources in question. Subdividing land, like cutting diamonds, is a planning, as well as a production, process.

Coase's comparison of land to radio frequencies is only an analogy not a congruence. Land and radio frequencies have sufficient dissimilarities that

different conclusions on governance may be drawn beyond pricing.⁸ Coase was not concerned with the subsequent *entrepreneurial transformation*⁹ of the resource once the initial rights were assigned or after they were traded.

Given the nature of the subject matter, efficiency in the allocation of radio bandwidths, what happens after they have been allocated is irrelevant. The fact is that though both radio frequencies and land can be easily privatized or commodified, land has an inherent characteristic that makes it different from invisible frequency bands.

Land can be literally and conceptually *sat on* and bettered so that it is *transformed* along time qualitatively into something else *in-situ* (i.e., in the same *geographically unique space*) by *entrepreneurial* innovations (Andersson and Andersson 2017) so that there is, in the technical vocabulary of the UK town planners and estate surveyors, a “material change” or “betterment” of land.

⁸ Coase was not responsible for this, as he was fighting a hard battle against an established government practice. He sought a more efficient mechanism for the initial delineation and assignment of property rights to a resource, and then their subsequent reassignment by the same mechanism.

⁹ Such transformation in the Austrian economic sense by innovators who aim not just at Coasian transaction cost reduction.

Betterment of property as a planned unit of space has both a spatial and temporal aspect and is not merely improvement or investment (Wallace, and Williamson 2006) It is boundary specific, as Lai and Davies (2017) explained, and the effects of improvements are accumulative *in situ*, a fact well known to planners and surveyors as *betterment* that happens through time but is not recognized as theoretically significant by economists.¹⁰ In Coase model of land monopoly, land as a good had only one physical attribute, area, which is assumed to be of uniform quality. The notion of planned land partitioning by a conscious cleaving process *per se*, as in institutional capital, is alien. The same treatment of land as a resource without any attention to boundary delineation in terms of “property rights assignment” was adopted by neo-institutional scholars like Libecap (1992, 2007) and Hansen and Libecap (2004). Such an approach might well be a simplifying assumption in an economic model which focuses on a few functions. However, using similar reasoning, a discussion of segmenting radio frequencies can shed light on the partitioning of land.

¹⁰ “Stretches of space, moreover, can be embellished, can be added to and improved upon, in a fashion which again does not apply to stretches of time.” Smith and Zaibert (1996: p.2) should have added that these changes as investment takes time.

A bandwidth is a bounded part of the radio frequency spectrum (e.g. X kHz – Y kHz) locationally fixed by: (a) the position of its transmission facility; (b) the power of its transmitter; and (c) the sophistication of its transmitter. In a sense therefore, a bandwidth can also be “transformed” by being more effectively used (i.e., by more and better information being packaged into the signal through technical improvement – wireless telegraphy to wireless telephony, AM to FM, etc.) and by better quality information being transmitted and received through similar technical means (i.e., less signal loss, noise, etc.)

However, note that there is a huge difference between partitioning land and partitioning radio frequencies. Land is at least two-dimensional, whereas radio frequencies are one-dimensional.¹¹ The transaction costs of dividing land are far greater than dividing frequencies for allocation. Above all, once land is subdivided and allocated according to a plan, it is enormously hard for it, as a two-dimensional and location-specific product, to be re-combined or reformed, unlike divided frequency bands. It is true that conceptually, subdividing or repartitioning land as a means of allocating or reallocating property rights may be as easy as allocating radio

¹¹ This is different from boundaries in “cake-cutting” of land in economics, as mentioned above.

frequencies (such as transposing the plan of London onto Paris vs replacing current radio frequency distribution patterns with other patterns) and that the transaction costs of endorsing the idea could be as much as can be inferred from land politics and the FCC's history of liberalizing its control. Still, the transaction costs of actually partitioning and repartitioning land are definitely higher than those, if any, of dividing radio frequencies.

In other words, the dual *locational* AND *entrepreneurial-transformational* institutional uniqueness of land, which goes beyond the concept of locational "specificity of land" articulated by economists (Fine 1982; Fuglie et al. 1991; Blake et al. 1999; Frieden 2000; Sjaastad and Bromley 2000), lends further support to the notion of the late economist Mancur Olson, who in theorizing democracy characterized governments as settled bandits for the fact that they levy taxes. Olson (1993) explained this idea, by referencing a Chinese roaming bandit, nicknamed White Wolf, versus a warlord, Y.K. Feng, to show that stationary bandits were, as a matter of empirically verifiable fact, preferred to roaming ones. His reason was that Feng was successful and the White Wolf failed.

This monograph takes up Olson's idea of the preference for stationary governance at a micro level.¹² It develops the thesis that the transaction costs of: (a) dividing and recombining/repartitioning tradable land, as physically unitized into land parcels within a layout, are far greater than (b) partitioning and re-partitioning marketable segments of radio frequencies. Informed by three real world examples, the analysis clarifies some theoretically important neo-institutional concepts and shows the economic significance of development on both *de jure* planned property and *de facto* property.

The key to understanding the first idea is that land is not only spatially *bounded, divisible, location-specific and improvable* (as these attributes are shared by radio frequencies), but also capable of *in-situ betterment* under communal or private ownership not just by adopting a new technology. Regarding the second idea, some delimitation of rights to land, even if not initially well-delineated, is conducive to its betterment and can lead to unambiguous demarcations of boundaries that are effectively controlled. In due course, these may even gain *de jure* status.

¹² The authors are indebted to Professor Ben T. Yu for this idea written in a recent work (Yu et al. 2017) and his work of 1985, which he shared with the first author.

3, Rent dissipation, rent-seeking & directly unproductive activities and institutional design in planning

Our inquiry is informed by a synthesis of three sets of received concepts in neo-institutional economic inquiry, namely: (a) rent dissipation; (b) rent-seeking & directly unproductive activities (DUP); and (c) institutions and institutional design. The first two were touched upon in Section 1. Each has generated strings of occasionally overlapping research, but they have seldom been considered together. The definitions are presented and their difficulties discerned before an attempt to connect them is made in relation to land.

Rent dissipation

In formal, resource economic analysis rent dissipation is often presented as the *dissipation* of the rent for a resource (say, fish) caused by labour units (say, fishermen) entering the scene of an open access resource (to fish) until every unit earns only its opportunity cost (such that the Value of Average Product (VAP) of labour hits Average Cost (AC)) (Gordon 1954, Cheung 1970, Copes 1972). The technique used is two standard neo-classical sets of curves. There is no room for transaction costs that, by definition, cannot

be captured by a neo-classical production function and, hence, cost curves.¹³

Existing participants tend to reduce their efforts as more entrants come along.¹⁴

In formal political economic inquiry, rent dissipation is the offsetting of the value (rent) of a resource under open access by the transaction costs of competition, including those of violence, as in a state of anarchy.

As mentioned in Section 1, government planning can result in rent dissipation by weakening exclusivity or relaxing access restrictions.

Rent-seeking and DUP

¹³ The rent disappears but is NOT shared. Transaction costs are not explicitly modelled, since these (if interpreted as the lack of communication and contracting between fishermen) are implicitly assumed to be infinity, though there is no reference to the cost of competition (say, through developing better extraction techniques/tools, fighting, sabotage, theft, etc.).

¹⁴ Cheung (1970) showed that this is consistent with the equi-marginal principle, as each participant will curtail efforts in the face of more competitors.

Rent-seeking as a concept emerges from an analysis of the competition for quotas in the economics of international trade and has, as explained below, been applied to land use policy studies.

The term can be traced back to the pioneering work of Krueger (1974), though the idea is usually attributed to Tullock (1967). It is redefined as “directly unproductive activity” (DUP) by Bhagwati (1982). This follows because rent-seekers create a monopoly by lobbying to transfer to wealth (as rent) themselves from others.¹⁵

Originally developed to explain phenomena in party-based *democratic* politics, informed by Olson’s point that interest groups can stifle economic growth, the concept has been applied to historical inquiry. Colonialism and imperialism, for instance, have been simplified as “rent-seeking” (i.e. a purely extractive venture by colonial powers by such means as monoculture crop-growing and mineral mining – see for instance Lake (2001), Naritomi et al. (2007); Congleton et al. (2008)). Such an application is empirically questionable, but is nonetheless in tune with Olson’s ‘bandit’ view of government, to which we shall return.

¹⁵ DUP, or resource-wasting competition, should be understood as a transaction cost. Nevertheless, the economics technique to demonstrate such waste is still neo-classical.

In land use and planning research, the concept of “rent-seeking” is frequently invoked in many articles on land use policies. An example is Epstein and Gang (2001). Of these works, several made references to the Coase Theorem, as in Larbi et al. (2004); Ho and Spoor (2006); Mooya (2011); Li and Ma (2009); Loehr (2012); Havel (2014); Lai et al. (2014); Tan and Zhou (2015); Lai et al. (2016a); Lai et al. (2016b); Munshifwa and Mooya (2016); Sánchez and Maseda (2016).

Institutions and institutional design

In terms of Coasian transaction cost reasoning, theoretically and historically speaking, rent dissipation and rent seeking can be shown to be related by referencing the concept of institutions. By definition, transaction costs, as costs that cannot be captured in a neo-classical production function, are *institutionally relevant costs*.¹⁶ Given the economist’s rationality postulate, institutions should arise to constrain rent dissipation (Yu 1985, Lai 1987, Cheung 1998b, 2014, Yu, Chen and Lai 2017). Similarly, rent dissipation caused by rent-seeking, should be kept to a *constrained minimum*, as rent-

¹⁶ Allen (1991) and Cheung (1998a) held that they are institutional costs. This view needs a careful interpretation, as some such costs may prevent institutions (e.g. firms) from emerging in the first place.

seeking is often an institutional phenomenon to begin with, although this is not a theoretical entailment.

Politicians who lobby are members of political parties (i.e., Coasian firms), who seek rent within a political system as an institution. Those whose wealth is being sought can resist (institutionally, if necessary) and/or contract with rent-seekers to develop win-win contracts (Yu 1981) and institutional structures, which go beyond the concerns of rent-seeking critics, even though they must have been aware of the institutional nature of rent-seeking.

To reiterate, rent-seeking is always a constrained minimum. The problems of what we may call a “blind bandit” or “short-term bandit” problem was looked at brilliantly by Ibn Khaldun (1332-1406) in his *Muqaddimah* (Bartlett 2012: p.1207). He was interested EXACTLY in why regimes collapse and, in some respects, could be said to have taken the view that poor institutional design necessitates increasing DUP by rulers resulting in ever increasing rent-seeking that of necessity causes regime failure. Khaldun thought of (and was thought of by Laffer) as identifying the Laffer curve:

“It should be known that at the beginning of a dynasty, taxation yields a large revenue from small assessments. At the end of the dynasty,

taxation yields a small revenue from large assessments. When tax assessments and imposts upon the subjects are low, the latter have the energy and desire to do things. Cultural enterprises grow and increase, because the low taxes bring satisfaction. When cultural enterprises grow, the number of individual imposts and assessments mounts. In consequence, the tax revenue, which is the sum total of (the individual assessments), increases....As time passes and kings succeed each other, they lose their tribal habits in favor of more civilized ones. Their needs and exigencies grow...owing to the luxury in which they have been brought up. Hence they impose fresh taxes on their subjects...and sharply raise the rate of old taxes to increase their yield...But the effects on business of this rise in taxation make themselves felt. For businessmen are soon discouraged by the comparison of their profits with the burden of their taxes...Consequently production falls off, and with it the yield of taxation.” (Khalidun 1969:230-231)

In other words, a blind bandit incurs an increasing cost of protection function similar to a state of anarchy.

As demonstrated by three case studies, the implications of this remark, which shed light on Coase’s understanding of a government monopoly of land, for the purpose of this monograph are two, granted that even on the “bandit government” approach, both “bandit” taxation and “colonial rent-seeking” *presuppose the existence of an institutional apparatus* that is engaged in DUP.

First, the institution – let us say a government – that enjoys a monopoly of both protection AND land, and behaves like an enterprising or innovative land company, would not simply or only seek rent. Rather, it would innovate and improve the land it administers – or at least encourage in some way such innovation and improvement to the extent that an *institutional capital* of a land system with various spatial and aspatial attributes is in place to create more rent for a degree of redistribution lest it faces a rebellion from those who pay tax – one factor behind the slogan “no taxation without representation”. Above all, it may also *increase* the total supply of developable land in a polity through annexation (Feiock and Carr 2001) and production by such means as polder development and reclamation from the sea (Lai, Lu, and Lorne 2014). Land is in this context, like a building erected on it, a capital good because it is in itself physically produced (not only by “opening up the wilderness” but also by a process of subdivision like diamond cutting) and is a platform for producing other goods and services. Subdivision in a sense is also a public good allocated by the state that aims at reducing externalities (such as traffic) compared to a situation where too many uses crowd onto a large site without partitioning. If properly carried out, differentiating a site into smaller units by subdivision can reduce a lot of transaction costs of mutual interferences and nuisance. For instance,

riparian “long lots” lower the costs of rivalry for access to water transport routes. In so far as the state always have a say on initial subdivision of land into lots and often also interferes with subsequent combination or further subdivision of lots, the land system (not to mention official apparatus like a land registry and a land court) is an important institution.

Second, even where the state is able to and is maximizing income from land by perfect price discrimination, its income would be subject to constrained rent-seeking and hence be redistributed – in which case it would cease to be a bandit and become a civil government.

To demonstrate that tax power over land resources even under state monopoly and rent dissipation in the absence of court enforcement of *de facto* property rights are both constrained, three real world case studies are reported. The narratives will make reference to Coase’s (1965, 1972) idea about a land monopoly referred to above and focus on the significance of land boundary in terms of transaction costs of partitioning and recombining private property parcels.

The first case study is the sale of land owned by the state as a monopoly that charged the maximum price on land by auction: a means of price discrimination akin to light dues for lighthouses (Lai, Davies and Lorne

2008). This real life example differs from Coase's hypothetical example of a land monopoly because it is not a private, but government, firm subject to *constrained* rent-dissipation. *De jure* land boundaries are defined by the state during a contractual planning process of subdividing and auctioning land, which allows for its betterment, but also poses potential transaction costs when there is a need to restructure the urban fabric layout.

The second case is about the transaction costs of tax law enforcement that constrained the monopoly power of the Chinese imperial government to tax land on the basis of area. This gave rise to a land tax system that was a *de facto* tax quota regime and to a "dual land system" in which the tenant paid a fixed rent and cultivated more land than the registered amount of land leased. *The de facto* boundaries of cultivated land emerged *ex-post* as a result of the dual mode of land rights allocation.

The third case is about zoned non-zoning through a land monopoly of the proper of a former Chinese fort. This monopoly was a tenant who was *ab initio* more powerful than the landlord, but was soon constrained by the growth in the might of the latter. This fort was well-known to the world as a "City of Darkness" (Girard and Lambot 2014) – a place of economic and development anarchy in which no building or subdivision code was enforced. It was a case in which spatially, the development choice set at the

ground level was delimited by the government as the *de jure* horizontal confines of unregulated development. Such officiated boundaries did not confer any exclusive property rights to or impose liabilities on the occupants of the land parcels they defined. Instead, they were used to confine *de facto* development by occupants within a politically acceptable area. To the government, this was a means to constrain anarchy in development. Previous *de jure* lot boundaries within the City, as recorded in official cadastral maps, were generally followed in post-war redevelopments even though the leases had all expired by 1920s and occupiers bought out by 1936.

4. Case study 1: Land sale by auction by a government monopoly of land

The colonial British regime, which started governing Hong Kong in 1841, was described as being banditry in communist anti-colonial literature on the history of Hong Kong. In economic jargon, this characterises the government as a rent-seeker for an insular hilly place with an excellent natural harbour along the sub-tropical China Coast.

One of the lasting institutional innovations of Hong Kong's colonial regime was its introduction of a system of selling leasehold interests over

land to prospective buyers by public auction. Although Hong Kong returned to China on 1 July 1997 and many things in this international city have changed since then, there has been no fundamental change to this land system. This is so even though statutory town plans have imposed an *additional layer* of control over land use, as governed by Crown Leases (deeds that incorporate all of the conditions listed in a contract) since 1939¹⁷. Many researchers have noticed the virtual absence of freehold land in Hong Kong,¹⁸ but most have ignored two dimensions of the way in which such interests are assigned.

First, a parcel of Crown Land sold by the government is, in most cases, delineated as part of a layout drawn by the government for a new development area, as was the case for most British colonies starting in the 16th Century. Second, unlike in other British colonies, a parcel of leasehold land in Hong Kong is not a gift or prize won via a land lottery, but a

¹⁷ Although the *Town Planning Ordinance* came into being in 1939, the first statutory town plan was not gazetted until the 1950s. All statutory town plans had to be redrafted lest they be ruled null and void for uncertainty due to *Singway Co., Ltd. v. Attorney General* [1974] HKLR 275.

¹⁸ The only freehold land plot is the lot along Garden Road where St. John's Cathedral, the Church of England, stands.

commodity transacted on an open market through auction (and later occasionally by tender).

Prior to a land auction, a government surveyor lays out the area for the land sale, while the land officer (now estate surveyor) prepares a set of conditions of sale that specify the duration of the leasehold interest, land use, and form of development for the plot of land mapped. It also works out a setup price, below which the government may not sell the land. Immediately after the auction, the highest bidder would pay the government a land premium and sign the conditions of the sale as a simple contract under hand. Upon development, he will receive, in due course, a Crown Lease, which is a deed¹⁹, which incorporates all conditions as listed in the contract with a lot plan that clearly delineates the land parcel. The lot in question can be very small or big. Note that leasehold interests, like freehold interests, are *bona fide* private property rights. The only difference is that whereas the term of years for freehold land is not pre-specified, that for leasehold land is pre-specified on grants. It is untrue that freehold interests are permanent, as the sovereign state can revoke both types of tenure.

¹⁹ The *Conveyancing and Property Ordinance* provides that a deed is deemed to be issued when all positive covenants of the conditions of sale, etc., are fulfilled and a certificate of compliance is issued as conclusive evidence.

These features work together to render Hong Kong's leasehold land system an institutional arrangement for planning and development by contract, by which a developer *purchases and implements* a government town plan of a given size at a price it considers commensurate with the conditions specified for the land parcel before a sale (Lai 1998, 2005a, 2010). Government planning is involved in drafting the layout, which carves up Crown Land into units or lots of sizes and shapes deemed fit for the area, and the conditions of sale as a development plan within the framework of the layout for the lot to sell via auction. Here, freedom of contract is in action and planning is not done by state compulsion. The system adapts to technological and economic changes by mutual agreement between the government and the lessee. When a lease becomes outdated or unfit, its holder can negotiate with the government for better terms and cash considerations due to such a modification.

One may wonder why the government was moved to enact a town planning law, the *Town Planning Ordinance*, in 1939. Most likely its initial purpose was limited to subjecting lease modifications to public scrutiny for better town planning. Later, the desire that redevelopment, even where there is no need for a lease modification, had to be better controlled became

obvious.²⁰ The chief concern over this desire was that an intensive subdivision of original land lots in favor of denser urban developments generated many traffic and quality of life problems as times went by. The transaction costs of altering streets, combining sites to achieve better designs, and efficiency²¹ became huge before it was realized that statutory development control on top of land administration concerns was essential.

The use of auctions in economics is *price discrimination of the first degree*, as they compel prospective buyers to reveal their willingness to pay. This is a real life practice that Coase did not consider in his land monopoly model (1972). Some commentators condemned this practice as a “high land price policy” without considering that high land prices was at least partially due to better land quality for all of Hong Kong as a result of good government planning, a point that the authors will elaborate on later.

Relevant to our discussion is that the land ownership system in Hong Kong is not freehold, which some economists (see, for instance, Bromley

²⁰ For a quick appreciation of Hong Kong’s development control processes, see Lai et al. (2017).

²¹ See Prescott (1971) for an excellent account of the difficulty of urban restructuring in Hong Kong.

(1998)) criticized for being anti-social. But it matches what Coase (1972) had in mind: namely one body ultimately owns all land except the state. However, its pricing system has not been as perfectly competitive as Coase predicted. Instead, it is based on price discrimination.

The significant economic and social outcome that has resulted is that this land monopoly, being that of the government, has redistributed its land income by funding a huge subsidized rented public housing market and education sector and sustained an *ex post* surplus budget. Squatters on government land were tolerated and, without any income test, were entitled to public housing if land was required for clearance for government land sale. Poor squatters could join a queue for public housing units (Lai, Chua, and Lorne 2014). One prominent economist correctly identified land sales in Hong Kong as a means of land taxation (Jao 1976), from which social spending under an originally self-imposed and now constitutional *ex ante* balanced budget fiscal regime was drawn.

The saga of the administration of Hong Kong by a land and tax monopoly testifies to the proposition that the institutional arrangement or governance of land under one private firm, in the true sense of the word

contemplated by Coase (1937), would be substantially different from the situation under a government in reality.

Regarding the theoretical question over the relationship between land boundaries and betterment of land, Hong Kong's case is instrumental in demonstrating that the former is the precondition for the latter at two levels. At the territorial level, the government as a land monopoly holder, makes innovations on and improves the land it administers through better layout planning supported by a gradual improvement in the infrastructure through public works. It also improves the environment through planting trees.

As Home (1997, p.37) wrote, generally for British colonies, "the land surveyor was an explorer, resource appraiser, town planner, delineator of routeways, and the shaper of landscapes both urban and rural." British surveyors quickly surveyed Hong Kong from the outset to prepare the town to serve as a port city and station for the Royal Navy. Experimentation with the drafting of the terms of land sale (and, therefore, the Crown Leases) were ongoing and varied by the lease times and restrictions on land use and building forms. Very old lots received 999-year terms that were eventually shortened to 50 or 75 years. In due course, minimum lot widths, setbacks from street, "obnoxious trade clauses," rate and range clauses, and "design,

disposition, and height” clauses were introduced for individual lots. However, more important was the constant modernizing of layout designs in newly-opened areas, which was in line with what was occurring in Europe.

A grid iron pattern of roads and lots was adopted when Kowloon was acquired in 1860. It achieved great permeability for pedestrian and vehicular traffic in an area with Chinese tenement housing and industrial and commercial development. A “garden city” layout was introduced for Kowloon Tong, which was designed as an exclusive residential neighbourhood with detached houses in New Kowloon, New Territories. All of these plans were implemented before the *Town Planning Ordinance* of 1939 came into being.

Soon after the British administration returned to Hong Kong in 1945, Sir Patrick Abercrombie was commissioned to go to Hong Kong and work out a long term development plan for it. His scheme was broad-brushed, but provided major directions of development for the next 50 years (Lai 1999). Modern town planners, as a distinct professional group, appeared in government and replaced surveyors in laying out new areas opened up on

Hong Kong Island and in New Kowloon.²² The age of grid iron layout was gone. The use of loops was extensively applied to such areas as Jardine's Lookout and Cloud View Road on Hong Kong Island; San Po Kong–Diamond Hill–Wong Tai Sin and Kwun Tong in New Kowloon, and Kwai Chung in the New Territories. Besides, there was an attempt to introduce hierarchical differentiation to roads after Colin Buchanan's (1963) *Traffic in Towns* was made in the 1960s. Meanwhile, the conditions of sale and Crown Leases became more elaborate and provided physical planning platforms for betterment of land due to the entrepreneurial innovations of the lessees and their tenants.

It is true that the obsolescence of the original layouts, especially those made before the age of motor vehicles, is a common urban planning problem. Buchanan's recommended solution was comprehensive replanning (Buchanan 1956, 1961). However, this has never been successful in most cities. In any case, laying out land is, in itself, a form of betterment that can be compared to the cutting of diamonds.

²² The laying out of new towns was often done by planning consultants.

Land, like diamonds, becomes better in quality through proper division. How well this is done is a matter of professional competence and skill. One can be easily attracted to a well-polished diamond, whereas a well-planned town could usually go unnoticed. In fact, laying out a town is far more complicated than cutting a diamond given the factors that must be considered. One concern is the engineering concern over surface runoff, as noted by Rood (1909) and Freestone (2014). Another is the near-irreversibility of a land subdivision due to the huge transaction costs of land assembly and changing road patterns. Like a cut diamond, a land partition cannot be altered at will.

The significance of the planned unitization of land and betterment/complications due to the delineation of land boundaries are things that had no place in Coase's (1972) model of a land monopoly because land was just a quantum of uni-dimensional goods (like radio frequency bands), with area or perhaps yield being the sole feature rather than units arranged orderly in specific locations in relation to other land parcels.

The most important public works unique to colonial Hong Kong was the construction of a water supply and reticulation system based on

reservoirs by damming valleys and expanding the urban area through reclamation. The latter process increased the stock of total land supply – a land production activity of a land monopoly not captured in Coase's (1972) model. The drive to reclaim land was to initially stop marine lot holders from making haphazard private reclamations. Later it was a response to the protracted exertion of pressure by either Hong Kong's business community or the Admiralty to create more usable land in convenient locations along the waterfront of Victoria Harbour.

As Hong Kong was never a plantation for European settlers and only intended to be a base for trade with China, the colonial government did not extract resources from the land, which was detested by Palmerston as a "barren rock". The bareness was unnatural and a result of open access: centuries of deforestation by Chinese loggers for housing and shipbuilding in the Pearl River Delta. The arrival of the British brought along not only a system of price-competitive land sales, but also a policy to reforest this hilly trading post in the Far East. **Table 1** shows the sustained efforts of the colonial government in tree planting from 1880 to 1939. To this day, almost 75 percent of Hong Kong's land remain undeveloped green hills, most of which are water catchments and country parks. That is not in line with

Coase's 1972 revenue maximising model or an Olson bandit taxation scenario.

| Year | Number (Area) of trees planted |
|-------------|---------------------------------------|
| 1880 | 781,986 |
| 1881 | 777,914 |
| 1882 | 1,096,230 |
| 1883 | 1,157,609 |
| 1884 | 714,159 |
| 1885 | 573,176 |
| 1886 | 299,911 |
| 1887 | 374,882 |
| 1888 | 682,325 |
| 1889 | 601,211 (500 acres) |
| 1890 | 556,982 (463 acres) |
| 1891 | 115,081 (90 acres) |
| 1892 | 356,663 (296 acres) |
| 1893 | 279,648 (232 acres) |
| 1894 | 63,607 (53 acres) |
| 1895 | 55,664 (46 acres) |
| 1896 | 29,949 (24 acres) |
| 1897 | 26,066 (21 acres) |
| 1898 | 33,923 (27 acres) |
| 1899 | 54,582 (44 acres) |
| 1900 | 86,734 (71 acres) |
| 1901 | 139,084 (115 acres) |
| 1902 | 73,692 (60 acres) |

Progress in Planning

| | |
|------|---|
| 1903 | 5,395 acres |
| 1904 | 111,198 |
| 1905 | 177,368 |
| 1906 | 217,505 |
| 1907 | 236,266 |
| 1908 | 317 + (621,554 pits in 9,246 acres) |
| 1909 | 389,533 |
| 1910 | 103 + (528,200 in 400 acres) |
| 1911 | 6,200 + (418,915 in 300 acres) + 70 acres |
| 1912 | 186,051 |
| 1913 | 80,240 + 1,000 (trees & shrubs) |
| 1914 | 67,700 + 3,100 (trees & shrubs) |
| 1915 | 92,030 + 8,900 (trees & shrubs) |
| 1916 | 93,370 |
| 1917 | 49,000 |
| 1918 | 158,000 |
| 1919 | 90,134 + 632 (trees & shrubs) |
| 1920 | 12,099 |
| 1921 | 54,661 |
| 1922 | 137,031 |
| 1923 | 103,875 |
| 1924 | 126,337 |
| 1925 | 226,802 + 104 (trees & shrubs) |
| 1926 | 75,234 |
| 1927 | 197,476 |
| 1928 | 196,500 + 203 (trees & shrubs) |
| 1929 | 276,480 |
| 1930 | 277,741 |

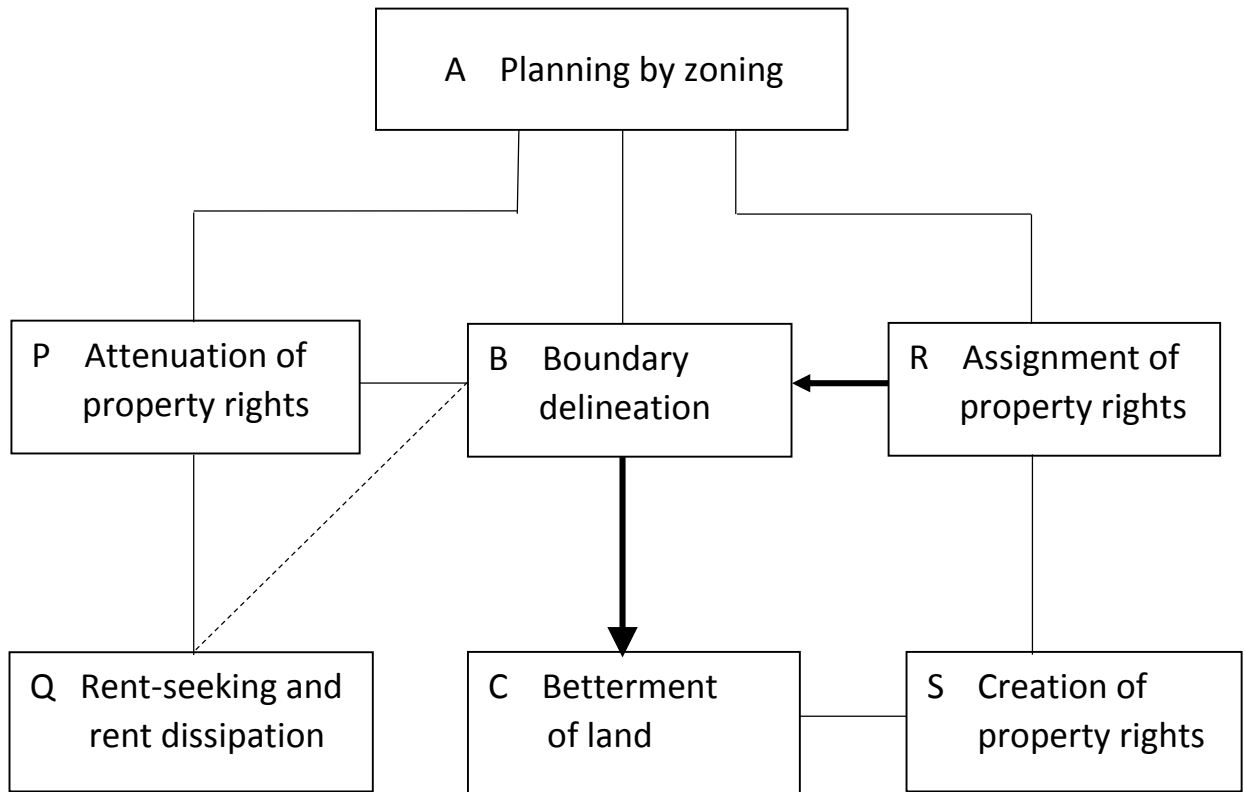
| | |
|------|--------------------------------|
| 1931 | 94,753 |
| 1932 | 259,825 |
| 1933 | 340,679 |
| 1934 | 233,375 |
| 1935 | 295,392 |
| 1936 | 308,534 |
| 1937 | 369,652 |
| 1938 | 261,834 + (9,264 in 238 acres) |
| 1939 | 1,816 + 134 acres |

Table 1. Trees planted by government in Hong Kong, 1880 to 1939

Sources: Hong Kong Government Administrative Reports, Colonial Reports, various years 1881 to 1939.

At the micro, or land purchaser, level, a developer, having purchased a plot of land through an auction, has a choice to develop it into property units to generate a profit by selling them or hold the development as an investment vehicle, while keeping an eye out for a redevelopment or lease modification opportunity. In the second scenario, betterment follows investment for a clearly-delineated plot of land. **Figure 2** shows this relationship, which is in line with the standard prediction of neo-institutional economics informed by Schumpeterian innovation (Lai and Lorne 2014), in which clearly-defined property rights are conducive to more efficient resource use and wealth accumulation. It may be said to be

Hayekian, too, as it is predicated on a well-established system of private property rights and rule of law introduced by the British, which the *Basic law* of Hong Kong expressly protects. What is novel is factoring in property boundaries as a spatial dimension of such rights and pinpointing betterment as the consequence of innovation.



Case Study 1 : R → B → C

Figure 2: Betterment following boundary delineation of land

Economic theory aside, the authors should stress that Hong Kong's experience is by no means a "small," "parochial," or "insignificant" Far East case for the rest of the world. First, all the business world knows about Hong

Kong is that its land is very expensive and its government has a huge fiscal surplus. Many real estate research papers on it were published because data on the value and number of property turnovers there are huge, truthfully recorded, and publicly available. Second, and above all, colonial Hong Kong's land lease system served as the model for "land use rights"²³ reforms in China (Lai 1995), which is one of the fastest-growing land systems in the world. Many other jurisdictions are also predicated on leasehold land tenure. Examples are Israel and Australian Capital Territory.

5. Case study 2: Imperial Chinese land taxation in the absence of government knowledge of area under cultivation

Imperial China's land tax system was a useful real life example of considerable theoretical significance that contrasted with Coase's (1972) land monopoly model. The Ming Chinese emperors, archetypes of an "oriental despot" through a long-established dynastic tradition, claimed *de jure* ownership of all land. Therefore, the Imperial system fitted Coase's model in terms of *monopoly ownership*, as in the case of colonial and post-handover Hong Kong. However, it did not sell, but rather granted, land

²³ Actually the rights include rights to income and transfer.

according to Imperial favours (i.e., the non-price allocation of resources) like some British colonies for plantations. Therefore, it resembled Coase's (1965) imaginary Federal Land Commission in allocating resources.

Chinese subjects held land at the pleasure of any new emperor once the Ming reunified China by winning a war to oust the preceding Mongolian Yuan dynasty. To begin, land allocation to tenants in Imperial China for farming sharply contrasted with land allocation in urban Hong Kong via auction: the former was not done according to a layout, map, or grid system such as that used to distribute land in the American West to colonists (Allen 1991; Libecap 1992, 2007; and Hansen Libecap 2004). No cartographical pre-delineation (planning) of property boundaries occurred when land rights were allocated. Scholars traced this practice to the 14th Century (Huang 1981: p.61).

Old Chinese maps of the countryside were invariably works of art that presented place names and landmarks in a topological manner rather than turned them into to-scale graphical representations of the ground features. The Ming Dynasty (1368–1644) conducted only once a national cadastral survey for agricultural tax purposes. The result was a “fish scale atlas”. The succeeding Qing Dynasty conducted a single survey of China as a conquered country for the same purpose in 1646 (Elman 2003). It froze all taxes and

honoured this policy for its entire reign, which ended in 1911. However, the Qing relied on obsolete and far-from-accurate Ming records (Watson 1977; Hase 2013), supplemented by the 1646 cadastral survey, to levy agricultural taxes.

Those who farmed land had to obtain it by grant and register it in a county register for the purpose of taxation. The description of a land grant was that of a written document that specified an area and location with no mapping information. The tax levied was proportional to the area of the plot. The unauthorised opening of new land for cultivation was outlawed by written statute under the pain of severe penalty. The register kept a “fish scale atlas,” which showed the size and pattern of land parcels owned and the names of the landlords. Land tax was payable to the office of the county magistrate, who had a duty to send all land taxes collected to Peking (Beijing).

The magistrate, a successful candidate in a national public written examination, was rotated every three years to prevent him from becoming a local power. Poorly-paid by the central government, which stressed frugality as a moral standard, he controlled no budget but was answerable to the emperor for county administration, that is, there was no link between the taxes raised and the money available for spending locally by the magistrate. However, for possible promotion his superior in the bureaucracy

assessed his performance in the county in terms of what he achieved for its stability, peacefulness and prosperity. To have funds for local public spending, the magistrate had to beg for donations from wealthy individuals and merchants and, to increase that likelihood, demonstrate that he was a good “parental” official, who was fair and just in adjudicating county disputes and by being a moral exemplar in his adherence to Confucian ethical norms. Superficially, this could be a system of monopoly rent appropriation by a centralist state that monopolized not only the use of violence, but also the use of land.

Land taxation can be seen as colonial rent-seeking in a county by the state that “created” rent by edict and did nothing in return for the county. In fact, this state of affairs actually generated a *de facto* institutional arrangement in which the state turned a blind eye to the secret expansion of land under cultivation or investment in such land and the private accumulation of wealth. From historical research, the land tax system was actually a quota, rather than a proportional, tax regime (Hase 2013: p. 34; Lai et al. 2015). What evolved to constrain central taxation was a “dual land system,” which recognized two layers of land rights: land bones and land skins.

This system saw a division of labour. On one side were the *de jure* land owners, who held “land bone” interests and dealt with tax payments to the county, but did little or no farming. On the other were their tenants or the holders of “land skin” interests, who cultivated the land and paid an agreed annual rent to the landlord. The typical rent payment was fixed and the tenancy perpetual, something unintelligible unless the transaction costs of the state’s survey of the land farmed were taken into account.

The land bone holders did not bother about the actual use or sub-leasing of their registered land by the land skin holders. The typical land skin holder, paying a fixed rent, had an incentive to farm more than the area officially registered. Theoretically, by doing so he could become economically better off than the land bone holder from whom s/he leased the land. However, mere economic wealth was not, within the system, such as to allow a land skin rights lessee to advance herself/himself socially. The land bone rights holder, in virtue of that position and in contrast to his/her lessee, had better access to public examinations and, hence, a higher social standing.

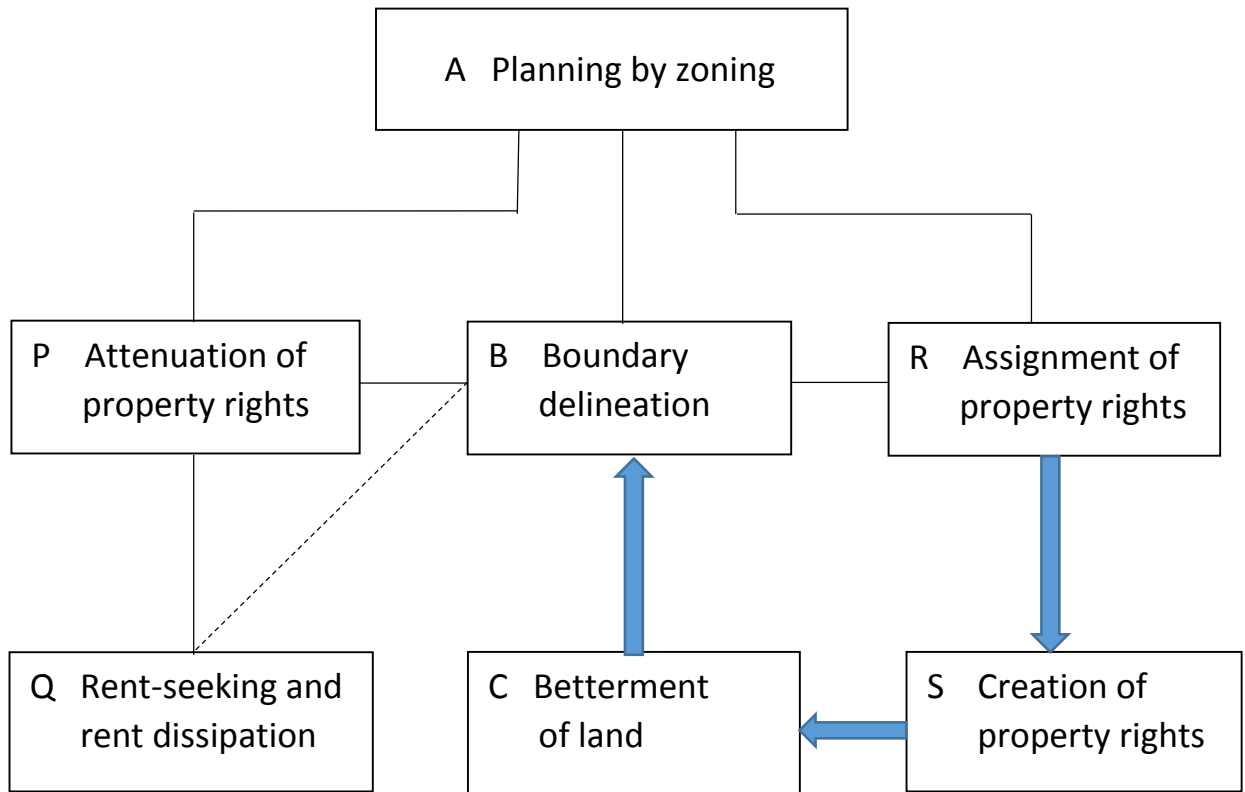
In addition, the land skin holders could not default on their rent payments save in exceptional circumstances such as a crop failure. Usually the landlord would not maltreat her/his lessees and would by one or other

means (usually in effect standing surety) insure them against the risk of their inability to pay the imperial tax as the land skin rights holders were not registered. The peculiar land leasing arrangement became effectively part and parcel of a *de facto* imperial tax quota institution. This system is not progressive taxation and in this form at least, may be thought to stimulate private enterprise.

The officially illegal cultivation of vast areas in China was rampant. The imperial bureaucracy, like all such, suffered from institutional inertia. Where the land was concerned this acted as a positive brake preventing any re-survey once the first comprehensive work that produced the fish scale maps was complete. In turn that prevented any increase in tax revenues. Taken together these could be construed as rent-seeking as actual land use moved further away from the original fish scale map valuation.

How this actually worked is this. A large proportion of land owners were also officials. Since all tax collected was sent to Peking, they feared that any land re-survey would stir up local resentment with no concomitant improvement in local development. One result was inertia; the other was that the land tax became a form of "tax quota" assessed on a one off registration of land area. As long as that tax was duly collected, the state did not bother updating the register. Researchers have found that the amount

of land cultivated as well as its productivity increased as time passed (Rawski 1972: p.19; Ho 1975: p.417; Hayes 1977) and the system surely benefited China prior to its major encounters with the West – first in trade and then in war. By default, due to a re-survey's high transaction costs, rent-seeking by the state was constrained and the state, aiming for long term, secure rent payments and social stability, did not behave as a thoughtless stationary bandit.



Case Study 2 : R → S → C → B

Figure 3: Boundary delineation of land upon betterment

Land skin owners surely knew the *de facto* boundaries of the land under cultivation, as they were demarcated by field bunds and other “metes and bounds”. When Britain obtained a 99-year lease of land in a region

called the New Territories (a tiny coastal part of San On County), they surveyed land actually inhabited and under cultivation. The boundaries of these so-called demarcation district lots were recognised as *de jure*.

In terms theory, the above state of affairs can be illuminated by the Third²⁴ Coase Theorem (Lai et al 2015), which was mentioned by Coase (1988: p. 158), that the delimitation of rights is a prelude to market transactions. This theorem does not require a highly developed system of private property rights or well established rule of law advocated by Hayek. It can in fact be seen as a neo-institutional twist of Adam Smith depiction of man's "propensity to truck, barter and exchange."

6 Case Study 3: Kowloon (Walled) City

The standard economic prediction for the absence of private property rights over a resource would be a process of rent dissipation. Kowloon City, as a neighbourhood in Colonial Hong Kong, has often been commentated on in terms of its externalities and its political background, but seldom on its property rights system. Its saga is actually an ideal case for examining genuine *private planning* or "non-zoning" and development in the absence of state-enforced property rights. Due to China's dispute over British

²⁴ As distinguished from the First and Second formulated by George Stigler,

jurisdiction in Kowloon City, stripped of its stone walls by the Japanese during the war, the colonial regime did not clear the buildings within its historical boundaries, though officially they were declared ‘squatter structures’ and as such were un-registrable by the Land Registry.

The state later called this then wall-less entity the “Kowloon Walled City” (KWC) and claimed complete *de jure* control it within the confines of lost walls, but *de facto* development inside was exempted from, because in a sense invisible to, town planning or building laws. Although a series of outline zoning plans zoned the City as “commercial/residential,” as a sign of government planning control (Lai and Chua 2017), no building law was enforced. The alignment of the lost walls was used by the government as the limit of the *de facto* development of what it regarded as squatter settlements (Lai, Chua, and Ching 2017).

Building construction and redevelopment took place within the KWC in the absence of the state supply of water, sewage disposal, building regulations, and court adjudication/enforcement of private property rights over land, although other Hong Kong laws applied. It was not an isolated ghetto, as there was perfect freedom of movement of goods and people into and out of the KWC and residents enjoyed the same welfare as other lawful residents of Hong Kong amongst whom, in all bar where they lived, they

counted. One would imagine that rent-seekers would invade the KWC and fight among themselves for rent in an anarchic situation.

In reality, rent dissipation in land use due to the refusal of the state to recognize property unit titles inside KWC was constrained by the emergence of an institution, a community association, which played the role of witnessing and registering property transactions within the KWC (Lai et al. 2016). While the rental values of these units were one-third lower than those of comparable units in the rest of Hong Kong, no violence over the assembly of *de facto* land “titles” and intensification of use to capture a rising property market was reported and property transactions were orderly.

The buildings, deemed illegal by Hong Kong law, were equipped with communal elevators and water supplied by private water merchants. There was never any disease outbreak, building collapse, great fire, or major gang fight or riot within the KWC. The community association was seen by the colonial administration as Communist in political affiliation, so one may argue that it was a rent-seeking group seeking to subvert British rule by organising campaigns to resist attempts by the government to clear the KWC. However, it functioned as an institution that protected *de facto* private property rights within the KWC, as well as a credible political protector, witness, and register of property transactions, all of which helped create a

quasi-*de jure* property rights system. As a result, when the KWC was demolished to build a public park, the government conferred private property rights on all “owners” who lived there by compensating them, which allowed them to buy private housing units built by the Housing Authority.

As far as the property boundaries of the *de facto* development were concerned, studies have shown that the previous *de jure* lot boundaries within the KWC were generally followed in post-war redevelopments, even though the leases had all expired by the 1920s (Lai et al. 2016).

The situation of the KWC is like a corrupted form of **Figure 2**. Post-war private redevelopment involved some land improvements, as high-rise buildings are less susceptible to fire than wooden shacks and spread population density vertically. Still, certain environmental standards, such as natural light penetration and portable water supply, were inferior to those of ordinary high rise private housing units of the time.

As in Case 2, this example testified to the Third Coase Theorem, as developers acted rationally within clearly delineated city boundaries defined by the colonial government in carrying out private redevelopment that

respected previously existing *de facto* boundaries of old houses (Lai et al 2017).

7 Discussion and Conclusion

The title of Coase's (1988) book, *The Firm, the Law and the Market*, summarises three concepts of land boundaries for the planner. The government planner, as an organisational person who is much unwelcome by libertarian thinkers²⁵ as a visible hand of the state, generally glosses over the property boundaries of individual proprietors. New zoning boundaries are imposed on pre-existing properties to subdue various policy concerns that go beyond individual sites. These concerns are what economists call externalities.

The lawyer sees property boundaries as a form of *rigidity* to be determined by the judge in a court battle (Blomley 2014). Neo-institutional

²⁵ Political theorists recognise an expanding range of variants of libertarianism, say classical liberal, minimal state libertarian and anarcho-capitalist libertarians, minarchists and anarchists. For economic libertarianism, legal economists like Posner (1995) simply take them as those who support court enforcement of freely made contracts that generate no social harm. For the purpose of this manuscript, this term refers to those who ideologically object to government planning intervention.

economists influenced by Coase trust the market (i.e., freedom of contract) to internalise externalities as a matter of *exchange*.

Contract-theoretic Coasians, assuming that they are given the best technology, are not concerned with production, not to mention locational-specific betterment, as they focus on the efficiency of transactions or a trade of rights. Goods, be they land parcels or radio frequencies, are deemed uni-dimensional and homogenous and incur zero transaction costs during partitioning and repartitioning.

Economists engaged in a game-theoretic, cake-cutting deal with land, as if it were a piece of cake: there is no transaction cost in partitioning existing land. Nor does this cost vary according to the way of cutting up a land cake, not to mention repartitioning it.

This monograph argues that property boundaries are important for enabling *in-situ* entrepreneurial innovations for social and economic intercourses and investment rather than for the sake of exclusion, autarky, or trespass claims. When such boundaries are delineated on land controlled by a land monopoly, their role in relation to investment differs by case. It stresses the contribution of planning to these innovations by subdivision of land.

As the first case study revealed, when a land monopoly practises price discrimination during a land sale, it does not merely behave like a firm selling a homogenous product, but also carefully plans the shapes and locations of the resource subdivided, which enables improvement. When it allocates land through non-price allocation, as in the second case study, land improvement would eventually lead to boundary delineation. When this monopoly is unable to exert full control over a plot of land due to a dispute over its ownership, as in the third case, it would seek to delimit the scope of the dispute through zoning, which would compel its occupants to follow whatever rules of subdividing exist or combine their land holdings.

The first case was certainly in line with the thinking of Hayek, who stressed a well-established system of property rights backed by the rule of law. Land boundary delineation is the precondition or means for improving land and is Coasian-Schumpeterian (Lai and Lorne 2014). The positive role of the state in planning via layout preparation and stipulating the development conditions can hardly be considered interventionist, but it is not in tune with libertarian thinking.

The second case is far more interesting, as it is in tune with spontaneous thinking because boundaries are defined from the bottom-up. However, *de facto* toleration or *de jure* recognition of these boundaries hardly avoids state

involvement. The resolution of international boundary disputes, often involving conflicting maps that show *de jure* or *de facto* boundaries (Stenberg 1931), is a case in point.

The third case illuminates the idea of private planning in the absence of effective government planning controls. The reality, as shown in the case of the KWC, is neither an example of an anarchist paradise nor a complete rent dissipation nightmare. That developers paid respect to former *de jure* property boundaries and an informal land registrar emerged to witness and record transactions points to the rationality of people working under ambiguous property rights within an area clearly delineated, i.e. planned by government.

Coase's (1988) book also affirmed the Third Coase Theorem which, as pointed out, applied to the second and third cases. This important theorem was in fact first stated in Coase's (1959) treatise on radio frequency allocation by the FCC, a subject that brings us to his treatment of land by a monopoly. This theorem sheds light on the economic revolution of post-Maoist China, as prophetically expounded by Cheung in a book published by the Institute of Economic Affairs, *Will China Go Capitalist?* (Cheung 1986) In spite of obvious problems of corruption, officially acknowledged to be serious and in need of a high handed policy, and issues about the rule of law,

China has continued to grow in economic power. Coase has beaten Hayek in theorizing about institutional requirements for economic development.

Coase's (1965) comparison of land to radio frequencies raised the curtain for this forum discussion of the implications of land as being unique as real property in providing the physical support to all territorially dependent things and activities. That is, it is location-specific and improvable, supposing there to be successful innovation, in terms of institutional design, that goes beyond merely constraining rent dissipation or rent-seeking. Boundaries, as the examples show, can be planned *ex ante* to seed betterment, defined *ex post* upon betterment or followed even when they lost *de jure* status.

The three case studies all point to the fact that any rent dissipation on land resources is subject to constraints devised by institutions that take on a governmental, or "stationary bandit" status. In defending his case for the replacement of bureaucratic allocation of radio frequencies by the Federal Communications Commission, Coase and Johnson (1979) invoked the human right concept of freedom of expression. The question of land is of no less importance as land is essential for territorial living and thus the right to live.

This work explains that “rent-seeking” by the government in relation to land is constrained, whether an Oriental despot or a colonial government, even though it may be very powerful and exercise the great power of monopoly power due to its ownership, as a matter of authority (Bromley 1991), as sovereign. A government is, after all, not a commercial firm and has objective functions other than maximizing profits.

Three Questions

To complete our analysis, three questions worth asking. First and more proximate: can the sea, as a two or three-dimensional resource, be treated the same as land? The surface of the sea can be “partitioned” in the same way as land by marine zoning and can be “sat on” (i.e., not reclaimed, which would destroy it), if a pneumatic stabilized platform (PSP) (Lamas-Pardo et al. 2015) were constructed and allow for its improvement. For planning jurisdictions with a shortage of developable land due to ecological or property rights constraints, a PSP could help ameliorate any surging demand for space. Singapore and Japan have had success using PSPs for major land uses like sports and aviation. If imaginatively designed, this technology can

promote sustainable development by reducing damage to natural shoreline ecology and enabling new combinations of maritime and land based uses.

As a digression, it is worth noting that one issue of great historical significance in Hong Kong, as a near-land monopoly, is the absence of planning for its traditional maritime population, the Tanka (Fung 1998; McKercher and Fu 2006), or boat dwellers. Their boats can berth in typhoon shelters, but this is not an exclusive designated maritime place for their boats or any floating structure.

The second question is the drive to free development from the confines of pre-existing boundaries on land and to address the problem of externalities. “Transfer of development rights” is a planning concept for rationing a quota of new development quantum over a given delineated area to land owners or developers (Janssen-Jansen 2008). The logic behind this is one of “cap and trade,” which has been applied to create new markets for trading the rights to atmospheric pollution (through the generation of carbon gases). When honestly implemented and followed, this is a viable, more efficient, and spatially flexible Coasian alternative to a Pigovian tax on all production

The common planning concept of a setback and a less well known notion of a “promerium” are interesting points to cross boundaries issues. A setback is normally imposed as a development control requirement for a minimum distance between the façade of a building from a public street or from the boundary of the lot. The rationale behind this is for better urban landscape design, conservation, and local environmental protection purposes. A setback prevents buildings along a street from forming a contiguous wall, thus allowing for better ventilation and fire safety.

The reverse application of this concept or planning tool is an outer “promerium” or, in modern jargon, a buffer zone or non-building reserve, within which no structure or physical object may be erected. Therefore, for instance, one may not build near the outer perimeter of a defensive wall of a fort or prison. Rather than being an expansionist annexation of land, a promerium is often an indispensable security measure and a way to foster better awareness of the presence and design of a building or structure that stands within property boundary. The width of a promerium is often fuzzy, as it is not actually the proper of the land bounded by *de jure* boundaries. (Lai et al 2017)

The setback can be seen as a self-withdrawal movement that donates to one's neighbours and the public some private space along one's land boundaries. The promerium is a kind of advanced *de jure* boundary for the protection of a bounded space. Both can also be seen as a forced investment in some kind of collective amenity (i.e., betterment of land) that is impossible by building by one or others right up to one's proprietary boundaries. \

Last but not least, are land boundaries within a jurisdiction the same as international boundaries? We began our inquiry with a statement on Rousseau. When Rousseau asserted civil society existed through the enclosure of land with a fence by individuals, he proposed a bottom-up social contract theory of the state. He assumed the basic goodness of human nature when he began his project on society and government. Neo-institutional economists (see, for instance, Yu et al. (2017)) also worked out a bottom-up contractarian theory, but tend to adhere to a Hobbesian state of nature in a highly tense situation of war waged by one against everyone else than a Rousseauian or Lockean understanding of harmonious human existence in the absence of the state. Therefore, they would qualify Rousseau's ring-fencing of land example, taken out of context, by either the individual's ability to sustain the boundaries claimed *de facto* or the

recognition of the claimed territory *de jure* by a higher authority of protection that can and will adjudicate disputes and enforce their judgements. In any event, some prior concepts of rights socially recognised are pre-supposed for the fence to be a sign and basis of territorial control, as depicted in **Figure 3**. To find “people simple enough to believe him” under Rousseau’s formula, which was embedded with “a relationship of self-consciousnesses” (Greene 1969: 62),²⁶ is, in fact, not simplistic, as it implies a social relationship between shared values (i.e., social capital), if not an institution already in place.

International boundaries or borders are manmade or claimed in the same sense, rather than regarded as natural or self-evident. The perceptible difference between borders that follow natural barriers like coastlines, river courses, or mountains and “artificial” lines drawn along latitudes and longitudes, as seen on maps, belies the fact that these boundaries need to be recognised, honoured, and respected by neighbours and allies. Some *prior concepts of rights* apart from brute force are involved in setting boundaries and they constitute a kind of universal value. One important concept is the awareness and recognition of the existence of others as persons of *equal*

²⁶ Whether or not this was the precursor of the communitarian paradigm is an interesting question.

dignity. The “delineation” of these boundaries as a kind of “rights assignment” is far more complicated than the internal partitioning of land into units or their recombination, according to a jurisdiction’s plans.

Epilogue

The *raison d'état* of modern interventionist planning over land is not the rightful occupation, enjoyment, or even betterment of it by individuals, but the *cross-boundary* impacts, adverse or beneficial, of an occupant’s activities. Over time, the original contribution of planning by setting up a social capital of a delicate system of unitised land for betterment under private ownership has been lamentably forgotten and the possibility of the emergence of *de facto* new boundaries that ignore or contradict planned boundaries has been treated with hostility.

Coase’s analysis of land was made in relation to the allocation of radio frequencies as a uni-dimensional good, for which partitioning and repartitioning is at zero transaction cost. Yet it serves as a useful starting point for discussing a monopoly of land resources that does exist. This monograph draws attention to the significance of land boundaries in

relation to government planning as a means to assign clearly delineated *ex ante* and *de jure* property rights to the betterment of land. Furthermore, it also points out the possibility of land boundaries, as an *ex post* consequence of the betterment of land, being predicated on some loosely-defined or ambiguous property rights. Once delineated, land boundaries become resilient constraints for planning. Hopefully, this monograph will arouse an interest in the delineation and re-delineation of zone boundaries with improvement by locational-specific entrepreneurial innovations.

Advancements in GIS techniques have reduced the surveying, plotting, and recording of cadastral and zoning boundaries to a professional matter of seconds. Hence, the transaction costs of technical measurements and divisions of land have been lowered tremendously. However, those incurred by the legal, political, and social processes to decide if, when, and how property boundaries and planned zones should be surveyed, recorded, interpreted, and determined have certainly increased rather than decreased as the processes have become increasingly complicated to meet the needs and aspirations of stakeholders. In this context, the transaction costs of repartitioning land boundaries, whether proprietary or zonal, at a district or town scale and according to the outcome of that planning decision processes

are hardly as trivial as cutting a piece of cake or redistributing radio frequencies, according to an idea during a brainstorm or in the flash of the mind. Blomley (2014: p.232) was correctly to say, "A boundary is not an edge, but a site of contact and connection." Land, above, is a reservoir of caring human efforts, achievements and mistakes that run with and beyond itself.

Layout design is never an act without long term consequences. The design in a primeval lot, layout or subdivision plan is probably the most resilient physical and social feature of a town or city. It is reinforced by such public infrastructural facilities like roads, storm drains and sewers and private ownership so that even war damage by carpet bombing or atomic explosion does not affect the basic layout for reconstruction. This has three important implications. In planning policies, *land adjustments* that can rationalize property boundaries, often due to traditional agricultural land tenure, for achieving a better modern layout for betterment should be encouraged. Such adjustments are tantamount to a land revolution. In planning education, students should appreciate that the quality of a subdivision layout is very much like the art of diamond cutting that calls for a good understanding and adequate training. Schools as service providers should accordingly invest in teaching and research capabilities especially as

“real world laboratories” in developing places like Eastern Europe and China are abundant. In planning research anchored at concrete spatial reality, this should offer a good direction for empirical research on urban forms and values conditioned by cadastral and zoning boundaries.²⁷ Whether the prevailing geometric layout favoured by Western (and also Chinese) urban settlements differs from the Islamic middle-eastern informal approach (Kiet 2011), for instance, is a case in point.

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²⁷ See for instance Spalatro and Provencher (2001).

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