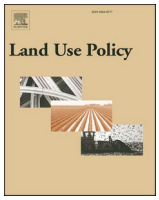
Land Use Policy 122 (2022) 106396

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol



Governmentalities of land value capture in urban redevelopment

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ARTICLE INFO

Keywords:
Land Value Capture
Strategic land management
Urban redevelopment
Calculative practices
Governmentality
Public-private sector

ABSTRACT

Major urban redevelopment projects entail the drawing upon and coordinating of vast resources including land, capital, and expert knowledge. At the core of urban redevelopment emerge policy instruments, including Land Value Capture (LVC), that smooth the way for desired project outcomes. This article explores three major urban redevelopment projects carried out by different coalitions of societal actors, often depicted as having irreconcilable interests and resources, in three Danish towns and cities—Aarhus, Aalborg and Køge. We suggest that a *governmentality* perspective, with its attentiveness to the *rationalities* and *technologies* activated in governmental projects, helps us to interrogate the ways in which the interests and resources of different actors are mobilised and reconciled for value creation in LVC based redevelopment. This paper argues that *land value increment*, central to LVC instruments, offers limited insight into accessing the success of, or 'best practices' in, LVC based redevelopment. LVC instruments create fields of action where the interests and resources of state and non-state actors can coalesce around broader, and some competing, ideas of *value*. Examining the conditions in which value is created, captured and used in LVC based redevelopment further challenges stereotypical views that depict the logics and practices of state and non-state actors as essentially antagonistic.

1. Introduction

Creating and redistributing value in major urban redevelopment projects requires mobilising and coordinating a wide range of resources, including land ownership, development rights, capital, and expert knowledge. These resources tend to be dispersed between different players from different sectors, including state and non-state actors. Despite the diversity of players involved in such processes often being depicted as having distinct and possibly conflicting aims, planning practices such as Land Value Capture smooth the path for desired urban redevelopment outcomes. Through a case study approach and employing a govern*mentality* framework, this article explores the rationalities and technologies present in major urban redevelopment projects involving Land Value Capture.

Land Value Capture (LVC), a loosely defined concept, stands for a variety of policies and strategies. Aiming at recapturing part of, or all, the increment in land value that can be attributed to governmental action in land-use policy, LVC is increasingly used by governments around the world (e.g. see Lord et al., 2021 and Lord et al., 2020 for England; Kim, 2020 and Nzau and Trillo, 2019 for the United States; and Smolka, 2013 for Latin America). Despite its potential to help to respond to the mounting challenges arising from rapid urbanisation and climate change, LVC is 'often side-lined as a niche aspect of planning practice, often submerged in planning law, and consequently an unknown issue misunderstood by much of the public' (and many politicians) (Dunning and Lord, 2020, p. 2). Various studies discuss *what* and *how* can LVC processes capture, and the *uses* to give to the value captured. However, as Dunning and Lord have argued, 'in a theoretical sense we need to know much more about the manner in which *how* LVC is exacted influences *what* it is used to fund and then how these interventions change land values' (2020, p. 2).

The term governmentality can be perceived as 'just another way of theorising the relations between the state and civil society' (Huxley, 2008, p. 1651). Raco and Imrie (2000) note the parallels between governmentality, governance and institutional analysis. All three concepts have been used to express diffuse forms of government where political power is dispersed between different scales, and different players, both within and outside the state. These concepts have also been used to explore state-market dynamics, while challenging conceptualisations of the logics and practices of the different sectors as irremediably distinct. The concepts however diverge in terms of the salience attributed to government, with governance associated with, not without controversy,

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https://doi.org/10.1016/j.landusepol.2022.106396
Received 25 November 2021; Received in revised form 14 September 2022; Accepted 9 October 2022
Available online 18 October 2022

the 'hollowing out of the state' (Rhodes, 1996) and, in contrast, governmentality recentring the debate around government, drawing attention to government *mentalities,* including its *rationalities* and *technologies*.

As Foucault (2007, p. 357) argued, 'the state is a practice' and not a thing, introducing a framework that entails exploring the *government rationalities and technologies* deployed in the *becoming* of the state and its territory. *Government rationalities* can be defined as the systems '… capable of making some form of that activity thinkable and practicable' (Gordon, 1991, p. 3). *Government technologies* can be perceived as 'the actual mechanisms through which authorities … sought to shape, normalise and instrumentalize the conduct, thought, decisions and aspirations of other in order to achieve the objectives they consider desirable' (Miller and Rose, 1990, p. 8). Government technologies tend to involve *calculative practices,* which can be understood as a range of commensurable approaches assisting with the translation of 'diverse and complex processes into a single financial figure' (Miller, 2001, p. 381). Calculative practices comprise a fundamental element of 'the mechanisms through which programs of government are articulated and made operable' (Miller, 2001, p. 379). Despite their intrinsically uncertain nature, as McAllister (2017, p. 122) noted, calculative practices provide 'an impression of technical rationality' with many stakeholders remaining unaware of their limitations, omissions and underlying subjective modelling choices (McAllister et al., 2018; McAllister, 2017).

This paper examines three major LVC based redevelopment projects in three Danish towns and cities (Aarhus, Aalborg and Køge) through the lens of governmentality (e.g. Rose et al., 2009; Dean, 2008; Foucault, 2007, 1991; Hall, 2001). LVC is a common planning practice in Denmark, especially in cases of strategic land management for large-scale urban redevelopment (for more on the Danish institutional context see OECD//Lincoln Institute of Land Policy, PKU-Lincoln Institute Center, 2022). We suggest that when considering the interactions between state and non-state actors in the context of large-scale urban redevelopment, we need to consider the *rationalities* within which they develop and are embedded in, and the *technologies* through which projects are enacted, including the assumptions behind the calculative practices mobilised for accessing the success of, or 'best practices' in, LVC based redevelopment. The lens of governmentality, relying on a definition of government *as a practice* enables us to explore LVC as both what happens, *and how it is thought*, in processes that lead to the structuring of possible fields of action (Foucault, 2007). As Easterling (2014, 2005) has argued, urban redevelopment zones can serve to simultaneously intensify government (in Foucault's sense) and collapse distinctions between state, non-state, and extrastate rationalities and instruments. Rather than perceiving LVC *simply* as a planning practice, and value *simply* as land value increment, the governmentality angle enables us to explore the *conduct of the conduct* of the different stakeholders, their rationalities, technologies, and the calculative practices they mobilise in these processes.

This article draws upon a larger piece of research into urban development corporations in Danish towns and cities. That project involved interviews with key decision-makers as well as site visits, and desk research exploring official material on the projects (Noring, 2021). Documenting the rationalities and technologies present in three Danish LVC based redevelopment projects, this paper's contribution is threefold. First, it extends the planning literature on LVC, where research on Denmark is limited, unpacking the maturing of state and non-state actor relationships in such processes, and what that tells us about their logics and practices. Second, by identifying and exploring the rationalities and technologies present in LVC based redevelopment, the paper identifies some limitations with the conceptualisation of value. Namely, we suggest that calculative practices with a focus on land value increment obscure the processes and outputs behind progressive forms of value creation and capture. We also suggest the need for proponents of LVC to, more fully, consider the positionality and values of government actors undertaking major redevelopment projects. Finally, the paper contributes to the field of governmentality studies by illustrating the relevance of the framework in illuminating the orchestrating role of the state (more or less at distance) in processes of urban transformation, value creation and capture, while exposing some of its dominant logics and contradictions.

The structure of this paper is as follow. The next section introduces the concept of LVC, considering the debates on definitions, rationales, practices, implementation challenges and standard uses. Section 3, introduces the concept of governmentality, discussing how it has been used in urban studies, and how it can be mobilised to expand our understanding of the concepts of value, value creation and value capture in LVC processes. Section 4 explains the case study approach methodology used in this research. Section 5, through the lens of governmentality, introduces the individual cases describing their *governmental rationalities* and *technologies*. Finally, Section 6, under discussion and conclusion compares the three cases highlighting the ways in which a governmentality framework applied to LVC can help us to expose some of the limits to narrow conceptualisations of value, while corroborating non-antagonistic conceptualisations of state/non-state actor relationships.

The main thesis of this paper is that the concept of *land value increment* offers limited insight into assessing 'successful' or 'best approaches' in LVC based redevelopment. Besides being time-place contingent, *land value increment,* fails to capture alternative and competing forms of value arising from LVC instruments including social and environmental value. A broader conceptualisation of value helps to illuminate how state/non-state actors, despite tensions and contradictions, can coalesce around more progressive notions of value.

2. LVC rationales and practices

The term Land Value Capture (LVC) has been used to conceptualise a variety of urban governance instruments enacted to capture land value increment both on public and private land. Precise definitions often depend on the particular strategy in question. For Alterman (2012) LVC ranges from macro strategies such as nationalisation, land-banking and land readjustment, to direct and indirect strategies related to harnessing 'the additional value of real property derived from government land-use development decisions' (2012, p. 8). For Friendly (2017), LVC involves 'the public sector's recovery of part or all of the land value increments or "windfalls" that landlords gain from public investments in infrastructure or administrative changes in land use norms and regulations, through taxes, fees, betterment contributions, exactions, and other financial tools' (2017, p. 2). The concept has also been used to understand processes beyond the management of local tax regimes or planning regulations. For example, Wang et al. (2020, p. 1) suggest,

> LVC is not just a formal tool used by governments. Rather, LVC refers to the process of materialising the distribution of land value in a broader sense, including formal and informal mechanisms and interactions. … Processes of LVC, which in a broader sense are used to indicate who gets what part of the land value, are characterised by complex interactions and outcomes between various stakeholders, including governments, land buyers, land sellers, and land speculators.

We echo Wang et al. (2020) in deploying the LVC concept to understand processes beyond the management of tax regimes and land-use policy to create and capture land value increments.

Alongside definitional issues, the debates on LVC have been structured around *rationales*, *operationalisation challenges,* and *best* or *legitimate uses*. Debates on rationales, provide important insights into the role of the state and into the relationship between private rights and public goods (e.g. Alterman, 2012; Healey et al., 1992). Healey et al. (1992, p. 19) identified three rationales for LVC, 'contribution to implement planned development', 'alleviation and compensation for the adverse impacts of development' and 'a local development charge'. These

debates often explore how different political economic regimes inform the rationales behind LVC policies. For example, Alterman (2012, p. 2) suggests LVC practices emerge in regimes that 'are assumed to provide a better land and development policy than market regime'. On the other hand, Catney and Henneberry (2019), suggest LVC practices can occur in a range of regimes, as shown by their longitudinal study on how different political economic regimes in England have affected LVC's rationales and practices. Moreover, the literature notes contradictions in the rationales behind LVC policies within the same political economic regime. For example, neoliberalism displays a new impetus in the use of LVC instruments as part of the principle of greater involvement of market players and private capital in urban redevelopment processes. However, the advances of neoliberal-led planning deregulation, disempowering planners, have also destabilised and brought additional challenges to well-oiled LVC practices in England (e.g. Canelas et al., 2022; Lord et al., 2021; Canelas, 2018).

Operationalising LVC processes involve challenges related to land, capital, skills and political support (e.g. Crook and Whitehead, 2019). Land related barriers to redevelopment include 'ownership constraints, site constraints, [and] remediation and assembly challenges …' (Dunning et al., 2021, p. 2). Municipal landownership can help to overcome some of those challenges, namely by mobilising land assembly instruments not available to non-state actors (Dunning et al., 2021). Other challenges include the availability of plentiful capital, knowledge and skills, uneasy to mobilise all at once. Challenges also involve maintaining political support for such long-term processes, involving lengthy negotiations for the persuading of the various stakeholders.

Additionally, challenges arise from the asymmetric distribution of resources between the different stakeholders, namely between state and market players, whose interests need to be coordinated. State resources include the monopoly powers over land-use planning decisions, such as upzoning (allowing higher value uses, or greater density and high, also called density bonus), transfer of development rights, or issuing planning permission (e.g. OECD/Lincoln Institute of Land Policy, PKU-Lincoln Institute Center, 2022). On the other hand, LVC processes are also dependent on market dynamics, being more easily implemented in market upturns, when capital and development activity proliferates. Additionally, developers can be more accepting of LVC agreements during market upturns with an eye on obtaining development rights quickly and cease favourable market conditions (Crook and Whitehead, 2019).

The legitimate and best use for the land value captured makes another significant area of debate (e.g. Crook and Monk, 2011). These debates revolve around normative ideas on what qualifies as *public good* and on the distributive role of the state. Some authors challenge the use of LVC for affordable housing suggesting its inappropriateness for other than mitigating immediate development impacts (e.g. Oxley, 2008). Others, on the contrary, see LVC as a fundamental source of revenue for pressing planning objectives, urging its use for climate change mitigation and adaptation (Dunning and Lord, 2020).

International denominations, practices and performances vary significantly, with a low number of countries consistently documenting successful practices. This is surprising considering LVC's potential as a funding stream for new and existing infrastructure upgrade. Countries with a good track-record in LVC include England, with its well-known planning obligations, where planning permission depends on negotiated agreements between local authorities and developers on financial or in-kind contributions from developers to fund public infrastructure, including affordable housing (see e.g. Lord et al., 2020; Crook et al., 2016). Similarly, in the United States, LVC instruments have been in place, and include upzoning with value captured through affordable housing, also called *inclusionary housing*, or development impact fees. Additionally, fiscal tools include Tax-Increment Finance (TIF) mechanisms using pre-determined schedules or case-by-case negotiations, frequently used in large scale transit projects (Kim, 2020; Nzau and Trillo, 2019; Wolf-Powers, 2019; Calavita and Mallach, 2010).

Despite the importance of value creation in LVC there is limited discussion on what *value* means and how the interests, perceptions and actions of the different stakeholders shape the types of value that emerge. Studies can remain narrowly focused on definitions, rationales, capture mechanisms and uses, with more limited consideration to the sorts of value being created and the underlying trade-offs. The calculative practices used in LVC are complex and specific to particular spatial-temporal contexts, making it difficult to apprehend where value lies for the different state and non-state actors. Financial assessments in LVC, notwithstanding their perceived 'technocratic rationality', are trapped within their own logics (McAllister et al., 2018; McAllister, 2017). These logics might appear devoid of politics for smoothing the way for desired project outcomes and engineered success. However, the trade-offs involved in value creation and capture in LVC based redevelopment mean there is inevitable prioritising, and compromising involved, which suggests the centrality of politics in these processes despite what calculative practices might suggest.

Underlying the use of LVC instruments is the idea that the land value increase resulting from state action is captured and used for *public good*. Again, as in the concept of value, this is assumed without great consideration of the contested nature of the concept. Assessment of the success of, or best practices in, LVC based redevelopment seems to be supported in complex yet oversimplistic calculative practices, that conceal the way in which LVC is always a compromise in practice. LVC might not just be a compromise between state and non-state actors, but also a compromise between divergent state conceptualisations of value. Thus, while a pure state focus on LVC would in theory seek to maximise benefit from iteratively raising and capturing land value increment within a given area, such focus proves to be either impossible or undesirable in practice. The revenues arising from LVC are intimately interlinked with the socio-material inputs and outcomes of the urban redevelopment process, namely land, capital, and expertise, but also with the rationalities and calculative practices describing and performing them.

In the present article, we define LVC as a process involving government action for creating and capturing value within its jurisdictional or territorial remits. The process involves formal and informal interactions between a range of stakeholders involved in cultivating and harvesting land value increment, and other forms of value. Additional forms of value include expert knowledge, skills and institutional capacity. Helped by the concept of governmentality, in this article we highlight some of the ways in which links between state and non-state actors are being forged and coalesced around ideas of value that go beyond, and might potentially compromise, a narrow focus on land value increment.

3. Governmentality and urban redevelopment

Foucault's late-1970s and early-1980s work involved thinking through and with the concepts of government and governmentality (e.g. Foucault, 2007, 1991, 1984, 1982). Exploring differences between government and governmentality, Foucault defined government as 'the art of exercising power in the form of economy' (Foucault, 1991, p. 92) while developing a more complex set of ideas around the concept of governmentality. Straightforwardly, he suggested that governmentality could be perceived both as a *process* and as the *result* of that same process. Foucault used the term governmentality as a *result* to identify the pre-eminence of government over other forms of power including sovereignty and discipline (Foucault, 1991). As a *process*, Foucault defined governmentality as 'the ensemble formed by institutions, procedures, analyses and reflections, the calculations and tactics that allow the exercise of … power' (1991, p. 102).

The term *governmentality* can be more clearly understood when contrasted to *governance*. Despite similarities, as mentioned in the introduction, setting these concepts apart is the salience given to the role of the state, what can be governed, and the politics of expertise. A governance lens suggests the 'hollowing out of the state' for instance

through multilevel governance, network governance and deregulation. In contrast, under governmentality, the state *conducts the conduct* of others, even if (creating the impression that) at distance. In terms of what can be governed, under governance there is an *ungovernability thesis*. As Gamble noted, (2000, p. 290) 'nobody seems to be in control anymore, and it is increasingly hard to pinpoint where policies come from and how policy agendas become established, because decisions are taken at so many different levels, and by so many different bodies'. On the other hand, under governmentality, as Miller and Rose (1990) argued, there is '… an eternal optimism that a domain … could be administered better or more effectively, [and] that reality is, in some way or other, programmable' (1990, p. 4). In terms of the politics of expertise, governance gave rise both to international epistemic communities and local community participation. In contrast, governmentality creates the impression of circumventing political decision through particular technologies, and calculative practices. As Miller and Rose (1990) noted, under governmentality government is essentially (and not just superficially) 'programmatic', that is, 'inextricably bound to the invention and evaluation of *technologies* that seek to give it effect' [emphasis added] (1990, p. 1).

Issues of governmentality, planning and urban redevelopment, and the *calculative impetus* have been discussed by many authors (e.g. Leibenath, 2017; Easterling, 2014; Huxley, 2008, 2007; Elden, 2007; Li, 2007a, 2007b). As Foucault (2007) suggested, for things to be governed, they need to be measured and mapped. This involves modes of rationalising and regulating the art of governing. Additionally, Elden (2007, p. 578) suggested that the *territory* should be seen as 'more than merely land, but a rendering of the emergent concept of "space" as a political category: owned, distributed, mapped, calculated, bordered, controlled'. In this context, governmentalities involve 'particular forms of codified, expert knowledge covering assessments of (quantitative) impacts, risk distribution, financial and strategic management, and mechanisms of monitoring and evaluation' (Raco and Imrie, 2000, p. 2197). The goal is to reduce friction and resistance between social actors in relation, so that questions of consent, profit, public good and redistribution are resolved as easily and uncontentiously as possible. As McAllister notes (2017, p. 122) 'a common attraction of quantification and technical models is that they appear to involve an apparently value neutral process'. Additionally, it is important to acknowledge that 'specific calculative practices have traction on urban form by "locking-in" particular means of investing in or producing the built environment' (Crosby and Henneberry, 2016, p. 1425). LVC is no exception, and despite its multiple objectives, its calculative practices tend to be limited to land value increment. We suggest that a governmentality perspective, with its attentiveness to the rationalities and technologies activated in governmental projects, help us to interrogate and expand the ways in which we conceptualise value in urban redevelopment processes. Next, we introduce the methodology used in this paper.

4. Methodology

This paper follows a case study approach drawing on three major urban redevelopment projects of deindustrialised harbours in Danish towns and cities to discuss the idea of value in land value capture (LVC) processes. The cases involve different coalitions of actors enroling in LCV processes on municipal owned land. Case 1, Aarhus Ø in Aarhus Municipality, was led by the municipality; In Case 2, Stigsborg Havnefront in Aalborg Municipality, the municipality entered in a partnership with two private sector players; Finally, in Case 3, Køge Kyst in Køge Municipality, the municipality partnered up with the development arm of a non-profit organisation. Despite their fundamentally different coalitions of actors, the cases share similar operation timeframes, local market conditions and national context.

Notwithstanding gaps between plans and their implementation, these three urban redevelopment projects have been described by our research participants as relatively successful in terms of achieving LVC. Exploring if one type of coalition of societal actors would create and capture greater land value would necessarily be an oversimplification. Land value increment is time-place contingent and thus comparisons between the different coalitions and their achieved land value increments would offer limited insight in terms of 'best approaches'. Alternatively, in our analysis we try to go beyond normative assessments of processes and outcomes. Instead, we explore the rationales and technologies behind LVC, what these tell us about the individual stakeholders and their relationships, including their roles and perceptions around creating, measuring, and capturing value.

Data gathering involved interviews and desk research. Interviews with key decisionmakers, such CEOs or Directors heading the urban redevelopments in question, were conducted between February and December 2020. In certain instances, snowballing occurred, as interviewees recommended other key persons for interviewing, including a private developer and the city architect (Aalborg), a key project director (Køge) and a consultant (Aarhus). All 13 interviews were semi-structured and lasted between one to two hours. Interviews were recorded and accompanied by extensive note taking and were not anonymised. At the interviews we enquired on the key features of the cases relating to land, finance and expertise. Through desk research, we explored published material including project visions, master plans, detail plans, financial prospectuses and other publicly available official information on the projects.

We follow Foucault's insight that, 'a critique is not a matter of saying that things are not right as they are. It is a matter of pointing out on what kinds of assumptions, what kinds of familiar, unchallenged, unconsidered modes of thought the practices that we accept rest' (Foucault, 1998, p. 154). Through this insight we aim to further challenge stereotypical views depicting state and non-state actors' logics and practices as essentially distinct. Set against this background, the next section provides the contextual information on each of the three cases, structured around land, capital and expertise. Next, mobilising a governmentality framework, we analyse how the rationalities and technologies underlying state/non-state actor relationships shape how value is perceived, created and captured, including the inevitable trade-offs made during urban planning and redevelopment.

5. A governmentality perspective on land value capture: rationalities and technologies

The logic of LVC within governmentality is that the state can structure the conditions in which private enterprises can contribute to state interests. The three case studies involve major urban redevelopment projects carried out by different coalitions of societal actors and all demonstrate, in different ways, how the state, in the form of municipal government bodies, enrols non-state actors into programmatic governmental logics. However, the factors determining whether the state instruments can deem a given LVC project effective are endlessly complex. The imperatives of LVC can be narrowly defined as raising and closing rent gaps to reap economic benefit, but as Alterman argued, in processes of LVC, financial value 'is only one among several motivating rationales and objectives' (2012, p. 8). Over the next sections we unpack the *political rationalities* and *technologies* of government behind each of the three individual cases (see summary Table 1) before engaging in comparing the cases under the section discussion and conclusion.

Case 1. Aarhus Ø in Aarhus Municipality.

In 1997 Aarhus Municipality published a Master Plan for their port area. The plan involved 60 ha of land owned by the local authority after its transfer from the municipally owned port in exchange from land and modernised port facilities elsewhere. The municipality decided to pursue the redevelopment without any partnership as they considered they had the necessary resources to achieve their aims of creating a mixed-use, high-quality new neighbourhood with 25% of affordable housing. According to the City Strategic Director interviewed, their rational was

Table 1
Key features of LVC across the three case cities.

	Rationalities	Technologies	Value (s)
Case 1: Aarhus Ø	Expanding the city and providing more housing, including affordable and social housing, and a new neighbourhood characterised by landmark buildings.	Containing the redevelopment capacity in-house and with municipal political oversight, while working along market principles to engage with private investors and developers.	Collecting revenue through revolving funds for further land acquisition and preparation. Creating a new neighbourhood. Creating affordable and social housing.
Case 2: Stigsborg Havnefront	Expanding the city with a newly build high-quality neighbourhood, a park, public service facilities and other infrastructures.	Setting up a joint venture with the municipality, a large institutional investor and a large regional developer in a risk and reward sharing arrangement.	Reducing capital investment of the municipality (and the two other partners). Repurposing vacant land. Creating a climate resilient new neighbourhood. Knowledge transfering between state and non-state actors.
Case 3: Køge Kyst	Demonstrating and setting a new standard for smaller cities to embark on a growth trajectory through skilful development catering to a new population segment of suburban commuters.	Setting up a joint venture between the municipality and the for-profit branch of a philanthropy targeting urban redevelopment to set new precedence for how smaller cities and towns can grow in a sustainable manner.	Collecting revenue for further redevelopment. Financing recreational and climate resilient investments. Developing a test bed for urban redevelopment of smaller towns or suburbs.

that 'if the market alone decided, the municipal council and residents would not get the city we want' (Lykke Sørensen, interview, 19 February 2020), and any form of partnership would inevitably curtail their decision-making power. Redevelopment of the former industrial land in Aarhus Ø began in 2007 and is projected to be complete in 2028–2030.

Funding the redevelopment involved upfront municipal investment for moving and expanding the old harbour and for transforming lower-value former industrial land into higher-value land perceived as attractive to investors (municipal borrowing in Denmark operates on a limited low celling). However, interviewees stressed that the development of Aarhus Ø needed to happen on a financial sustainable foundation. The model involved *revolving funds*, that is, recouping municipal investment once land is sold to private developers and investors. As the municipality states, the LVC model requires that 'the sale of land secures sufficient revenue for the necessary investment in land purchase, infrastructure, financial costs and other costs associated with the development of Aarhus Ø' (Aarhus Kommune, 2020, p. 49). The city continues to accumulate land assets for future developments.

Redevelopment of the former industrial land in Aarhus Ø coincided with the onset of the Global Financial Crisis (GFC) which meant, as the City Strategic Director noted, that 'by that time … the developers had received the building permits, they were bankrupt' (Lykke Sørensen, interview, 19 February 2020). Bouncing back from the GFC involved resorting to several technologies including bank guarantees to recover some of the land sale revenues the municipality had lost and putting the redevelopment on hold while curating events on site to promote the area. In 2013 investor interest re-emerged after the completion of some landmark buildings on site. The Master plan prioritised urban redevelopment that the municipality framed as 'meeting the wider needs of the city', which included developer contributions for affordable and social housing (Aarhus Kommune, 2019). However, at the same time the municipality mobilised what can be considered a market-oriented approach, promoting the new neighbourhood through high-end, iconic buildings, with nationally meaningful yet globally sounding names, such as the *iceberg* and the *lighthouse*. These developments shortly entered public debate, with some perceiving them as important landmarks (see e.g. Aasarchitecture.com, 2021), while others as out touch with the reality of the then current market situation (Noring, 2021).

Adding to land and funding, in Aarhus Ø research participants stressed the importance of knowledge in successfully conducting this redevelopment. Both internal and external knowledge sources to the municipality were available or mobilised. In terms of their internal sources, the municipality noted their in-house technical expertise and leadership skills, which they perceived as fundamental in successfully pursuing the redevelopment without any initial partnership and recurring to tendering processes only as and when needed. In terms of external sources of knowledge, the municipality mobilised an interesting technology during the tender processes. Aarhus Ø is emblematic of how the city can mobilise particular technologies in this case through tendering. In some tender processes, the municipality selected five final proposals and engaged in a dialogue with all five developers on how they could optimise their proposals while working toward one 'super proposal'. The developers worked together towards a few final proposals, eventually evaluated by a panel of experts (and, interesting, no politicians). The municipality compensated the developers whose ideas became integral to the final super proposal (Noring, 2021). This indicates the value of expertise, and the added value the technologies of the state bring, in this case mobilising and coalescing the expertise dispersed between different stakeholders.

Case 2. Stigsborg Havnefront in Aalborg Municipality.

This is a case of a municipality entering a partnership mostly for the knowledge expertise they sought to capture from the private sector partners. In 2018, after a decade long negotiation process, Aalborg Municipality partnered up with two private sector actors creating a development corporation tasked with conducting the redevelopment of the deindustrialised port of Stigsborg Havnefront. The land was partly owned by the municipality since 2000, the same year the port had moved out freeing up 55 ha of land for redevelopment. The municipality sold most of the land to the development corporation, reinvesting the revenue back in the development corporation. One of the partners is a property investment and development arm of a pension cooperative, mostly acting as an investor, providing long-term investment finance. The second partner is a large regional property developer with a long-standing relationship with the municipality and a wide range of legal, financial and sale skills. Aalborg Municipality's 49% ownership makes it the largest single shareholder in the development corporation, with the remaining 51% split equally between the two private partners (Aalborg Kommune, 2015).

Stigsborg Havnefront construction works began in 2018 with the redevelopment estimated to last 25–30 years. The municipality stands responsible for building a large central park and other infrastructure projects including a youth centre, which are anticipated to contribute to land value raising Stigsborg Havnefront. The urban development corporation is responsible for urbanising the development site and reselling the urbanised land for development. The development corporation partners will share the gains from the resulting land value raising. Despite the municipality having to share the land value increment with the private partners, their rational is that LVC is likely to be greater through this partnership than if they had progressed on their own.

Additionally, Aalborg Municipality and the other two partners appreciate the benefit they derive from this joint venture in terms of knowledge and skills exchange. The partnership's CEO noted that 'the city can finance its own developments but through this joint venture it accesses knowledge of how to do so'. He added both private partners 'have learned a lot about the city's different approval steps' (Anton Hessellund, interview, 26 June 2020). The CEO also noted the municipality's arduous reporting requirements and complex decision-making

hierarchies. Unsurprisingly, these tended to be perceived as cost factors by the private investor and developer. Nevertheless, the CEO reassured 'we all agree on the vision and want to create something of lasting quality. But [the private partners] basically need to earn money' (Anton Hessellund, interview, 26 June 2020). Overall, despite different practices, partners were bound up by their common profit motivation and shared vision for the site. Partners saw value in the joint venture as a vehicle for knowledge exchange and the development of internal capacity.

Case 3. Køge Kyst in Køge Municipality.

This is a case of a municipally that decided to join a partnership with the development arm of a non-profit organisation for considering the redevelopment project too complex. In 1995, Køge embarked upon one of the country's first large-scale redevelopments of a deindustrialised harbour, located at the southern edge of the commuter zone of Copenhagen. The redevelopment area amounts to 24 ha, and similarly to the other cases, the aim is to create a new mixed-use neighbourhood, offering affordable housing, and encouraging street life and recreational activities. From the mid-1990s, the municipally owned Port of Køge ceased renewing leases on land in the harbour, gradually freeing it up for redevelopment. Between 1995 and 2007, Køge Municipality sought to develop plans for a new post-industrial harbour. However, being one of the first such developments in Denmark, the municipality eventually concluded the task was too complex for the municipality to manage on its own.

The municipality partnered with Realdania By & Byg, the for-profit arm of Realdania philanthropy. Together, the two partners established a development corporation, and operations began in 2008. Realdania is a philanthropic association that undertakes 'philanthropy on the basis of returns on its investment assets' (Realdania, online) with a focus on improving the built environment. Realdania By & Byg tends to operate in weak markets, with the purpose of demonstrating that it is possible to generate profits even in such markets if developments are anchored in particular visions and investments are conducted over long-term horizons (Realdania, online). This was an innovative partnership in the Danish context, marking the first development corporation jointly owned by a municipality and Realdania By & Byg. The development corporation by 'not taking dictate from the political leadership of the municipality … transcends shifts in political leadership and priorities, which enables the development corporation to stay on track with its long-term vision' (Noring, 2021, p. 11).

Køge municipality identified that Realdania By & Byg could fill both the funding and knowledge gap. The redevelopment process was supported by the patient capital and long-term focus of Realdania By & Byg, and gradually by the revenues from land sales. The project director noted that 'in some instances, we did not make the investments before selling the land, but we built it into the sales agreement that the investments would be made' (Tove Skrumsager Frederiksen, interview, 10 December 2020). In terms of knowledge, Realdania By & Byg had previous experience developing brownfield areas into high-quality urban districts. From the point of view of Realdania By & Byg, according to the one of the directors, they '…wanted to set a new example and standard for how to do urban redevelopment in small cities across Denmark' (Claus Ravn, interview, 5 March 2020). This case enabled Realdania By & Byg to continue to test their concepts in weak markets, and the municipality to plan to go solo in a forthcoming project after this experience. This suggests that both partners developed institutional capacity through the redevelopment.

The Køge Kyst redevelopment also used the opportunity to focus on climate change adaptation and mitigation. Køge Kyst includes a promenade runing alongside the residential district to the newly established beach. Both the promenade and the beach provide resilience to extreme weather events, protecting the buildings from stormwater and rising sea levels (Realdania and Realdania By & Byg, n.d.). As a director of Realdania By & Byg stated, '[climate change aware investments] create added value, amongst others in the form of security for existing and future inhabitants, resource savings, property value creation, reduced environment impact and not least enhanced life quality for everybody living and working in the neighbourhood' (Claus Ravn, interview, 5 March 2020).

6. Discussion and conclusion

The (govern)mentalities underlying the three LVC based redevelopment processes display a plurality of rationalities and technologies. In Case 1, Aarhus Municipality flying solo pursued a global city approach led by landmark architecture while incentivising the development of social and affordable housing. In Case 2, Aalborg Municipality partnered up with two private sector players, pursuing what could be defined as a standard vision anchored on public infrastructure such as a large park, but also on a more progressive vision around climate resilient development. In Case 3, the Køge Municipality in partnership with the civic sector actor Realdania By & Byg, embarked on a more experimental urbanism process, eschewing iconic architecture and grand climate resilience gestures in favour of a diversity of localised approaches. The variability behind these coalitions and visions suggests that (govern) mentalities are diverse and draw on distinct and subjective conceptions of urban quality, and public good, shaped by the different stakeholders and their perceptions of what constitutes value.

Case 2 and Case 3 are typical cases of governmentality where the state engages non-state actors on a voluntary basis to deliver state objectives—in Case 2, Aalborg Municipality decided to partner up with private, for-profit actors, and in Case 3, Køge Municipality partnered with a civic actor (Realdania By & Byg). As Raco and Imrie have noted, mobilising 'self-governed capacities … governance is conducted in and through the governed, although the mechanisms through which … representation, responsibilities and influence are mediated, are defined from above in particular ways' (2000, p. 2196). However, it would be oversimplifying matters to see Case 1 as any less enmeshed in governmentality, as it is not that Aarhus Municipality was doing everything on its own, it has simply organised its relations with non-state actors in a different programmatic architecture. Whereas Case 2 and Case 3 involved formalised partnerships with strong declarations of shared visions and economic interest between state and non-state actors, Aarhus is more straightforwardly exercising 'extrastatecraft' (Easterling, 2014) in mobilising varied ground-level engagements with private and civic actors. If Aalborg and Køge's governmentalities involve inviting non-state actors into the state, Aarhus' governmentality involves bringing the state into closer alignment with non-state actors.

Funding, financing and optimising LVC processes and outcomes can be perceived at least in two ways, whether in terms of maximisation of municipal value capture share (as in Aarhus) or in terms of minimisation municipal resource expenditure (as in Aalborg and Køge). Although Case 2 and Case 3 need to share their LVC profits with their partners, partnership with non-state actors do not seem to neither lessen nor increase the focus on profiting from LVC. Municipalities may wish to claim for themselves as great a proportion of the gains from LVC as possible. However, while trying to extract the highest land-value, municipalities need to make compatible social and profit objectives, use-value and exchange-value, in inevitable trade-offs made during urban redevelopment processes. As Alterman (2012) and others have noted (e.g. Kim, 2020) it is common to find various forms of LVC relying on the assumption that value is captured by the public sector without clarifying the exact mechanisms, types and quantities of value captured. Municipalities can mobilise complex calculative practices that try to express the value captured through LVC. However, models can be limited and contingent (McAllister, 2017). Focusing on a particular sub-set of values created through major redevelopment projects, namely profit, models leave out forms of value such as high-quality urban environments, affordable and social housing, climate change resilience knowledge and practice, and expert skills development, around which different state

and non-state stakeholders are coalescing. Such limitations with the calculative practices behind value creation processes in the built environment help to explain why in LVC processes value is often assumed to be captured without the process and the output being made explicit.

Empowered by landownership, the three municipalities embarked on these redevelopment processes not only disposing things in ways in which they see fit to create and capture value, but also engaging in forms of state-building. Throughout these processes these municipalities reinforced themselves by testing their internal capacities (Case 1) and expanding their knowledge through the co-production of these spaces with their partners (Cases 2 and 3). The LVC instruments municipalities mobilised in the first place are self-replicating, serving to support both current and future operations, and expand the institutional capacity of the municipalities to embrace new redevelopments. As Easterling (2014) notes 'infrastructure space' is self-replicating, and it is productive of results that reinforce and reinvest in its own logic. But before such logic can be taken-for-granted, the social space in which it is enacted must be claimed by the state. The urban redevelopment processes underpinning LVC necessarily involve non-state actors, but largely they involve processes of the state, processes by which the state creates itself within society.

Municipalities also emphasised the critical role of expert knowledge and skills to carefully calibrate their LVC strategies to produce and capture their multiple programmatic aims. In Case 1, Aarhus Municipality described a model where the municipality understands to possess the full range of resources necessary to carry out the urban redevelopment project on their own. This included having land, funding and finance, but also in-house expert knowledge. This model enabled greater municipal control and the application of market and extra-market logics, particularly when dealing with adverse market conditions such as the ones brought up by the GFC. Both Case 2, Aalborg Municipality, and Case 3, Køge Municipality, noted their lack of technical expertise to undertake the desired developments and both described their non-state partners as knowledge holders. Their projects were developed in close collaboration with the non-state partners, with a marked coalescence of state and non-state actors' capacities for envisioning and driving the redevelopment process.

The governmentality framework reminds us of the central role of the state in processes of urban transformation, value creation and capture. Challenging mainstream economic theories on value (e.g. Mazzucato, 2018, 2014) which, at best, portrait the state as a value creation *facilitator*, a governmentality framework on LVC adds to the literature illuminating the variety of ways in which the state is involved in value creation (e.g. Noring, 2019), even if (through the impression or the reality of) at distance. All three major redevelopment projects discussed can be deemed successful, yet all have arguably been successful in different ways, conditioned by the governing coalitions driving them, and by the rationalities and technologies constructing these coalitions. All three cases have sought, in varying ways, to mobilise a range of resources, including land, funding and finance, and expert knowledge, while to a certain extent, pushing the redevelopment processes outside the state and simultaneously, through these processes, giving meaning to the state. As Foucault noted, governmentality '…is at once internal and external to the state, … mak[ing] possible the continual definition and redefinition of what is within the competence of the state and what is not' (1991, p. 103).

The long-term effectiveness of LVC to the public good may be contested. Being a growth dependent policy, LVC relies on market demand and rising property values, the same market conditions that are to blame, at least in part, for the housing affordability crisis, which LVC strategies also try to counter. None of this is to deny that the Aarhus Ø, Stigsborg Havnefront and Køge Kyst projects serve the needs of local stakeholders or have been well designed. Nor is this in any way intended as an argument in favour of privatisation or the ceding of ground to private sector actors. It is, however, to recognise that considerations of issues such as public good must be understood in relation to their wider present and future value. We suggest proponents of LVC to more fully consider the positionality and values of the actors involved in undertaking major redevelopment projects and the necessary trade-offs being made. A useful focus for future research includes exploring how different LVC instruments might result in more progressive conceptualisations of value, which, in turn, could help us to address some of the pressing global urban challenges.

Data availability

The data that has been used is confidential.

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