Alexander Woestenburg, Erwin van der Krabben and Tejo Spit

Urban regeneration and public land development: land transaction processes and price formation

This paper aims to contribute to the understanding of land markets and sheds light on a specific element of the process through which land is traded, namely the formation of land transaction prices. It argues that the specific features of inner-city land markets and public involvement in particular, adds to the social and institutional character of land markets. The paper explores the extent to which this affects the way land transaction processes impact the transaction price.

Keywords: public land development, urban regeneration, land value, land acquisition, land economics, price formation, urban redevelopment, urban planning

Successful redevelopment of deteriorated neighbourhoods and urban sites is a challenging task for many countries (Adams et al., 2002; Buitelaar and Segeren, 2011; Guy et al., 2002). This is, among other factors, due to the interaction between land and property markets on the one hand and land-use planning on the other. A better understanding of this interaction is relevant to the planning community (D'Arcy and Keogh, 1997, 702). The duration of land and property transaction processes, as well as the outcomes of such processes – i.e. the transaction price or additional contractual agreements (Woestenburg et al., 2014) - influence the efficiency and effectiveness of the implementation of land-use and urban-development plans. For instance, lengthy land-transaction processes delay the implementation of land-use plans; additional contractual arrangements may have an influence on what can and cannot be built on a particular plot and the transaction price influences the business case of a developer, resulting in requests for changes in the quality, density and connectivity of the plan. Understanding the process of land transactions increases sensitivity to such impacts. The implementation of land-use and urban-development plans inherently has to deal with ownership constraints, institutional arrangements and unexpected price dynamics. This requires flexibility. Understanding land-market dynamics can improve this flexibility and results in adaptive, efficient and effective planning.

This paper aims to contribute to an understanding of the processes that shape land and property markets. It sheds light on a specific element of the land market: transaction prices. It seeks to explain the prices determined in inner-city land markets. This specific focus originates from four characteristics of land prices that are of particular

Alexander Woestenburg is a scientist and adviser at TNO – Strategy and Policy, Anna van Buerenplein 1, The Hague, NL-2595 DA; Erwin van der Krabben is Professor of Urban Planning and Property Development at Radboud University Nijmegen, PO Box 9108, Nijmegen 6500 HK, Netherlands; Tejo Spit is Professor of Urban and Regional Planning at the University of Utrecht, Faculty of Geosciences, Heidelberglaan 2, Utrecht 3584 CS, Netherlands; email: alexander.woestenburg@tno.nl; e.vanderkrabben@fm.ru.nl; T,J.M.Spit@uu.nl

interest. First, land acquisition costs are among the first costs to be made in the development process and are a significant part of the total costs of urban regeneration (Buitelaar and Witte, 2011; Van Hoek et al., 2010). Second, acquisition prices relate to the residual land value in projected use, which is theoretically assumed to be the ultimate result of the development process and is therefore not exactly known at the moment of acquisition. How exactly does the valuation take place? Third, the two former aspects relate to the debate on the effect of urban change on urban land values in general (Adair et al., 2005). Fourth, in many countries, such as Finland, France, Germany, the Netherlands and Sweden, local governments shape the land market through their active role as buyers and sellers of land (Adams and Watkins, 2014). Governments take up a proactive role in urban redevelopment projects in order to stimulate market activity (McNamara, 1993) or to overcome ownership constraints by using public land-development strategies, including compulsory-purchase power and other legal tools (Van der Krabben and Jacobs, 2013). Local governments acquire land and properties in order to demolish the buildings, service and re-parcel the land, and sell it to private developers or future users (see section 'Urban land markets in the Netherlands'). Direct involvement of governments in markets challenges the application of general economic market principles to understand the functioning of these markets, as they are put in a different perspective and are complemented or sometimes even eclipsed by political considerations (Needham, 1992) and instrumental rationalities (Korthals Altes, 2014). Not much is known about how municipalities make use of reference values, for example those prescribed by specific legislation such as the Expropriation Law, to determine their strategies on the land market and how this ultimately affects the transaction price.

The challenge is to take account of the abnormality (Alexander, 2014, 533) and complexities of these markets. This paper investigates the case of municipal land acquisition in the Dutch context of public land development for inner-city regeneration projects and explores to what extent market complexities and process characteristics affect the way in which the very concept of price is dealt with. Scholars have emphasised the specificity of land as a commodity due to its absolute location, limited supply, potential as investment asset, infrequency of trading and susceptibility to externalities and high transaction costs (Alexander, 2014; Evans, 1995). Others have shown the heterogeneity of land transactions due to many additional buyer—seller arrangements that are made (Woestenburg et al., 2014) and different bundles of property rights that are transacted (Woestenburg et al., 2014; Adams et al., 2001). The valuation of land in the case of urban transformation projects becomes even more complicated, because the transaction often involves both land and (derelict) property (Hendriks, 2005; Özdilek, 2012), which results in reduced comparability and extra costs for necessary demolition and sanitation.

Moreover, behavioural characteristics and rationalities of both buyers and sellers account for significant diversity among land transactions and may thus add to complexity and heterogeneity as well (Adams et al., 2012; Guy et al., 2002; Holtslag-Broekhof et al., 2014). These complexities prevent us from relying on an exogenous well-functioning market mechanism to explain land-transaction prices. Some even question 'whether an inner city land "market" exists at all' (Adams et al., 1985, 172). This line of argumentation resonates with socio-economic literature that 'problematises' economic concepts, such as price and value (Smith, 2011, 248), and searches for their situational specific translation and interpretation.

The paper is built up as follows. The next section discusses the theoretical standpoints taken in the paper, resulting in a conceptual model that is used in the case-study analysis. This section is followed by an elaboration on public land management. The next section presents the results of a qualitative, in-depth analysis of four cases of public land acquisition. The paper concludes with overall conclusions and suggestions for further research.

Theoretical standpoint and conceptual model

This section explores the institutional character and social construction of land markets. It establishes a link between the land- and property-market literature and the body of knowledge on valuation practices. This link allows for the development of three explanatory propositions on how land-market processes result in transaction prices. The propositions guide the analysis of the case-study research presented in this paper. Moreover, they allow us to reflect on the relevance of land-market outcomes for urban redevelopment processes and planning scholarship.

Land markets as institutional and social constructs

Within the academic field of land economics, land prices have been extensively researched as being one of the most important land-market outcomes (Chesire and Sheppard, 1995; Ma and Swinton, 2012; Snyder et al., 2007). Land economics increasingly adopts an institutional economic view on markets. Such institutional variables include, for example, the influence of planning constraints (Pollakowski and Wachter, 1990; Quigley and Rosenthal, 2005) or the role of specific laws, tax policy measures (Beekmans et al., 2014; Bramley, 1993) and formal rules, rights and liabilities that are subject to land transactions (Woestenburg et al., 2014). Others have tried to incorporate more dynamic actor-specific characteristics in their property-market models – concepts such as opportunistic behaviour, anchoring (Scott and Lizieri, 2012) or alternative rationalities, as might be the case in family transactions (Woestenburg et al., 2014).

Most of the studies mentioned above concern quantitative analyses of the impact of institutions on land prices. Their perception of the functioning of markets

is inherently limited due to modelling limitations. For reasons of proper quantitative analysis, a well-functioning market is often taken for granted. Challenging this assumption would hamper the validity of the analysis.

From an institutional perspective the focus is on the link between market processes and market outcomes. Although this focus on processes, rather than outcomes, allows us to perceive land transactions as unique and situationally constructed, the question is, how can we again simplify situational diversity without 'sacrificing too much in the richness' (Marsh and Gibb, 2011, 217)? Several scholars have analysed these mechanisms with respect to land- and property-market processes, pointing to the importance of integrating the social and economic aspects of the functioning of markets (Guy and Henneberry, 2000) and the ways in which economic forces and political considerations shape the range of values within which prices will be established (Needham, 1992). For example, Keogh and D'Arcy (1999) and Evans (1995) have tried to operationalise the influence of market inefficiencies in terms of the time that a plot of land or other property is actually 'on the market'. The length of this period indicates the ease with which demand and supply react to each other. Adams et al. (1985) have demonstrated the role that appraisers and valuation practices have on the price dynamics of vacant inner-city land and how these practices prevent prices from adjusting to a new balance in supply and demand. Others have focused on the influence of uncertainty on land values (Leishman et al., 2000), on the speed at which land is being developed (Adams et al., 2009) or on actually revealed decision-making rationalities. Ploegmakers et al. (2013) found that municipal decisions on the supply of land for industrial use depend not only on market prices, but also on political considerations.

An increasing body of literature tries to open up the richness of land transactions and land-market processes. It applies qualitative analyses to land markets. Authors in this field have explored the behavioural characteristics and preferences of actors involved in land- and property-market processes and the way these actors interact with formal and informal rules that shape the room for decision making. Markets within this particular framework are no longer seen in positivist terms as distinct identities, but rather as social constructs (Adams and Tiesdell, 2010). This particular perception is well embedded within postmodern and post-structuralist ways of thinking about planning (Allmendinger, 2002) in which the meaning of concepts such as 'markets' is situational and actor-dependent. Actors attach meaning and significance to economic concepts such as markets, goods, efficiency, values and prices. The interaction between these concepts and human behaviour and perception is increasingly subject to research (Caliskan and Callon, 2009; 2010). Others have focused on the variety of actor strategies (Adams et al., 2001; 2002; Holtslag-Broekhof et al., 2014) and their rationalities (Healey, 1991; 1992; Healey and Barrett, 1990) and relationships (Adams et al., 2012). Some even posit that people try to 'perform' land and property markets in an economic way (Smith et al., 2006).

Multiple-value context

How does such an institutional and social view of the richness of land-market processes help us to better understand transaction prices? We need an extra step to guide our analysis here. The section below links the institutional and social perspectives on land markets with the body of literature on valuation and the interaction between prices and values.

Following the economic logic of efficient markets and rationally acting agents, one would expect the transaction price of land and real estate to 'reflect all the new-value affecting information' (Wyman et al., 2011, 342). This ability to capitalise information is an important prerequisite for efficiency in markets (Evans, 1995). Theoretically, the transaction price should be similar to a land plot's market value. However, even within the neoclassical tradition of land economics, there is a strong debate whether it is better to model appraised market values or actual sales prices (see, for example, Ma and Swinton, 2012). This debate indicates that land transaction prices do not always equal market values (Clark, 1996, in McParland et al., 2000, 93). However, the question is whether market value and transaction price are just two different market outcomes or whether there is some kind of reciprocal relation between price and value. In other words, what role do these two economic concepts play during the land transaction process?

Given that transaction prices deviate from their corresponding market values, a clear definition and demarcation of price and value are crucial in land and real-estate economics (McParland et al., 2000; Özdilek, 2010). In practice the two concepts have usually been confused (Clark, 1996; Dorchester, 2011). Land or real-estate market value is defined by the International Valuation Standards Council (IVSC) as the

estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion.

Or, as Crosby argued on the difference between value and price, 'market value is an attempt to determine the best price reasonably expected in the current market, whether or not this represents intrinsic worth' (in McParland et al., 2000, 94).

At first sight, the definitions of market value mentioned above seem pretty straightforward. And in practice, independent valuations are often 'readily accepted' (Mooya, 2009) and institutionalised and regulated in all kinds of national and decentralised legislation. As is also the case with land economics literature, a significant part of the valuation profession is well embedded within the neoclassical efficient-market paradigm (Mooya, 2009). In a positivist approach, the (market) value of a specific property is held to be independent of the valuers' beliefs, and the valuers regard themselves as 'dispassionate observers' (Mooya, 2009, 690). Smith et al. (2006, 87),

have shown that valuers sometimes even regard themselves as performing a scientific job. However, there are three aspects of market values that challenge this self-evident character of the concept of market value.

First, there is not just one market value (McParland et al., 2000). Value depends on the aim for which a property is being sold or appraised, such as property tax, execution, investment, demolition or normal sale. We see this multiple-value context in ultimate form if the value of the land in its current use is assessed against the value of the land in a (re)developed state: the residual value (Adair et al., 2005).

Second, the literature shows a discord among valuation practitioners regarding the objectivity of their own profession (see, for example, Crosby, 2000; Wyman et al., 2011) and reveals an (almost unavoidable) internal inconsistency. The assumptions and propositions of informational efficiency and the equilibrium tendency of property markets that underlie this approach do not correspond with the very existence of valuers at all (Wyman et al., 2011). In an efficient market a value profession would not have been necessary, because no information asymmetries would exist.

The theoretical confusion has led several authors to call for another approach towards valuation and the concept of value. For example, several research efforts have gone into analysing what is called 'valuation accuracy' and 'valuation variation' (Crosby, 2000). The first term refers to the difference in value and the observed transaction price and the second term refers to the difference between valuers in their determination of the value of one specific property. In both cases a range of \pm 20 per cent is commonly accepted. This evidence is often used to emphasise the human characteristics of valuers. 'A valuation, therefore, remains an expression of personal opinion. Property valuations on a consistent and objective basis are not available' (Crosby, 2000, 142).

Third, others argue that the concept of market value is flawed (Dorchester, 2011; Mooya, 2009; Wyman et al., 2011). These authors state that if markets are not efficient and socially constructed, neither is value — 'This means that there is no true market value of a property, only a range of prices. The price at which it is sold is just that — with other buyers or other sellers it could, indeed would, have sold for a different price' (Evans, 1995, 12). '[A] unique and determinate price is not fixed by the market' (Evans, 1995, 16); this claim is particularly interesting vis-à-vis the institutionalised character of the concept of market value, for example in expropriation law. Expropriation law usually says — although with distinctive variations internationally (Alterman, 2010) — something like price should be paid according to 'full compensation' on the basis of 'true value' (market value). Despite the fact that such transactions seem to be 'guided by the law' the price that will be paid in case of expropriation is, prior to the official decision on the case, not clear in the least. Although the law is clear on what aspects should be taken into account in order to achieve a full compensation, problems arise when determining the 'true value' of the land or property (Lam et al., 2012; Sluysmans, 2011).

Conceptual model

In this paper we challenge the assumption of a well-functioning urban land market. Markets are social constructs. The institutional and social character of land markets results in 'rich' land-market processes that determine transaction prices. To understand these prices this paper presents the thesis that land transactions, especially under public land-development schemes, take place in a multiple-value context. The institutional and social character of land markets results in the situation that a plot of land does not have a single land value and the transaction price does not simply result from that particular value or valuation. Specific values and prices gain meaning and significance during transaction processes if both buyer and seller attach importance to them. Municipalities navigate the multiple value context through anchoring on a specific value and attach importance to it. In order to understand transaction prices, we need to understand how municipalities navigate these multiple-value contexts. Building on the literature, this paper presents three propositions on how local authorities either implicitly or explicitly do that and actually influence market processes. These propositions allow us to operationalise the institutional and social character of markets and allow for proper analysis of the richness of transaction processes. In the case studies the propositions were analysed and assessed on their comprehensiveness and explanatory power (see section 'Findings: four Dutch cases').

The propositions are based on the key elements that shape the institutional and social character of the land markets: regulatory instruments that the municipality deploys, the political connection between the land market and spatial development urgency, and the (dependency) relationship that the municipality has with various players on the land market.

- Proposition 1: Municipalities deploy regulatory powers and instruments, such as zoning and expropriation. With zoning and the land-use plan, municipalities influence what spatial functions can and cannot be applied (housing, industry, public space) on a particular piece of land. In essence, this regulatory instrument affects the 'bundle of property rights' that land ownership is. Since spatial functions determine the residual value of the land (the value of land for housing is higher than the value of land for public space), municipalities can potentially influence the value of the land by assigning different spatial functions to it. Moreover, municipalities are in a position to expropriate land. Expropriation law determines the use of specific valuation methods (e.g. value in current use). Proposition 1 states that municipalities use their regulatory instruments to navigate the complexity of the value context of land. Local authorities deploy these to change land values or to add a specific guiding value to the spectrum of values already in place.
- Proposition 2: Every four years, after local elections, Dutch municipalities define new overall policy aims. With these policy aims, the aldermen position themselves

- as political leaders of the city. Thus policy aims gain both an individual character and political urgency. Proposition 2 is that this political urgency is an important driver of the market process of land acquisition and determines how the municipality determines its land-acquisition strategy.
- Proposition 3: Municipalities are not neutral players in the land market. They relate to sellers in situationally specific ways. Municipalities navigate the complexity of multiple values through focusing on their relationship with the seller of the land.

Urban land markets in the Netherlands

This paper takes the case of planning practice in the Netherlands. Dutch local authorities have been known for their proactive approach towards land management, with respect to both greenfield development and urban transformation projects (Hartmann and Spit, 2015; Van der Krabben and Jacobs, 2013). In order to make sure that spatial plans for urban transformation are actually implemented, municipalities often initiate the development process by acquiring obsolete or derelict land and buildings. After demolishing the existing properties, they provide public infrastructure and sell re-parcelled building plots to developers or housing associations (Needham, 2007). Consequentially, by pursuing this public land-development strategy, local authorities not only regulate urban land markets, but ultimately become essential market players.

There has always been a dynamic debate on both the necessity and the desirability of such an active municipal approach (Buitelaar, 2010; Lefcoe, 1977–78; Van der Krabben, 2011), especially regarding the fact that the 'public-interest argument' to legitimise such active market behaviour is only very broadly defined. Considering the argument in the present paper, three specific elements of this debate are briefly discussed. The first aspect relates to the relation between land values and the planning process. Being in charge of the planning process puts local authorities in a position to influence land values. Very often, land acquisitions take place well ahead of need, when a final land-use (plan) might not yet have been determined. As early as 1977, Lefcoe (1977–78, 196) pointed to the potential dilemma local authorities might face if value considerations actually 'militate against' planning consent. However, apart from casuistic evidence (see, for example, Van Rij and Korthals Altes, 2010), not much is known of the scale and frequency of these 'two-hat' situations (Needham, 2007).

Second, municipalities dispose of land-acquisition instruments, such as expropriation law and pre-emption rights. Although municipalities will usually try to settle land exchange by agreement, their market power significantly increases because they can use their back-up instruments, negotiating in the shadow of the law (Needham, 2007). On the other hand, the existence of these instruments increases land-market transparency and legal certainty by providing certain valuation guidelines. For example,

the Dutch Expropriation Law prescribes that prices be referenced on market value plus additional compensation payments. However, one must bear in mind the debate on 'land-market value' outlined in the previous section. Moreover, the Dutch Expropriation Law does not explicitly prescribe whether the land-market value should be based on existing use or future use.

Third, the complexity of redevelopment projects, due to their comprehensive character and the significant costs involved, generally limits the number of actors that are able to acquire land in the first place. Inner-city land markets are sometimes thin markets. This holds the risk of municipalities dominating that market. Tennekes et al. (2013) have shown that this is also true for the position of developers in Dutch greenfield developments. The large size of these developments limits the number of developers that are able to pre-invest.

Findings: four Dutch cases

Data collection and research methodology

Four cases of urban transformation projects were selected in four different Dutch cities. The analysis required a certain knowledge of financial and strategic-political details and considerations of municipal land transactions. We invited the Dutch municipalities from our own extensive network to cooperate. Eight municipalities showed interest and were interviewed. However, only four municipalities were willing to provide the information required in sufficient detail. The four cases consider a recent development process in which the municipality takes the initiative for an urban transformation project and decides to acquire all land and properties in the location concerned. The cases were suggested by the municipalities. To ensure useful outcomes and to obtain insight on a wide range of practices, the cases include a small single-plot transaction, a complicated large-plot transaction that is part of an extensive housing development scheme, and a land transaction within an extensive land-acquisition programme. The cases cover both a part of the Netherlands where there is a shortage of housing and a part where the situation on the housing and land market is more relaxed. For each case we have interviewed the civil servant(s) responsible for acquiring the land. Practices differ across municipalities: in some cases, the acquisition and negotiation process was managed by the area development project lead (Case A); in other cases by the municipally employed land purchaser (and valuer) (Cases B and C); and in other cases by the head of the municipal land department and the municipal land purchaser/ valuer (Case D). The interviews started with a question on the acquisition price paid. Semi-structured questions were used to reveal the details behind the land-acquisition

1 All cases are presented here anonymously, because some of the information that is discussed has been classified as confidential by the local authorities involved. prices and the negotiation processes. The municipalities involved provided us with the relevant background documents, such as calculation sheets, contracts and negotiation memos. Based on analysis of the recorded interviews and the background documents, we developed detailed case descriptions, including preliminary conclusions regarding the propositions in the conceptual model. A second round of semi-structured interviews was used to validate the propositions and to obtain more detail. A total of seven interviews took place in the 2014–2015 period. A caveat to the methodology used is that we were not able to interview the original owners that had sold their land to the municipality. Instead, the outcomes of the four cases have been discussed with two independent experts from land-development consultancy companies, in order to validate the results and ensure that the cases are representative of land acquisition and land-development processes in general. Theoretically, we would prefer to have chosen land transactions that had also been subject to quantitative analyses, in order to assess the added value of a qualitative approach.

Case A: the acquisition of land under a sewage treatment plant

General case description Case A describes a municipality purchasing an old sewage treatment plant (owned by the water board – a public body, but independent of the municipality) in order to develop a housing project. It concerns a comprehensive spatial development project in which different stages and preconditions display great interconnection. The start of this planning project finds its pretext in three particular urgencies. First, a large part of the plan area (in total approximately thirty-two hectares) was heavily contaminated and a subsidy became available from both the state and the province (Urban Renewal Policy budget – ISV) to cover at least a significant part of the necessary costs to decontaminate the soil and make it available for housing-development purposes. Second, the water treatment plant (11.25 hectares) no longer met the standards required to renew its licence (environmental protection law). Third, the municipality was looking for in-fill locations to develop new houses. The intention to build additional houses traces back to a 1999 municipal policy document and a 2002 regional plan (by the province) in which the future housing supply was determined and divided among a number of municipalities. The municipality did not have many options to accommodate the demand for housing, so the location of the water treatment plant was attractive. Moreover, revenues from selling building plots for housing development would contribute to covering the costs of decontamination.

Transaction process and multiple values at stake It was proposed to build a completely new high-tech sewage treatment plant on another plot just outside the development area, which was currently owned by the local government (approximately two hectares). The original site would then become available. Both parties agreed in 2005 on the proposal and exchanged the land. The acquisition price was based on the cost

difference between regenerating the old plant at the original location and building a new plant at the new location; this price had in fact been calculated on behalf of the municipality by a consultancy company back in 1997. Just before the agreement was completed, another consultant, again on behalf of the municipality, calculated the existing use value of the treatment plant: the price that would have been paid in the case of expropriation. This existing use value was quite close to the price currently agreed upon, but still a little lower. The municipality used a preliminary assessment of the residual value of the land in projected use as a reference, as it hoped to make a profit on the sale of serviced building land. At the time of the contract, a draft land-use plan was available, although its content was still very flexible. So, a 'provisional' residual value could be calculated, and served as an anchor. The projected profits could be used to cover the costs of the necessary soil sanitation, which were effectively left out of the project's budget because a large part of the sanitation costs was to be covered by national and provincial subsidies. It should be noted, however, that without these subsidies the residual value of the land would have been highly negative. Local government could rely on these subsidies with relative certainty, which made it possible to project a profit and anchor on the residual value.

So although the existing use value (based on full compensation in case of expropriation) and the residual value in projected use were calculated and known, a third 'value' was taken into consideration as a reference in this project: the price difference between rehabilitating the old plant at the original location and building a new, high-tech plant at another location. After reaching agreement in 2005, negotiations were reopened in 2006 and lasted until 2011. It then became clear that more land was required for the new plant, which would reduce the amount of land available for new housing development (lowered residual land value). As a consequence, the project was delayed. At first, the municipality and the water board tried to reconsider almost every assumption under the old contract; even the original assumptions regarding the costs of the rehabilitation of the old sewage plant were once again subject to negotiation, and so was the acquisition price. However, both parties soon realised that the valuation method and subsequent acquisition price had been used throughout as the basis of the negotiation process and had become somewhat 'iconographic'. This value reflected that both parties were willing to understand each other's position and interests. The dispute that had arisen was settled by the payment of compensation by the water board to the municipality for the reduction of the available building land and the costs of the delay. Moreover, the water board assumed the quantified responsibility (costs and additional risk) of demolishing the old sewage plant.

Key propositions	Results from the case study analysis
Proposition 1: regulatory power	No regulatory powers were used to influence values and the transaction price. However, urgency in this case originated from three sources: arrangements with the province on housing supply, the availability of subsidies and the end-of-life status of the water treatment plant.
Proposition 2: political context	Not relevant in this case
Proposition 3: relationships	Both parties agreed relatively quickly on the valuation method and corresponding acquisition price. However, each party could have tried to negotiate harder in order to optimise the outcome for itself. According to the municipal official, the reason why they both quickly agreed was that there was a common understanding that this transaction price made it possible for both parties to achieve their particular development goals (i.e. a new water treatment plant and housing development). Another explanation can be found in the fact that both actors are public bodies, not seeking to optimise profits.

Case B: the acquisition of a post office

General case description In Case B a municipality acquired a run-down post office building, which was no longer in use. The building was located alongside a small central city square. In 2008 the post office was offered for sale to the municipality because the owner (a bank) no longer needed the building. At that time no official redevelopment goals had been defined for this part of the city. Moreover, the current land-use plan only allowed for mixed economic activity. However, within the municipal organisation ideas to redevelop this particular neighbourhood started to circulate.

Description of the transaction process and multiple values at stake The alderman in charge of spatial planning decided to buy the post office building (with the approval of the city council). With no specific prospect of a new use yet, the alderman nevertheless held internal discussions on the case for mixed social housing and public uses at this unique central location in the city. He would not allow this once-in-a-lifetime opportunity to pass and convinced the housing corporation to join in this acquisition. They each bought half of the undivided property.

Acquisitions, without an approved spatial plan, are characterised as strategic acquisitions. The acquisition price they paid was, interestingly, based on an internal assessment of the potential residual value of the land in *commercial* use and did not deviate much from the seller's asking price (which was also based on high-end redeveloped use). To value the land in high-end (commercial) use only was perhaps surprising, given the idea to redevelop the area into a mix of social housing and public land use. One might have expected at least two alternative values to be calculated for this property as well: the value in current use and the residual value of the plot if used for social housing. As the building was not in use any more, the current value was not

very high, while the residual value of the land assigned to the projected social housing and public land uses would have been substantially below the acquisition price paid.

Key propositions	Results from the case study analysis
Proposition 1: regulatory power	Not relevant in this case
Proposition 2: political context	The asking price was qualified by the interviewed official as 'just the seller's attempt to maximise its profit'. It is probable that the municipality agreed because the alderman did not want to risk the plot being sold to a developer. In that case the municipality would have lost its hold on the realisation of public and social use. Finally, the alderman expected that he could cover, at least partly, the acquisition price with a municipal fund for social housing.
Proposition 3: relationship	Not relevant in this case

Case C: acquisition of a library

General case description Case C is located in the same municipality as Case B. A library that was owned by a co-operative was acquired. The municipality intended to demolish the building, in order to redevelop the city centre square. The library was still mortgaged.

Multiple values at stake The municipality and the library management agreed on an acquisition price that reflected the remaining mortgage on the building. According to the municipal official, this was the lowest acquisition price possible because it was below a fair compensation of the current use value, which was quickly appraised by the municipality itself.

Key propositions	Results from the case study analysis
Proposition 1: regulatory power	Not relevant in this case
Proposition 2: political context	Not relevant in this case
Proposition 3: relationships	The price can be explained by the fact that a library institution depends highly on the local government for its income, via subsidies. Although we have not interviewed the library management, the municipal official assumed that the library institution probably accepted the low bid because they did not have to make any profit out of this deal. Although arrangements on relocation and on a new building were not yet clearly negotiated, they expected that another suitable location, outside the particular plan area, would be offered by the local government. The public character of this kind of land use and the interdependency between buyer and seller are the most important factors in understanding the transaction price paid. The subsidy to finance the relocation of the library would be provided by a municipal department other than the land development department – a redistribution of budgets between municipal departments.

Case D: redevelopment of an inner-city location

General case description Case D involves the municipal land-acquisition strategy for a large-scale inner-city redevelopment project. This part of the city centre was physically run down, the public spaces were obsolete, urban structures were incoherent and the area was rife with drug-related problems and criminality. In 2001 the municipality launched a regeneration policy programme in close cooperation with the police, based on three principles: enforcement, tolerance and a real-estate development strategy. Action was taken against criminal drug activities; shops that (legally) sold soft drugs were relocated. An integrated development plan was made in close cooperation with the housing association that owned several properties. The municipality cooperated closely with a developer who intended to buy the serviced land and build on it after the redevelopment.

Description of the transaction process and multiple values at stake Neither the municipality nor the developer could draw on any significant land ownership in the area beforehand. Therefore the municipality decided to pursue a land ownership strategy, in order to proactively stimulate the redevelopment of the area, very much in line with the municipality's common strategy for this kind of plan. Approximately 200 properties had to be acquired to enable the proposed redevelopment of the area. A pre-emption right was established and the strategy to acquire land and properties in the area was approved by the city council, based on 'wait and see'.

Plots that were offered for sale would be acquired against prices that were in line with the prevailing market value. This particular municipality only wants to pay acquisition prices based on the value of the properties in current use, ruling out the hope values related to the projected use. The official in charge of the acquisition explained his aversion to using the residual value of a plot in projected use as a reference value due to the arbitrary injustice that might result from such a valuation in the way the original owners would be compensated. Depending on the location of a specific plot and the profitability of its projected use, some owners would receive a much higher price per square metre than others. The official responsible for land acquisition emphasised the municipality's aversion to the use of tailor-made contracts and situation-specific valuation methods.

The tax value of the properties serves as an important reference value for the municipality. It is seen by the municipal official as a value that should play an important role during a potential expropriation process to approximate market value. The city council decided on a land-acquisition scheme, including a valuation base and a standard margin of deviation from the value, that served as a reference for negotiations between the municipality and private actors. As such the municipality harmonises land-acquisition practices and land-price formation. Note, however, that private actors who negotiate with the municipality to sell their properties in case of

a municipality-led redevelopment scheme do not have to accept the price offered by the municipality. Moreover, the municipality's land-price policy is not exactly in line with the compensation principles defined in the Expropriation Law. The municipality therefore takes the risk that it would have to pay a slightly higher price should the owner not want to sell voluntarily, and expropriation has to take place.

Key propositions	Results from the case study analysis
Proposition 1: regulatory power	Despite the existence of a municipal land-acquisition and pricing policy — based on a pre-emption and expropriation strategy — prices actually established may differ from their reference values. There may be several reasons for this, such as good negotiation skills of the seller (for instance, by hiring his own expert to appraise the value of his property), resulting in a higher price paid or the additional compensation of relocation costs, or the fact that a municipality tends to pay a somewhat higher price in order to avert a hold-out problem and/or the expensive process of expropriation. According to the official, this deviation between tax value and transaction price does not undermine the role of the established pricing policy and acquisition scheme as long as additional compensation payments are clearly separated from the transaction price. If this is not done transparently or a higher price is paid to avoid expropriation, a significant risk exists that future transactions can also no longer be referenced at the tax value. Sellers of similar properties may, correctly, point at previously paid prices as new 'market values' to be taken into account. So transaction prices may serve as new reference values for future acquisitions. This risk is indicated by the municipality as 'the risk of creating your own market'.
	This case showed the potential influence of adjacent drugs-related policies on the legitimacy of rental contracts and thus on tax values. Such policies have an influence on the absolute value of the land and properties.
Proposition 2: political context	The municipality's acquisition strategy was supported by the province, which also decided to acquire some properties, because it wanted to speed up the process of relocating soft-drugs shops. However, the province appeared to be more flexible in the prices it was willing to pay. For some plots in the area, the province paid a price clearly above tax value. Consequently, the municipality could no longer adhere to the strategy of referencing the transaction price to the tax value. A new market value had emerged.
Proposition 3: relationships	Not relevant in this case

Discussion and conclusion

This paper has presented the results of an analytical and empirical exercise to go 'behind the numbers to get the details of the transaction, and then analyse and fully understand it' (Dorchester, 2011, 437). It provides evidence that land and property markets are in fact institutionally and socially constructed. Derivative concepts, such as price and value, should be seen as socially constructed institutions as well. During the transaction process both seller and buyer give meaning to these concepts. Given this complexity, explaining land acquisition prices is a difficult task. In order to analyse the price formation of land, one needs to understand the interplay of conventional economic rationalities and the institutional and social aspects of landacquisition processes. The crux is in the operationalisation of the interaction between the different scales of analysis (Adams and Watkins, 2014). Opening up the richness of land transactions and analysing land-transaction processes should not be seen, then, as 'better' or opposed to conventional supply-and-demand determination of landmarket prices. A postmodern approach towards analysing land markets just shifts focus regarding the subject of analysis and how particular analyses are conducted. Such an alternative focus provides in-depth insight into the determination of land prices in those markets that cannot be characterised as fully efficient markets, through to their highly institutionalised and complex contexts. The added value of such an approach also allows deep insights to be translated into suggestions, which will thus improve quantitative research on land markets. Case D shows such a suggestion with 'the risk of creating your own market'.

We have argued that the institutional and social character of land markets leaves the actors, Dutch municipalities in the cases investigated in this paper, with a multiple-value context. In this paper we developed three propositions concerning how municipalities navigate this context at different scales and with different (economic) rationalities. Municipalities navigate the multiple-value context through anchoring a specific value and attaching importance to it. This process of anchoring and attaching importance is determined by regulatory instruments, political urgency and relationships between the municipality and the buyer. The case-study evidence indicates the significant role that these strategies play during the transaction processes. Although no generic conclusion can be drawn from four case studies, several results are worth discussing here. They provide tempting avenues for future research.

The impact of anchoring strategies on the transaction price

The cases present clear evidence that regulations (for instance, subsidies) and the municipalities' regulatory powers (such as pre-emption rights) influence the value of the land. Moreover, they provide the municipality with the power to guide the

transaction process towards the lowest land value (Case D). Cases A and D give rise to expectations that regulations (also from other domains or government levels, such as subsidy schemes) not only influence the value of the land but, first and foremost, provides the window of opportunity for a land transaction to take place.

Cases B and D showed the importance of political urgency in the transaction process and its tendency to increase land prices. In these cases, political rationalities overrule economic rationality. This price effect was to be expected with an acquisition strategy to anchor on relationships as well. However, the cases provide mixed conclusions in that sense. The (institutional) relationship between seller and buyer in Case A had a positive effect on the land price, where Case C showed the opposite. A possible explanation for the divergent results might be that transaction processes where relationships play an important role tend to include valuable long-term appointments and contracts that complement the transaction prices.

The interplay between strategies

In our analysis we did not find a case in which all strategies played a role, but that seems to be just coincidence. Further research should be undertaken to analyse the interplay, and (hierarchical) relationships, between different strategies. Although we did find cases where relationship and political power were the only anchoring strategies. There is a high degree of probability that these strategies influence the other strategies, such as the choice of regulatory instruments in the process. This could be an interesting avenue for future research. We would subscribe to the idea that markets and transactions consist of different interdependent layers. For example, Williamson (2000) distinguishes between the cultural level of 'social embeddedness', the institutional level of the formal 'rules of the game', the governance level of the 'play of the game' and the economic level of price rationalities, supply and demand.

Predictability

Such increased complexities underline the importance of a thorough understanding of land-transaction processes. The inherent social and institutional character of land markets and their rich variety of process characteristics may hold the risk of lower transparency and predictability for all partners, such as sellers, developers and planners. Because land markets and land prices are crucial factors in determining the effectiveness and efficiency of planning policies, they should be understood thoroughly. If possible, such an understanding may lead to better and unified processes.

References

- ADAIR, A., HUTCHISON, N. and ROULAC, S. (2005), 'The appraisal of urban regeneration land: a contemporary perspective allowing for uncertainty', *Journal of Property Investment & Finance*, **23**, 213–33.
- ADAMS, D., BAUM, A. and MACGREGOR, B. (1985), 'The influence of valuation practices upon the price of vacant inner city land', *Land Development Studies*, **2**, 157–73.
- ADAMS, D., DISBERRY, A., HUTCHISON, N. and MUNJOMA, T. (2001), 'Ownership constraints to brownfield redevelopment', *Environment and Planning A*, **33**, 453–77.
- ADAMS, D., DISBERRY, A., HUTCHISON, N. and MUNJOMA, T. (2002), 'Land policy and urban renaissance: the impact of ownership constraints in four British cities', *Planning Theory & Practice*, **3**, 195–217.
- ADAMS, D., LEISHMAN, C. and MOORE, C. (2009), 'Why not build faster? Explaining the speed at which British house-builders develop new homes for owner-occupation', *Town Planning Review*, **80**, 291–314.
- ADAMS, D., LEISHMAN, C. and WATKINS, C. (2012), 'Housebuilder networks and residential land markets', *Urban Studies*, **49**, 705–20.
- ADAMS, D. and TIESDELL, S. (2010), 'Planners as market actors: rethinking state-market relations in land and property', *Planning Theory & Practice*, **11**, 187–207.
- ADAMS, D. and WATKINS, C. (2014), *The Value of Planning* (RTPI research report), Royal Town Planning Institute.
- ALEXANDER, E. (2014), 'Land-property markets and planning: a special case', *Land Use Policy*, **41**, 533–40.
- ALLMENDINGER, P. (2002), 'The post-positivist landscape of planning theory', in P. Allmendinger and M. Tewdwr-Jones (eds), *Planning Futures: New Directions for Planning Theory*, London, Routledge, 3–17.
- ALTERMAN, R. (2010), Takings International: A Comparative Perspective on Land Use Regulations and Compensation Rights, Boston, American Bar Association.
- BEEKMANS, J., BECKERS, P., VAN DER KRABBEN, E. and MARTENS, K. (2014), 'A hedonic price analysis of the value of industrial sites', *Journal of Property Research*, **31**, 108–30.
- BRAMLEY, G. (1993), 'The impact of land use planning and tax subsidies on the supply and price of housing in Britain', *Urban Studies*, **30**, 5–30.
- BUITELAAR, E. (2010), 'Cracks in the myth: challenges to land policy in the Netherlands', *Tijdschrift voor Economische en Sociale Geografie*, **101**, 349–56.
- BUITELAAR, E. and SEGEREN, A. (2011), 'Urban structures and land: the morphological effects of dealing with property rights', *Housing Studies*, **26**, 661–79.
- BUITELAAR, E. and WITTE, P. (2011), *Financiering van gebiedsontwikkeling*, The Hague, Planbureau voor de Leefomgeving.
- CALISKAN, K. and CALLON, M. (2009), 'Economization, part 1: shifting attention from the economy towards processes of economization', *Economy and Society*, **38**, 369–98.
- CALISKAN, K. and CALLON, M. (2010), 'Economization, part 2: a research programme for the study of markets', *Economy and Society*, **39**, 1–32.
- CHESIRE, P. and SHEPPARD, S. (1995), 'On the price of land and the value of amenities', *Economica*, **246**, 247–67.

- CLARK, L. (1996), 'Market value: hitting the middle of the range', Assessment Journal, 3, 27-31.
- CROSBY, N. (2000), 'Valuation accuracy, variation and bias in the context of standards and expectations', Journal of Property Investment & Finance, 18, 130–61.
- D'ARCY, É. and KEOGH, G. (1997), 'Towards a property market paradigm of urban change', *Environment and Planning A*, **29**, 685–706.
- DORCHESTER, J. (2011), 'Market value, fair value, and duress', Journal of Property Investment & Finance, 29, 428–47.
- EVANS, A. (1995), 'The property market: ninety percent efficient?', Urban Studies, 32, 5-29.
- GUY, S. and HENNEBERRY, J. (2000), 'Understanding urban development processes: integrating the economic and the social in property research', *Urban Studies*, **37**, 2399–416.
- GUY, S., HENNEBERRY, J. and ROWLEY, S. (2002), 'Development cultures and urban regeneration', *Urban Studies*, **39**, 1181–96.
- HARTMANN, T. and SPIT, T. (2015), 'Dilemmas of involvement in land management: comparing an active (Dutch) and a passive (German) approach', *Land Use Policy*, **42**, 729–37.
- HEALEY, P. (1991), 'Models of the development process: a review', Journal of Property Research, **8**, 219–38.
- HEALEY, P. (1992), 'An institutional model of the development process', *Journal of Property Research*, **9**, 33–44.
- HEALEY, P. and BARRETT, S. (1990), 'Structure and agency in land and property development processes: some ideas for research', *Urban Studies*, **27**, 89–103.
- HENDRIKS, D. (2005), 'Apportionment in property valuation: should we separate the inseparable?', Journal of Property Investment & Finance, 23, 455-70.
- HOLTSLAG-BROEKHOF, S., BEUNEN, R., VAN MARWIJK, R. and WISKERKE, J. (2014), "Let's try to get the best out of it": understanding land transactions during land use changes', *Land Use Policy*, **41**, 561–70.
- KEOGH, G. and D'ARCY, É. (1999), 'Property market efficiency: an institutional economics perspective', *Urban Studies*, **36**, 2401–14.
- KORTHALS ALTES, W. (2014), 'Taking planning seriously: compulsory purchase for urban planning in the Netherlands', *Cities*, **41**, 71–80.
- LAM, T., DE BRUYNE, F. and SLUYSMANS, J. (2012), Ten gronde beschouwd; een onderzoek naar alternatieven en verbeteringen voor het juridische instrumentarium op het gebied van het grondbeleid in het kader van de totstandkoming van de Omgevingswet en de evaluatie van de Onteigeningswet, Nijmegen, Radboud Universiteit Nijmegen.
- LEFCOE, G. (1977–78), 'When governments become land developers: notes on the public-sector experience in the Netherlands and California', *Southern California Law Review*, **51**, 165–263.
- LEISHMAN, C., JONES, C. and FRASER, W. (2000), 'The influence of uncertainty on house builder behaviour and residential land values', *Journal of Property Research*, **17**, 147–68.
- MA, S. and SWINTON, S. (2012), 'Hedonic valuation of farmland using sale prices versus appraised values', *Land Economics*, **88**, 1–15.
- McNAMARA, P. (1993), 'Parameters for institutional investment in inner city commercial property markets', in J. Berry et al. (eds), *Urban Generation: Property Investment and Development*, London, E&FN SPON, 5–15.

- McPARLAND, C., McGREAL, S. and ADAIR, A. (2000), 'Concepts of price, value and worth in the United Kingdom: towards a European perspective', *Journal of Property Investment & Finance*, **18**, 84–102.
- MARSH, A. and GIBB, K. (2011), 'Uncertainty, expectations and behavioural aspects of housing market choices', *Housing, Theory and Society*, **28**, 215–35.
- MOOYA, M. (2009), 'Market value without a market: perspectives from transaction cost theory', *Urban Studies*, **46**, 687–701.
- NEEDHAM, B. (1992), 'A theory of land prices when land is supplied publicly: the case of the Netherlands', *Urban Studies*, **29**, 669–86.
- NEEDHAM, B. (2007), Dutch Land Use Planning: Planning and Managing Land Use in the Netherlands, the Principles and the Practice, The Hague, Sdu Uitgevers.
- ÖZDILEK, Ü. (2010), 'On price, cost, and value', Appraisal Journal, 78, 70-79.
- ÖZDILEK, Ü. (2012), 'An overview of the enquiries on the issue of apportionment of value between land and improvements', *Journal of Property Research*, **29**, 69–84.
- PLOEGMAKERS, H., VAN DER KRABBEN, E. and BUITELAAR, E. (2013), 'Understanding industrial land supply: how Dutch municipalities make decisions about supplying serviced building land', Journal of Property Research, 30, 324–44.
- POLLAKOWSKI, H. and WACHTER, S. (1990), 'The effects of land-use constraints on housing prices', *Land Economics*, **66**, 315–24.
- QUIGLEY, J. and ROSENTHAL, L. (2005), 'The effects of land use regulation on the price of housing: what do we know? What can we learn?', *Cityscape*, **8**, 69–137.
- SCOTT, P. and LIZIERI, C. (2012), 'Consumer house price judgements: evidence of anchoring and arbitrary coherence', *Journal of Property Research*, **29**, 49–68.
- SLUYSMANS, J. (2011), Vitaliteit van het schadeloosstellingsrecht in onteigeningszaken; Een studie naar theorie en praktijk, Den Haag, Stichting Instituut voor Bouwrecht.
- SMITH, S. (2011), 'Home price dynamics: a behavioural economy?', *Housing, Theory and Society*, **28**, 236–61.
- SMITH, S., MUNRO, M. and CHRISTIE, H. (2006), 'Performing (housing) markets', *Urban Studies*, **43**, 81–98.
- SNYDER, S., KILGORE, M., HUDSON, R. and DONNAY, J. (2007), 'Determinants of forest land prices in northern Minnesota: a hedonic pricing approach', *Forest Science*, **53**, 25–36.
- TENNEKES, J., HARBERS, A., and BUITELAAR, E. (2015), 'Institutional arrangements and the morphology of residential development in the Netherlands, Flanders and North Rhine-Westphalia', European Planning Studies, 23, 2165–83.
- VAN DER KRABBEN, E. (2011), Gebiedsontwikkeling in zorgelijke tijden; Kan de ruimtelijke ordening zichzelf nog wel bedruipen?, Nijmegen, Radboud University Nijmegen.
- VAN DER KRABBEN, E. and JACOBS, H. (2013), 'Public land development as a strategic tool for redevelopment: reflections on the Dutch experience', *Land Use Policy*, **30**, 774–83.
- VAN HOEK, T., KONING, M. and MULDER, M. (2010), Successol binnenstedelijk bouwen: een onderzoek naar maatschappelijke kosten en baten en mogelijkheden tot optimalisatie van binnenstedelijk bouwen, Amsterdam, Economisch Instituut voor de Bouw (EIB).
- VAN RIJ, E. and KORTHALS ALTES, W. (2010), 'Looking for the optimum relationship between spatial planning and land development', *Town Planning Review*, **81**, 283–306.

- WILLIAMSON, O. (2000), 'The new institutional economics: taking stock, looking ahead', *Journal of Economic Literature*, **38**, 595–613.
- WOESTENBURG, A., VAN DER KRABBEN, E. and SPIT, T. (2014), 'Institutions in rural land transactions: evidence from the Netherlands', *Journal of European Real Estate Research*, **7**, 216–38.
- WYMAN, D., SELDIN, M. and WORZALA, E. (2011), 'A new paradigm for real estate valuation?', *Journal of Property Investment & Finance*, **29**, 341–58.