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Efficiency and Equity in the Assemblage of Land for Public Use:  
The L2H2 Auction

by

Perry Shapiro<sup>#</sup> and Jonathan Pincus<sup>##\*</sup>

**Abstract**

The burden of redevelopment projects, whether or not they ultimately benefit the communities in which they are undertaken, is borne disproportionately by those displaced. Neighborhoods are destroyed and residents are made to leave a home they love compensated only by its market value. The benefits and costs of redevelopment can only be estimated since there are no direct market tests. Here a mechanism, developed as an extension of two recent papers, one by Lehavi and Lichts (L2) and the other by Heller and Hill (H2), provides a market based efficiency test for a proposed project and a compensation rule that alleviates the disproportionate burden on displaced residents. Assembled property is sold at an auction. The reserve price (the lowest price at which the assembled property will be sold) is set so that every displaced resident receives at least the personal value of its property. A successful bid, one that claims the assembled property, is sufficient proof of efficiency.

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In the 1980's the city of Detroit used its eminent domain power to acquire a large plot of land. The city then resold it, for an extremely low price, to General Motors. The company built an assembly plant on the site. The process destroyed a long-standing and stable community, disbursing its residents for the payment of "fair market value". Early in this decade, New London, Connecticut accomplished a similar assemblage. The New London land, bordering the Thames River, is to be leased, at a very favorable price, to private developers. The community of long-term residents is to be replaced by condominiums and luxury hotels.

Both cases, known as Poletown and Kelo respectively, precipitated legal skirmishes. In each the plaintiffs challenged the condemnations by arguing that handing the land to private developers does not constitute the public use specified in the constitution to support the exercise of eminent domain powers. The Michigan Supreme Court decided against the Poletown plaintiffs as did the US Supreme Court in the case of Kelo. The most august legal referees support the long-standing understanding that public use is whatever the duly elected government decided it to be.

Kelo, in particular, precipitated intense public reaction. Many think it is highly unfair to move people from their homes for the simple compensation of market value in order to give the assembled property to private developers. Populous sensibilities are agitated by the image of simple people forced from the homes they love and cherish in order to benefit wealthy exploitive developers. As is often true, the real world is not, to paraphrase Ross Perot, just that simple.

Both Detroit and New London have serious economic problems. Residential job loss and tax base erosion would have been the consequence had GM moved its Cadillac assembly plant away from the city. New London with the loss of its once thriving shipbuilding industry was seriously depressed. Pfizer pharmaceuticals located an office there, but exacted a promise from the city to redevelop its waterfront neighborhood. Kelo was the consequence of honoring that promise.

There is an intense debate, judicial, academic and popular, about whether or not governmental assemblage of land to be handed to private businesses constitutes the

"public use" for which the Constitution grants eminent domain powers.<sup>1</sup> On the face of it, at least the face painted by the media, "...bloating the coffers of the developers who receive assembly at the expense of the condemnees"<sup>2</sup> is a dubious public use. But, there is more to the public-private interface than "bloating the coffers". Considerable planning precedes a redevelopment project. Some of the expertise resides in the public sector, but much depends on the specialized knowledge of profit oriented private individuals and firms. No matter how well planned, large scale developments are risky investments. Most academic examinations of the eminent domain issue ignore inevitable planning costs and risk.

Analyses of the taking problem often treat the outcome of the underlying project as a certainty. It is common that redevelopment projects are undertaken by publicly subsidized private developers. The developers are offered assembled properties at very low prices in exchange for producing a land use outcome that is in the public interest, as with Poletown and Kelo. We have no proof that these cases are not examples of under-the-table dealings designed to profit a few on the backs of the powerless displaced. However, another reasonable conjecture, one that may be naïve, is that these are examples of efficient ways to share the planning costs and spread the risk of lower than expected returns from the proposed projects. The disadvantage of the procedure followed is that there is no way of knowing whether or not the ownership transfers were efficient.

The rationale for assembling land, by public agencies or private individuals, is that the assembled plot is more valuable than the collective sum of the unassembled individual properties.<sup>3</sup> The fundamental difference between private and public assemblies is that the former provides *prima facie* evidence that the transformation of property boundaries is an efficient one – at least it survived a market test: a buyer was willing to pay at least as much for all the individual property claims as the pre-existing

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<sup>1</sup> The question of what constitutes "public use" is a difficult one. The complexities of this issue with much clear thinking is found in Merrill (1986)

<sup>2</sup> The phrase is taken from Heller and Hill (2007). Out of context as it is here presented, subtle nuances are lost. We guess that the phrase was used to reflect what the authors believed is a popular conception of redevelopment.

<sup>3</sup> The inefficient distribution of ownership rights has received a good deal of interest, it is often labeled the problem of the anticommons. The first use of this term that we know of is in Michelman (1967). An extensive and thorough analysis from a legal perspective is in Heller (1998). Buchanan and Yoon (2000) appear to be the first to present a formal economic analysis of the issue. The analysis is advanced and refined by Parisi, Schultz and Depoorter (2006).

owners were willing to accept. It is not as obvious that a public assemblage, aided by the coercive threat of eminent domain condemnation, can survive the simple efficiency test. Excessive transaction costs are often cited as justification for the use of eminent domain condemnation.

The absence of a market test is not proof that the assemblage is inefficient. For a multitude of public welfare reasons, the property realignment done by a public agency can be efficient. Consequential increases in tax revenues and employment opportunities can reduce a city's welfare roles and allow it to upgrade its services for the benefit of the large fraction of its citizens<sup>4</sup>. Perhaps the inefficiency of public assemblages is not the problem; rather the problem is that a small and focused group, namely the collection of residents whose life is disrupted by the forced relocation, bears a disproportionate burden. For the private assembly, it is reasonable to assume that the disruptive costs are covered when a purchase offer is accepted.

Private assemblies are done with as much secrecy as possible. The assemblers are aware that individual property owners will extract as much of the purchase profit as possible.<sup>5</sup> If the seller knows that an assembly is in progress, negotiations can be lengthy and costly. Irrespective of how much of potential surplus is captured by the buyers or sellers, the negotiations towards agreement by many parties can be very costly. Some advocate the limited use of eminent domain for private assembler to reduce these transactions costs.<sup>6</sup>

Private assemblers are not yet armed with the threat of eminent domain condemnation; indeed it is doubtful that they ever will be. However, partnerships between developers and public agencies, under the name of redevelopment, are common. The redevelopment partnerships may be legitimate ways to reduce transaction costs and share development risks, but they smack of cozy dealing between city hall and special private interests. Even if all is on the up-and-up, a public-private cooperative arrangement does not have the advantage of a market test for the efficacy of its project.

Analyses of takings and efficiency rely on a model of a certain world to evaluate whether or not the prospect of a taking will induce resource wasting expenditures. While

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<sup>4</sup> See John Lindsey forward to Alpern and Durst (1997)

<sup>5</sup> See the story of the Citibank assembly in Hellman (2004)

<sup>6</sup> Alpern and Durst op. cit.

the taking itself may be a random event, the outcome of a resource commitment (the outcome represented by a production function) is known with certainty. This is a handy simplification for modeling purposes, however, it is a representation that is far from the truth. Return uncertainty is inherent in redevelopment projects that require large assemblages of land. Large development projects entail great risks. A partnership between a private entrepreneur and a public agency may be less a matter of a mutual back-scratch than a way of sharing the risk between a private developer and the general public.

It is common to point to the successful redevelopment projects and note how the rich (developer, General Motors, etc.) get richer (perhaps on the backs of the displaced residents). However there are unsuccessful projects as well. It is impossible to determine if the failures are caused by the ineptitude of bureaucrats involved or the vagaries of the market. Purely private projects fail to return the profit expected and some public ones achieve their desired goals successfully.

Because of the uncertainty it seems reasonable that the test for the efficiency of a project that requires large scale assemblages is a market one. A market price of a property reflects the evaluation.

We tend to think that the private market will guide real property to its highest and best use: the most profitable of feasible uses. The mechanism, while not often spelled out explicitly, is that market wisdom (the information and knowledge and experience and financial and social networks of all participants) is reflected in land values. Individuals with their unique circumstances evaluate the potential profitability (for commercial ventures) or utility (for residential uses) and establish a value. The person with the highest evaluation ultimately possesses the property by virtue of the amount he is willing to pay for it. This is the sense in which properties are put to their highest and best use. It should be noted that the allocation of property to the person with the highest evaluation implies that the ownership lies with the most optimistic expectation.

In this regard a real property is similar to any other financial asset. The riskier are the prospective returns the higher must be their expected value. Development projects compete for resources with all other financial opportunities: the more uncertain (riskier) the result, the higher must be the expected return.

A necessary condition for efficient land assemblage is that the eventual ownership resides with the parties from which the highest value can be realized. The most optimistic private entity with ownership of the entire assembled plot may be the most efficient. However, there may be no potential single owner whose evaluation exceeds aggregate value of the smaller parcels owned by existing residents. In this case efficiency requires that the assembly and subsequent development be abandoned in favor of the status quo.

There is a market based method by which to evaluate the efficiency of proposed assemblages. The institutional method proposed in one recent paper by Lehari and Licht (2007) -- labeled L2 -- and a second more recent one by Heller and Hill (2007) -- labeled H2. Both papers propose an auction of the assembled properties. With the modification we propose the L2H2 auction can be used to evaluate the efficiency of the assemblage with the additional, and most desired, feature that the existing land owners do not suffer the burden of the project. In fact, displaced residents share in the increased market value of the assembled property.

In the following sections an auction mechanism, one in which the reserve price is set by the existing residents, is presented. It is shown that the mechanism induces individual landowners to reveal the true personal value of their property. The auction outcome insures ownership is transferred only if it is efficient to do so. The proposed auction mechanism is not fully efficient in that there may be some projects that are overall welfare increasing and still be unable to put forward a successful bid (one that exceeds the reserve price). A discussion of potential shortcoming concludes the paper.

## **The L2H2 Auction**

Heller and Hill (2007) propose the formation of Land Assembly Districts (LAD) in which all residents will sell if a sufficiently high bid for the assembled land is received. The idea is that the aggregate of all land within a district exceeds in value the sum of all the individual parcels. Surely such a super additivity condition is necessary for any project (whether public or private) undertaken. If the market price of assembled land is lower than the sum of the individual values, then the proposed project should not go forward. The modified L2H2 auction proposed here insures that projects are launched only if the assembled value is superior to existing value in the fragmented ownerships. What is suggested is an extension of a scheme of Lehari and Lichts (2007).

L2 suggest that in a case like New London, where there is a legitimate public interest (maintaining employment and an enhanced tax base), eminent domain is employed to save the transaction costs associated with assemblage. However, the condemned can participate in the assemblage-enhanced land value.

Here is how it all works: the area (however defined) decides to form an assemblage district (ala H2). The district is constituted along the legal lines described by L2 or H2 – the structure of the district is of little matter, the important matter is that it is legal, appear legitimate and uses the auction and distributional rule here proposed.

The land is assembled and then auctioned to the highest bidder. The final sales price is allocated (perhaps proportional to the pre-assembled market value) to each of the condemned landowners. This, by the way is similar to the H2 plan. Both L2 and H2 suggest different institutional structures to make the plan operational. We have one that will ensure that the result is both efficient and fair.

There are, on one side of land assemblage, those who must give up claims to privileges within the assembled area. These are the potentially dislocated (PD). Among the PD are both property owners and renters. On the other side are the potential acquirers (PA): those with an interest in purchasing the assembled land. These are the potential auction bidders.

Neither L2 nor H2 offer detailed specifications of their auction. It is reasonable to presume that both sets of authors are thinking about a first price oral auction, one in

which PA's offer successive, ever increasing bids. The bidding stops when no PA is willing to offer more than the last bid. The property is awarded to the highest bidder. With a few modifications to the basic framework, the L2H2 auction can serve to allocate efficiently and equitably.

The first modification is that the assembled property is offered at auction with a minimum acceptable price  $r$ , called the auction reserve. The value of the reserve is not made public; only the auctioneer knows the true value. It is never revealed to the PA's.

The second modification is that each PD is guaranteed a share  $\alpha_i$ <sup>7</sup> ( $0 \leq \alpha_i \leq 1$ ,  $\sum \alpha_i = 1$ ) of the assembled property's sales price (the highest bid) if there is a successful bidder. The final modification is that each resident announces a preferred reserve  $r_i$ . The auction reserve,  $r$ , is the largest of these,  $r = \max \{r_1, r_2, \dots, r_n\}$ .

We impose few restrictions on PA decision making for those that are rational are compatible with the modified auction. The only one that is crucial to our story is that every PA enters the auction with a predetermined maximum bid that we label  $b_r$ . We want to consider what determines this price. With the simple narrative about PA choice we want to emphasize the contribution made by developers to the redevelopment process. It is an aspect of urban renewal that is often overlooked. The developers apply their considerable skills toward an uncertain end.

As a start a PA may draw out a scenario of costs and income flows<sup>8</sup> if he acquires the assembled tract of land. Perhaps it must be cleared and then newly developed: infrastructure must be installed, buildings erected, tenants found, investors and loan commitments solicited. All phases of the acquisition and development entail substantial costs. Detailed designs followed by public approvals, planning board meetings are all necessary and time consuming. The PA anticipates considerable outflows of money before the any income is realized.

If the PA has understood the Economics 1 lecture on present value, he will choose a discount rate commensurate with his perception of the project's riskiness and calculate present value of the cost and income stream. Built into the projection are the payments for the PA's efforts (and the return to all potential investors) as the expected return that is

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<sup>7</sup> The computation of the shares is discussed in a later part of the paper

<sup>8</sup> It is common to call this scenario a "pro forma".

necessary to engage in the development enterprise. The specific value of  $br_i$  for any PA is his assessment of the present value of the project, incorporating the risk assessment and the required entrepreneurial return. If the assemblage can be acquired at, or below, this value the PA anticipates an acceptable profit from the enterprise. It is likely that no two PAs have the same reserve so it is reasonable to assume that there is a distribution of the buyers reserve. This distribution may or may not be common knowledge. In fact each of the PD's can have its own idea of what is that distribution.

The current value of a particular property is specific to the PD with an interest in the property (be that an owner, a renter or both) and is known to that person alone (it is not common knowledge). It is reasonable to assume that this value,  $R_i$ , an owner's reserve, exceeds the properties current market value. If this were not the case, the owner would have already sold.<sup>9</sup> From this point of view, the efficiency of a project depends on whether or not the auction value – the highest bidder reserve at the auction, and amount labeled  $B$  – exceeds the sum of the PD reserves ( $B \geq \sum_i R_i$ ).

Suppose that each PD has an idiosyncratic notion of the buyer reserve distribution. By this we mean that a PD's belief can be represented by density functions that are individual specific. These are denoted  $f_i(br)$  for  $br \in [0, \bar{b}_i]$  Whether or not the PD densities are continuous and differentiable is of no matter to the qualitative results. The assumption of continuity and differentiability is maintained to simplify the presentation to follow.

The assembly district auctions the property. The PA offering the highest bid, if it exceeds  $r$ , gains control of the property and each of the Potentially Displaced are now Displaced. In return for surrendering their property claims, each is rewarded with the predetermined share,  $\alpha_i$ , of the successful bid  $B$  (a displaced claimant receives  $\alpha_i B$ ). The difference between  $br_i$  and acquisition price,  $B$ , is the PA<sub>*i*</sub>'s surplus. But it should be remembered that this is surplus over a necessary PA profit. The difference between the acquisition price and the auction reserve is surplus distributed to the PD's. We have nothing to add about which side, PD or PA, deserves the biggest share of these surpluses

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<sup>9</sup> While this assumption seems reasonable there are reasons for suspicion. The act of selling a property takes time and information. A PD is unlikely to know from moment to moment the current market values. Furthermore, PDs might be willing to sell if offered immediate cash equal to the current market value

since its division affects neither the viability of the development project nor the willingness of the PD's to relocate.

The simple structure of this process yields a remarkable outcome. Namely, with the announced choice of the preferred auction reserve,  $r_i$ , a PD reveals the personal value of its property claim. Furthermore, if there is a successful bidder, namely a high bid that exceeds the auction reserve, the transfer of property rights is efficient. This is now shown.

A PD's expected value will depend on the reserve price as follows:

$$EV_i = R_i F_i(r) + \alpha_i \int_r^{\bar{b}_i} br \cdot f_i(br) dbr \text{ where } F_i(r) \text{ is the cumulative density of } b \text{ evaluated at}$$

the auction reserve,  $r$ ,  $F_i(r) = \int_0^r f_i(br) dbr$ . The formula can be understood by considering

the auction's potential outcomes. If there is not a successful bidder every PD retains its personal value  $R_i$ . A PD's assessment of the probability of holding the property claim is  $F_i(r)$ . With probability  $1 - F_i(r)$ , a PD's expectation is  $\alpha_i$  times expected value of the winning bid conditional on it being larger than  $r$ . The conditional expected value weighted by the probability of a successful bid is

$$(1 - F_i(r)) \int_r^{\bar{b}_i} br \cdot \frac{f_i(br)}{1 - F_i(r)} dbr, \text{ where } \frac{f_i(br)}{1 - F_i(r)} \text{ is the density of } br \text{ conditional on } br > r.$$

Given this it is optimum for every PD to announce his true reserved price as the one he prefers for the auction.

**Proposition.** *It is the best response, irrespective of any and all other announcements, for a Potentially Displaced to announce its true reserve price divided by their distributional proportion,  $\alpha_i$ , as the preferred auction reserve.*

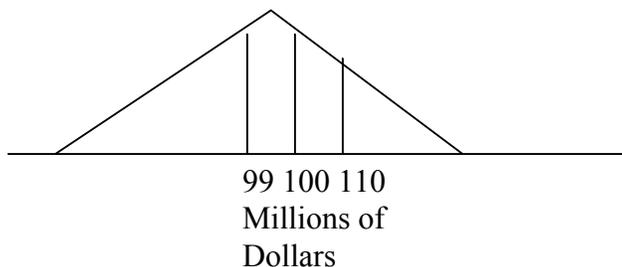
Proof. The derivative of the landowner value with respect to  $r$  is

$$\frac{\partial EV_i}{\partial r} = (R_i - \alpha_i r) f_i(r).$$

The sign of this derivative depends on the difference between an individual's "true" reserve price and  $\alpha_i r$ . It is positive for all values of  $r$  for which  $R_i > \alpha_i r$  and negative for  $R_i < \alpha_i r$ . The optimum auction reserve for  $PD_i$  is  $r_i = R_i/\alpha_i$ . If the rule is  $r = \max \{r_i\}$  then no matter what others announce  $PD_i$  announces  $R_i/\alpha_i$ . This is so because a reserve announce less than the maximum of all others does not change the auction reserve<sup>10</sup> and a reserve announcement higher than the maximum, if that is not the individual optimum, decreases  $PD_i$ 's expected value.//

As an example consider Jeremiah Jones, one of the Potentially Displaced. Mr. Jones values his property at \$100,000 : if someone were to give him that much money for his house, he would pack and move in a month. The market value of the Jones residents is assessed at \$75,000. If Jones is dispossessed for market value he suffers a \$25,000 loss. Suppose the L2H2 auction assigns Jeremiah an  $\alpha_{\text{Jones}} = 0.01$ . He will receive 1% of any winning bid.

Jeremiah is not sure what the highest bid for the assembled land will be, but he believes that the distribution of potential bids is as shown in the following figure.



He contemplates what should be his candidate for the auction reserve. He thinks of \$99 Million and decides that that won't do because if that is the reserve and the winning bid is \$99.5 Million he will be given \$99,500 for something he values at \$100,000 (that is he can continue to enjoy \$100,000 worth of value if there is not a successful bid and he remains in his house). He then considers \$110 Million and contemplates the possibility that the highest value bidder might be willing to pay no more that \$105 Million. In that case he would have forgone \$5,000 in surplus – he would be better off receiving

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<sup>10</sup> Perhaps more accurately, if  $\alpha_i R_i$  is smaller than the any other announcement  $PD_i$  is indifferent between all announcements less than the maximum.

\$105,000 and moving away. The final decision is that JJ announces \$100,000,000 as his chosen auction reserve, irrespective of what any other resident chooses.

Suppose JJ neighbor Xavier Xenopus chooses an auction reserve of \$105,000,000. JJ would have preferred a smaller number, but since his announcement will change the auction reserve only if it is larger than XX's, and Jeremiah thinks that a larger number will only reduce his chance of getting more than his reserve value, he can only reduce his expected return by trumping XX.

This illustrates the central idea. The modified L2H2 auction induces every PD to state the value of its own reserve divided by its share of the surplus. Irrespective of any other landowners reserve choice, every current resident chooses the assembly districts reserve price that is a proportion of their own reserve price. The factor of proportionality is given (imposed) and, in particular, independent of the personal investment choices and announcements of preferred auction reserves. The best choice for any resident is the one that insures the enjoyment of, at least, the personal reserve price whether or not there is a successful auction bidder.

The outcome is not necessarily efficient, since an efficient outcome would be a final bid value that exceeded the sum of the individual reserve prices. The largest announced value is no smaller than that sum. However, it may exceed it, depending on the assignments of the shares. It is likely that a share assignment that does not depend on pre-knowledge of the individual reserve prices will not equate the auction reserve with the desired sum.

There may be some bids that exceed the sum of reserve prices but not the maximum of the announced reserves ( $\sum R_i < br_{\max} < r$ ) and these would be universally welfare increasing with the proper distribution (they would survive the Kaldor-Hicks efficiency test). The degree of inefficiency is to be determined. One idea is that if the auction reserve is less than the highest bid, there is no efficiency loss. It is only when there are no successful bidders that one must consider the magnitude of the loss. Perhaps a consideration of the joint distribution of individual reserves and bidder value will lead to approximations of the potential welfare loss.

The advantage of a market-based auction implementation is that it market wisdom (incorporating all the risks and uncertainties inherent in any development project)

determines value. It also allows the condemned landowners a participation in the assemblage gains.

### **Efficiency**

Most examinations of the taking problem treat the outcome of the underlying project as a certainty.<sup>11</sup> However real estate development is risky and the expected returns must be commensurate with the risks. There is not sure thing and at any given time the market for the assembled land will reflect the aggregate of knowledge about the prospects (and risks). This is the beauty of the L2 and H2 proposals: they ultimately depend on the market to assess the risk adjusted value of the project. This assessment is reflected in what is the market price of the assembled properties. While different in details, both L2 and H2 propose that the entirety of the assembled properties be auctioned to establish the true value.

A second appreciable advantage of the L2H2 auction is that the dispossessed residents do not bear a large part of the redevelopment subsidy cost. The condemned not only do not bear the burden of the public subsidy, they also participate in the value of the assemblage. Every PD is ensured at least his reserve value. If there is a successful bid, it is large enough to insure that every condemned gets his reserve. If the assemblage surplus is sufficiently large, the condemned can receive a bonus in excess of the reserve price. In spite of favorable aspects of the compensation plan, there is a potential inefficiency associated with it.

Any project for which the assembled land value is greater than the sum of the individual reserve prices is potentially efficient (at least worthy of replacing existing uses). If the maximum auction reserve price is greater than the sum of all individual prices, efficient projects (those that induce an agglomeration value greater than the sum of the reserve prices) may not be undertaken. If the value associate with a given project is less than the auction reserve, there will be no bidders for the assembled parcels. It is interesting to examine the conditions under which no such inefficiency arises and those that they do.

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<sup>11</sup> See for example Blume, Rubinfeld and Shapiro op. cit.

## Poletown and Kelo Revisited

The structure of the deal that destroyed Poletown is as follows

"General Motors had announced its intention to close the plant and move to the South unless the site of the Cadillac plant could be significantly improved. GM asked the City of Detroit to make extensive improvements to the freeways, streets, sewers, and other aspects of the site. If those changes were made, GM said that it would keep the Cadillac plant open. The cost of the acquisition of the property and of making these improvements was over \$200 million. The City intended to sell the site to General Motors for \$8 million."<sup>12</sup>

The bottom line is that General Motors received a \$192 million subsidy. It is impossible to know whether or not this was an efficacious use of that large sum. Detroit's elected representatives made the decision to spend that amount of money. It is reasonable to suppose they thought the benefit of maintaining the assembly plant was at least as large as that cost.<sup>13</sup>

Poletown seems an unlikely candidate for an L2H2 auction, but it could have been structured to suit the auction framework. The obvious problem is that there is but one potential bidder – General Motors. This was not necessary. The assemblage might have been auctioned with no restriction on the bidders. It is possible that there was a higher and better use than a Cadillac assembly facility. Rather than an in-kind subsidy of land and infrastructure improvements, the city could have offered a direct subsidy of \$192 million if GM (or perhaps any other group whose plan suited the City's development objectives) successfully acquired the property in the auction.

It is naïve to think the L2H2 framework would have had the backing of the political forces governing the city. General Motors is essential to Detroit's economy. It is likely that GM has sufficient political muscle to block open bidding for the Poletown assemblage. Nonetheless, envisioning the open auction process applied to this illuminates one of its attractive aspects. It erases the suspicion of backroom cozy dealing between politicians and private interests and it allows the public sector a chance to explore the possibilities of alternative roads to economic stability.

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<sup>12</sup> <http://www.law.berkeley.edu/faculty/rubinfeldd/LS145/poletown.html>

<sup>13</sup> Fischel would dispute this on the grounds that the subsidy was financed with a grant from the Federal Government. In his view the subsidy needs to be locally financed to qualify as satisfying the assertion made here.

The L2H2 auction is a natural choice for the New London redevelopment assemblage. The complicating factor in New London is that the land, once assembled, is leased to private developers. There are undoubtedly reasons for preferring the lease over outright ownership. But with the long lease length there is little difference. The favorable lease terms represent a considerable subsidy to the developers. In order to fit New London in the auction framework, the subsidy needs to be offered to the successful bidder (perhaps with restriction on its use, as, for instance, adhering to a specified development plan).

### **Troubling Issues**

Implementation of the L2H2 auction has few flaws. It appears to be fair and lead to efficient choices. It may be a bit too conservative in that otherwise efficient project may not pass the auction test if their total value is not greater than the auction reserve price. However, serious contemplation of making the proposal operational raises knotty issues. Both the L2 and H2 papers consider many practical problems associated with the proposal and present solutions for them. Nonetheless, there remain issues that must be considered.

This paper as well as L2 leave unexplored the question of choosing the candidate land areas for assembly. H2 suggest that the land assembly district (LAD) can be initiated by private interests motivated by the potential profits from developing the assemble property, by district residents interested in sharing the assembly-driven surplus, or by local government interested in improving community welfare. It seems to me that the ultimate auction, if it to truly reflect market evaluation, and, thus be a true test of project efficacy, must be open to all potential bidders. We are skeptical that private developers will step forward with LAD proposals if the hard work of making a proposal is not rewarded by a guaranteed participation in the rewards of the resulting assemblage. It may be that district citizen action groups can be formed to initiate and LAD, but this is a complex undertaking and one can reasonably question whether the degree of political savvy, organizational skill and economic acumen necessary exists in areas that are targets for redevelopment. It seems reasonable that the initiative for forming an LAD must come

from the local government. Areas are identified for redevelopment and then the persuasive power of government, backed by the threat of condemnation, are necessary for success.

The auction mechanism in which surplus shares are imposed and individuals announce their preferred reserve price works if individuals know the minimum price at which they are willing to sell their property. While a decent concept in theory, implementation is more difficult. On a long drive, with little to do to make the time pass easily, one of us tried an experiment with his wife. The question thrown out is what amount of money would be sufficient for us to surrender the house and property we own and move within a month? The current market value was estimated at approximately \$900,000 (remember this is California). It was certain that a 10% premium over market is insufficient and maybe even a 50% premium is not enough. The house is loved for its many unique features developed over the years. There is the vegetable garden, the study and the kitchen remembered the many meals prepared for family feast times. With a price double the market, the choice became harder. There is the loss of all the loved things along with the pain of moving after so many years that make a move costly. However, there are attractive alternatives less expensive than \$1.8 million so that is an acceptable offer. Given that there is an acceptable price, maybe one a bit smaller is also acceptable. The point of this, a non random, but probably representative thought experiment, is that individuals may not be able to specify a reservation price immediately, but given some guidance a reasonable reserve price is possible.

A third issue that is directly addressed in H2 but ignored in L2 as well this paper, is the interests of those who are renters within the assembled district. H2 give them a share of the surplus, as well as a vote on whether or not to go forward with an assembly district. It is more difficult to protect other than property owner interests with my version of the L2H2 auction.

A fourth, and practically important issue is constructing the  $\alpha$ 's. The equity and efficiency of the L2H2 auction, modified as suggested here, is not sensitive to the construction of the shares; they simply must be positive and sum to one. However because the individuals' preferred auction reserves are equal to the personal value of their claim divided by their share, different  $\alpha$  values can result in different final outcomes:

efficient projects with values greater than the reserve with one set of  $\alpha$ 's may not be large enough with an alternative set. In addition, the allocation of the auction price (presumably the value of the assemblage) is proportional to the shares. While every one of the displaced receives at least his reserve, there are some who receive more than others. The distribution of the auction value may not be regarded as fair.

If we ignore the potential claims of any but property owners (those with fee simple claims) it may seem reasonable to allocate on the basis of property values. A simple rule is for each person's share to be equal to the market value of his property relative to the market value of the preassembled properties. Perhaps it is the simplest and, on the face, most reasonable allocative rule. The potential problem with an assessed value formula is that it encourages wasteful resource use to influence shares. The problem has been well discussed and is a central issue in the economics of takings first introduced first by Blume, Rubinfeld and Shapiro (1987) in an article on compensation and eminent domain. The simplicity of the assessed value rule may recommend it because of its practicality, but it is subject to manipulation by individual property owners: the more an owner invests on his property the more its market value. The resources invested to increase individual shares of the assemblage surplus are wasted and therefore inefficient.

A feasible and practical alternative to the total assessed value is contained on most property tax bills. The assessment on these often separates the total value into two part, the value of the land and the value of improvements. The land values depend on surrounding neighborhood characteristics (e.g., local infrastructure and location) rather than the improvements on the particular plot. As such the value is not subject to the same manipulation as is the total assessed value. Shares equal to the individual's land value relative to the total seem reasonable.

An even simpler alternative is to allocate to every displaced and equal share. There is some appeal to this in that it distinguishes not between the poor widow who must move from her home and the wealthy absentee landlord. However, the strict equality rule can have unwanted efficiency consequences unless personal values (individual reserves) are all the same.

It is important, no matter the choice of shares, that they are imposed and not subject to manipulation. There must be a credible commitment to leave the  $\alpha$ 's unchanged, irrespective of the announce reserve preferences. This may be the trickiest of all issues, as there would be an obvious temptation to manipulate the shares after the announcements in order to achieve a reserve that is palatable to potentially efficient bidders.

The final caveat relates to the condition that the auction reserve is not known to the bidders. This restriction is not essential for an auction in which there are many bidders, so many that the final price is close to the highest bidder reserve. However, if there are a few potential bidders, as in the case of Poletown, individual PD's may choose to announce a preferred reserve that is much higher than the one that truthfully reveals their own value. As an example refer back to the case of JJ and XX. If JJ believes that there is one PA with a reserve price of \$200,000,000 he will be inclined to announce the higher price, irrespective of his own value, to insure that the assembled land is not sold for less than that price. However, if the auction reserve is unknown to the PA's there JJ cannot profit from stating the higher reserve and may face a loss if the highest buyer reserve is less than \$200,000,000.

## **Conclusion**

The L2H2 auction of assembled property is a commonly used procedure. The parcel is sold to the bidder willing to pay the highest price. Its unique feature is that the reserve price, the lowest price at which the assembled parcel will be sold, is determined by the preferences of existing residents. The highest preferred reserve is the one used in the auction. There are two favorable consequences of this. The first is that the assembled property is guaranteed to be put to a use that is more valuable than the existing use – only efficient projects generate successful bids. The second is that current residents are not made to bear the burden of the promoted redevelopment. Implementation of the L2H2 framework does not insure that the assembled land is put to its highest and best use since

the reserve price can be sufficiently high to discourage any bids, even those that might represent project with higher value than existing resident use.

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