ABSTRACT

Economic Issues in Assembling Properties and Relocating Communities by Means of Eminent Domain*

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Eminent domain (ED), the legal right to acquire property by forced rather than voluntary exchange is often used in the assembly of contiguous properties to accomplish the siting of facilities having a public use characteristic. To gauge the relative economic efficiency of ED, a model is proposed which relies in great part on identification of distributional phenomema in both market and ED acquisitions. Analyzed data suggest that distribution-related issues such as holdout behavior, bearing of transactions costs, and relocation compensation are important determinants of ED's efficiency.

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There are frequent circumstances under which governments and their designated agents need to acquire private property for public use. Unique sites such as valleys where reservoirs can be constructed, and sites overlying geologic formations suitable for the storage of hazardous waste as well as highway and urban siting situations are examples. In some of these cases, it may be necessary for the government agency to assemble properties belonging to large numbers of individuals. In the extreme case, it may be necessary to acquire the land encompassing entire communities leading to the possibility of a relocation -- provided that residents wish to have the community infrastructure replaced at a new townsite.

The purpose of this paper is to explore a select set of economic consequences of the assembly of properties constituting a community by governmental (particularly federal) agencies. In particular, the interaction of legal procedures (eminent domain) and "economic efficiency/economic distribution" consequences are addressed. Considerable research has been focused on the broader set of consequences, that is the socio-psychological phenomena and ethical issues accompanying the sudden relocation (and sometimes the dissolution) of a community and the

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disruption of community integrity.[1] Below we briefly present a model of economic efficiency implications of Eminent Domain (ED). Of greater interest, however, is the formulation of a framework to describe the distributional consequences of ED among community residents since they may be quite relevant to the measurement of the economic efficiency of the process. An analysis of data incidental to the acquisition of the North Bonneville, Washington townsite by the U.S. Army Corps of Engineers does indeed reveal distributional consequences of the ED process and enables some inference about its efficiency. We conclude with a discussion of the analysis of community relocation/maintenance of community integrity and plans for analysis of further micro-level data being collected.

Legal and Economic Issues in Acquisition of Property by Eminent Domain

Eminent domain (ED) may be defined as "the power to take private property for public use by the state, municipalities, and private persons or corporations authorized to exercise functions of public character" (Black's Law Dictionary). The "takings" power is limited by certain "public use" and "just compensation" requirements of the constitution. This authority is based upon provisions of the Fifth Amendment to the Federal Constitution and upon the constitutions of the individual states. Although authorized entities may engage in property acquisition by purely

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[1] Several case studies of forced relocation of communities focus attention socio-political relationships of the entity acquiring property and the community residents. E.g., see James W. Wilson's People in the Way. A broader discussion of issues is contained in Roger G. Kraynick and James D. Hastie, "The Significance of Economic Distribution of Impacts and Impact Mitigation Measures in Rural Communities Subject to Large Facility Siting", Western Rural Development Center and Cooperating Institutions, ed. Socioeconomic Analysis of Repository Siting, FY 1981 Completion Report, Corvallis, Oregon (March, 1982).

voluntary exchange, the power encompassed in ED (even if not exercised) is believed to be pervasive in all such acquisitions. The judicial interpretation of the 'public use' requirement has varied throughout American legal history. The prevailing view today is that acquisition shall be to the advantage or benefit of the public as opposed to conferring use rights to them. In the normal day-to-day workings of eminent domain process, as interpreted according to this "advantage" criteria, "...almost any taking can meet the public use requirement..." (Meidinger). The courts, by retaining this criteria and more importantly, by seldom ever explicitly defining it, have not surrendered the prerogative of reviewing the legitimacy and wisdom of candidate public uses.

The criterion which is of greater interest to economists concerns "just compensation". The Uniform Eminent Domain Code of 1974 (a model statute, now adopted by many jurisdictions) provides some explicit guidance to this issue beyond that given in the Constitution. Before any condemnation action is initiated in the courts, an effort must be made to purchase the properties through voluntary exchange. The offer of the condemnor must be at least as high as an appraisal of the amount that would constitute just compensation for its taking (§202-3).[2] If this offer is rejected by the condemnee, the condemnor may negotiate further or file a complaint for condemnation in the appropriate court. While the code does not require that offers above the appraised value be made, it does provide that every reasonable and diligent effort be made to acquire property by negotiation.

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[2] This requirement is only binding in cases of federal or federally-assisted projects or within the jurisdiction of a state that has adopted such requirements.

Just compensation is also addressed in the code by charging the court with the award of the fair market value of property being acquired, assessed at the date on which the condemnation action was filed with the court. For properties where there is a viable market, fair market value is defined as the price which could be agreed to by an informed seller who is willing but not obligated to sell, and an informed buyer who is willing but not obligated to buy (§1004).

In contrast to the criterion of fair market value, some suggest that more consideration be given to the value of the property to the present owner (Posner). If the owner has chosen to continue owning his property, then his valuation of the property has been higher than whatever the market may have offered him. If this were not the case he already would have sold the property. It is important to recognize, though, that costs of relocation are included in the owner's weighing of his valuation of the property versus an offer from the market. If an offer from the market does not cover these costs in addition to the value of the property itself, he will be unwilling to sell. Traditionally, these costs are ignored in the determination of a fair market value for land and improvements.

Not until 1970 was there an effort to systematically provide compensation for relocation and related expenses incurred as a result of the use of ED. With the passage of the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, guidelines were established for the provision of such assistance for all federal or federally assisted projects. In 1974, similar provisions were recommended for non-federal projects, as well, with the creation of the Uniform Eminent Domain Code.

This brief review of the legal aspects of ED has been to acquaint the reader with a basic definition and the statutory law dealing with ED. For

a discussion of some of the considerable case law concerning ED, see Meidinger, Michalman, and Berger and Rohan.

Economic Efficiency Implications of ED

Scheiber has observed that the use of ED has increased over time which raises the question of whether the procedure may be more economically efficient than the assembly of properties in the free market. To analyze the latter situation, consider that a monopsonistic buyer is attempting to assemble contiguous privately-owned properties (Munch). Figure 1 shows the buyer's MVP schedule (for the properties as a part of a completed project) and an average factor cost curve, AFC_c (the supply curve of contiguous properties). The ordinate of the curve marginal to AFC_c (curve MFC_c) gives, therefore the amount the firm would add to its total

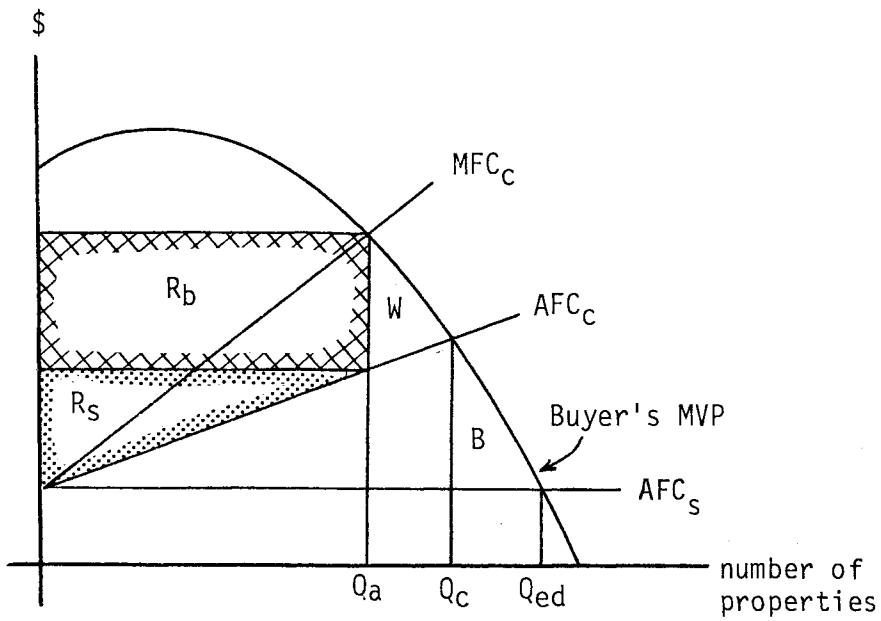

Figure 1. Market and ED Assembly of Contiguous Properties

costs for each additional property acquired.[3]

The optimal number of properties acquired by the monopsonist is Q_a. Rents accrue to the buyer (area R_b) and to the sellers (area R_s). Area W represents a social welfare cost taking the form of (1) loss of rents to other factor inputs complimentary to the assembled land and (2) loss of consumer surplus by those consuming outputs of the assembled land.[4]

The analysis is made more complex by the potential for hold-outs (essentially a free-rider problem). However, space does not permit a full discussion of the rents (and rights to those rents) in a hold-out situation. The result is an upward rotation of curve AFC_c and therefore a suboptimally-sized assembly with greater social costs. Although there are means of circumventing the hold-out problem (buying with secrecy, purchase options, etc.), one solution for the government buyer is to simply invoke the power of condemnation. This essentially means attempting to force property owners to sell at the price that would apply to randomly scattered properties (curve AFC_s). If the VMP curve is unchanged, too many properties (Q_{ed}) will be acquired and a social welfare cost (area ?) will result. Thus, the model does not yield an unambiguous choice on the most efficient means of assembling contiguous properties.

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[3] Curve AFC_s is supply curve of randomly scattered properties (and is also the marginal factor cost curve in this case). The slope of AFC_c is positive because (1) the rising probability of encountering owners in the contiguous area not at the selling margin whose reservation price exceeds the mean market value of the property, and (2) the assembly is accomplished in a reasonable time span (the slower the rate of acquisition, the flatter AFC_c).

[4] The existence of rents will in theory draw other project sites (hence other buyers and potential sellers) into competition with the original site. Rents would tend to be dissipated and MFC_c would coincide with AFC_c resulting in the acquisition of Q_c properties.

This simple monopsonistic model does not capture many of the complexities of the property acquisition process. And, while it is likely that the inclusion of additional factors will not entirely alleviate the ambiguity of efficiency comparison, a few of these factors are mentioned for the reader's benefit.

First, the importance of negotiation in the property acquisition process suggests that aspects of a bilateral monopoly model may be more useful than the monopsonistic one outlined here. Since properties are normally acquired through individual dealings with each owner, transactions costs, gamesmanship, and the relative bargaining strengths of the assembler and each owner will likely play an important role in establishing assembly costs and/or project size.

Second, condemnation may not always be relied upon to produce an award equal to market value. There is evidence to suggest that several factors may influence the level of court awards. If these factors alter the slope of the AFC_S curve, relative efficiency will be effected.

Third, the distribution of reservation prices plays a significant role in determining supply conditions, and hence input costs, facing an assembler. Adjustments in the variance and normality of this distribution will affect efficiency comparison.

Finally, the assumption of homogeneity of assembly properties is extremely limiting. In the real world, assemblies are typically comprised of a wide variety of property types. Meaningful theoretical analysis of assembly efficiency may require that assembly sites be viewed as groups of relatively homogeneous properties. Such an approach may identify circumstances in which one method of acquisition is preferable to the other on the basis of efficiency.

Distributional Issues in ED

Acquisition through ED raises important distributional issues, which may also have a bearing on the efficiency analysis. In a free market assembly, property owners will nearly always receive at least their reservation price, and may receive an additional premium reflective of 1) monopoly rents accruing to the site and/or 2) transactions costs which prevent the assembler from discriminating perfectly along the reservation price curve. If an assembler may condemn properties, it is uncertain how many owners will receive at least their reservation price.

Previous studies suggest that ED can result in "premiums"--both positive and negative--accruing to property owners. Premiums are defined in this context as the difference between the ED settlement and the mean price that would apply to purchases of randomly scattered parcels of a similar type. Analysis of the distribution of premiums may clarify the issue of welfare costs associated with ED. Especially important in this regard are transactions costs inherent in the use of ED.

Property owners may elect to bear the costs of information concerning the ED process and professional guidance and assistance (e.g., appraisal and legal services). If the acquisition of information and such services leads to a larger premium, then it is reasonable to expect that owners of high-valued properties will receive a larger premium than low-valued properties.

Court costs are an important transaction cost for those contesting an ED "just compensation" offer. Ceteris paribus, those with low-valued properties will be more likely to accept offers, while those with high-valued properties may see positive returns to contesting the offers in court. If the hypothesis about the returns to court costs is valid, then one would expect to see sellers of high-valued properties receiving higher ED awards.

One should not, however, ignore the prospect that the free rider problem may emerge in the time span of an ED assemblage of properties. In a large ED assembly, this time span may be several years. And even though the buyer retains the latent power of condemnation, this option implies additional costs for litigation. At some point, the buyer will likely find it more desirable to increase his offer than to face a still longer delay and the additional costs of court settlement. In these circumstances, a premium may be obtained by those who are able to prolong the negotiation process.

Evaluation of whether ED acquisitions are more efficient than free market acquisitions based on a comparison of social welfare costs is therefore complex. It may turn out that "rule uncertainty" is a critical element. That is, is there a randomness in decisions of the court regarding ED settlements unaffected by the quality of legal counsel, attitudes of the court toward wealth-holders and hold-outs, etc., or is there a predictable relationship between condemnee behavior and court awards?

A Case Study of North Bonneville, Washington

North Bonneville, located 40 miles east of Portland, Oregon, was situated adjacent to Bonneville Dam along the Columbia River. Originally established at the time of dam construction, its population was 700 in the early 1970s. In order to enlarge the generating capacity at the dam, the Corps of Engineers received authorization in 1972 for construction of a second powerhouse unit to be situated directly upon the North Bonneville townsite.

Initial plans called for acquisition of the needed property and dispersal of residents to nearby towns or to other locations in the

Northwest. This action was thought to have meant the end of the town, but citizen petition led to Congressional enactment of relocation legislation. Property acquisition began in 1974 with the final settlement occurring in August, 1981. Forty-two of the settlements were awarded by the court, while the remaining owners either accepted the Corps of Engineers offer or negotiated a higher settlement. These voluntary settlements should not be mistaken for free market transactions because the threat of condemnation was a real possibility for all of these owners.

The data available from the North Bonneville situation now includes (1) the highest appraised value of the properties, (2) the acquisition price or the court settlement, (3) the date of the settlement, and (4) the existence of other payments to individuals, in particular relocation compensation. Data from 266 property acquisitions was obtained from the U.S. Army Corps of Engineers, Portland District.

Three hypotheses were developed for testing with this data. The first hypothesis is that for properties with a high appraised value, the difference between the settlement and appraised value is larger than for properties with a low appraised value. Because insufficient data were available for estimating market values (i.e., those that would obtain for randomly scattered properties in the area), the appraised value was assumed to be an unbiased estimator of true value throughout the range of appraisals for this and subsequent hypotheses.

The second hypothesis is that high-valued properties receive proportionately higher ED premiums if the settlement is made as a result of a court claim. The third, and final hypothesis is that property owners receive a larger increase if they are able to delay final settlement. In other words, there is a premium associated with holding out.

Results of the Analysis

In order to test the first hypothesis, the difference between the settlement and appraised values (DVAL) for each property was regressed against the appraised value (APVAL) over the entire set of 266 properties for which data were obtained. This result is shown as equation 1 in Table 1. The APVAL coefficient is significant above the 95% level, and the magnitude of the coefficient supports the hypothesis that the level of appraised value does influence the amount of increase seen in the final settlement. As a result of the negative intercept, a property would have to have been appraised at over $11,600 in order for any increase in the settlement value to have been expected.

The data were divided into two groups, on either side of the mean appraised value ($27,774), for further testing. Equation 2 shows the

Table 1. Regressions on DVAL

	Sample	C	APVAL	DATE	R^2
(1)	Total n=266	-2799.24 (-4.670)	0.239438 (24.919)	---	0.7017
(2)	APVAL $\geq$ $27,774 n=63	-6843.20 (-2.370)	0.260255 (11.316)	---	0.6773
(3)	APVAL $\leq$ $27,774 n=203	-60.92 (-0.309)	0.061033 (4.018)	---	0.0743
(4)	Court n=42	-2787.57 (-1.532)	0.317119 (10.046)	---	0.7162
(5)	Voluntary n=224	-2975.14 (-4.851)	0.228488 (23.456)	---	0.7125
(6)	Court n=42	-3332.62 (-0.741)	0.316427 (9.770)	13.874 (0.133)	0.7163
(7)	Voluntary n=224	-5542.99 (-5.889)	0.222410 (23.087)	171.526 (3.619)	0.7286

results for the group above the mean, equation 3 for the group below the mean. Even though a Chow test showed the equations to be significant only at about the 80% level, they illustrate well the difference in the effect of appraised value level between the two groups. The low R-squared value in equation 3 is largely attributable to the large number of zero values for DVAL in this group. In addition, DVAL was less than $4,000 in an additional 94 cases. For the high-valued properties, the mean appraisal was roughly $81,000, with an average increase of $14,300. For the low-valued group, the mean appraisal was $11,200, with an average increase of only $620. The hypothesis that higher-valued properties will receive larger increases in their settlement values is reinforced by this evidence.

To test the second hypothesis, the original data set was divided into two groups on the basis of method of settlement -- court or voluntary. Equation 4 shows results for the court set, equation 5 the results for the voluntary set. The APVAL coefficient is significantly higher for the court set than for the voluntary set. Confidence intervals at the 95 percent level for B_1 in each equation substantiate the difference in these point estimates. For the court set, $0.253 < B_1 < 0.381$ and for the voluntary set, $0.209 < B_1 < 0.248$. In the court set, the mean appraisal was $33,000, with an average increase of $7,600 and only 3 cases showing no increase. In the voluntary set, the mean appraisal was $27,000 with an average increase of $3,200 and 117 cases showing no increase. Beyond supporting the hypothesis that high-valued properties receive larger increases by going to court, this evidence suggests that any property owner was likely to receive a larger increase by litigating his settlement.

Within the voluntary set, 15 cases were resolved after the thirtieth month of the study. In this group, the mean appraisal was $78,000, but the increase realized was proportionately greater than that for the entire

voluntary set, with an average value of $18,000. This suggested that the holdout hypothesis might also be correct. In order to test this final hypothesis, a variable expressing the length of time (in months) from January, 1974, to the settlement date (DATE) was added to the regressions for the court and voluntary sets. Equation 6 shows the results for the court set, equation 7 for the voluntary set.

The DATE coefficient for the voluntary set is significant above the 95 percent level and large enough in magnitude to support the holdout hypothesis. In fact, equation 7 suggests that if final settlement can be delayed significantly the owner may realize a larger increase than had he gone to court. For the court set, however, the DATE coefficient is small and insignificant, indicating that any premium associated with a court settlement is influenced much more by the appraised value than by the length of the litigation.

It should be noted that, because of our appraisal data, the values used in this analysis have not yet been adjusted for inflation. The appraisal process for many of these properties was a sequential one, with a second or third appraisal conducted only if a settlement was not reached with the previous appraisal. Since only the highest of these values have thus far been received from the Corps of Engineers, the true premium for many of the later settlements is larger than the current data set indicates. We have assumed that future inclusion of the additional appraisals, and the associated increase in premiums, will generally tend to balance inflationary effects. This counter-inflationary effect should also apply to the conclusions regarding previous hypotheses, as the high-valued property settlements and court awards were generally obtained later than other settlements.

One additional remark should be made concerning the use of appraisal value as an estimator for market value. While there is likely some bias involved in the use of this estimator, previous work, such as that by Munch, suggests that this bias is somewhat regressive. If this is indeed the case, then the finding that high-valued properties received higher premiums is only reinforced.

Community Relocation Issues

While work is ongoing in this area of the research, several obstacles to successful relocation may be identified on the basis of the North Bonneville experience. First, the regressive nature of ED settlements highlights one problem faced especially by the poor and the elderly, that is, the affordability of newly-constructed housing in a new townsite. This is particularly true if the existing town is typified by older, sometimes rundown, housing stock. While relocation assistance provides some measure of relief from this problem, those who would face new debt in relocating with the community, will often seek out less expensive homes elsewhere.

In part related to this problem is one involving the relocation of businesses. In most rural areas, businesses are predominantly mom-and-pop establishments. They frequently have small profit-margins, relying on family labor for survival. Since businesses receive very little relocation compensation, the cost of newly-constructed floorspace is a serious threat to their continued existence, particularly in an uncertain economic environment. Additionally, proprietors who have been considering selling out are offered an expedient method of doing so. In the new North Bonneville, for example, there now are perhaps half a dozen operating businesses, where over 40 existed previously. A primary impact of this

lack of business relocation is the initiation of a vicious circle, wherein it becomes increasingly hard to attract new residents in order to support more businesses, etc.

The timing of relocation activities is, likewise, extremely important. In the North Bonneville relocation, there was a delay of three years from the beginning of purchases to construction of housing in the new town. Many residents lived in interim housing during much of this delay. But, many others, seeing construction costs and interest rates rise, simply moved elsewhere.

Given that there is a strong desire by residents to relocate and that they can organize effectively to voice that desire, the single most important factor in successful relocation would seem to be something over which residents have very little control. And that is the willingness and desire of the assembler to undertake the relocation. The assembler usually has the power to move the relocation towards a swift and smooth completion. On the other hand, this same power may be used to create indefinite delays which only serve to frustrate succesful relocation.

Conclusions and Implications for Continuing Research

The above analysis suggests that the model pertaining to the assembly of properties by ED (outlined above) should be augmented by a more realistic depiction of the resultant social welfare costs. In terms of the graph in Figure 1, the supply curve for properties acquired through ED may not be perfectly elastic, but rather (1) sloped upward to reflect holdout effects and (2) shifted upward to reflect positive transactions costs by sellers, particularly owners of high-valued properties. Such a modification would tend to diminish social welfare costs of ED identified in the original model.

In order to further refine this analysis, ongoing work is focusing on identification of factors leading to holdout behavior and expenditures on legal and information services. Especially important to this phase of research will be the phenomena of community residents wishing to preserve some, if not all, of the community's integrity in the case of a community relocation and the effect this may have on negotiations for individual property acquisitions under eminent domain.

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