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Certifying the Real Estate Damages Class – An Appraiser's Perspective

A Greenfield Advisors White Paper

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While the legal issues of class certification are outside the scope of an expert witness' purview, the court may often rely on the expert's testimony for determination of the superiority or even workability of proposed analytical methods consistent with class management. In other words, if the court finds that the proposed methods are not workable or will not meet a *Daubert* challenge[1], then even if the bulk of the remaining issues favor class certification, the case may be in trouble from the onset.

In Kilpatrick (2004)[2] and Kilpatrick (2005)[3], I outlined the conditions for use of mass appraisal in a mass real estate tort or real estate damages class action, consistent with appraisal theory and standards. In those papers, I showed that peer-reviewed and widely accepted real estate appraisal methods existed to manage the analysis of a large, diverse class of property claims. However, three years is a long time in litigation years, and many issues have been raised since then. While these issues have generally been successfully handled, it is useful to review them in the light of salient real estate appraisal literature.

In general, these questions fall into six categories:

1. Do individual property idiosyncrasies cause mass appraisal methods to violate *Daubert*?
2. Can the mass appraisal model be reasonably specified prior to certification of the class?
3. Does the mass appraisal model provide efficiency gains (superiority) over individual appraisals of damaged properties?
4. Can mass appraisal models differentiate from among multiple sources of value impact?
5. Can a single model account for multiple property types within an affected area?
6. How can a mass appraisal model function in a market which is not at equilibrium?

Each of these questions has been addressed in recent, successful class certifications. Before summarizing the appraisal perspective on these, it is helpful to review the basic underpinnings of real estate valuation and appraisal methods as they are applied in the mass tort.

Mass Appraisal – a Few Fundamentals

The governing standards for real state appraisal in the United States is the Uniform Standards of Professional Appraisal Practice (USPAP), promulgated by the Appraisal Standards Board of the Appraisal Foundation in Washington, D.C., and adopted as a matter of law in all fifty states to govern the methods of appraisal practice in those states. USPAP has generally been accepted in the State and Federal Courts, with appropriate modifications when supplemental standards or judicial exceptions are appropriate.

Two specific rules within USPAP are applicable in these matters. First, USPAP Rule 6 ("Mass Appraisal") lays down the basic framework which is used in class-action matters, so that these models are wholly consistent within the rubric of appraisal standards. Second, the Supplemental Standards Rule allows for the inclusion of additional standards prescribed by other authoritative sources. In most appraisal situations, some sort of supplemental standards augment USPAP. For example, Federally regulated lenders generally require their mortgage appraisers to adhere to supplemental

standards prescribe by the Federal National Mortgage Association (Fannie-Mae) or other public or private regulatory body. Eminent domain actions funded with Federal highway money must adhere to the supplemental standards prescribed by the Interagency Standards for Federal Land Acquisition (more commonly known as the "Yellow Book"). Appraisals conducted in the U.S. for a non-U.S. lender or investor may need to adhere to International Valuation Standards.

In the case of a mass appraisal, the almost universally-recognized set of supplemental standards are those promulgated by the International Association of Assessing Officers (IAAO). These standards were developed and have been adopted for tax assessment throughout the U.S. As it happens, these methods dovetail neatly with USPAP, which is not surprising, since the IAAO was one of the founding sponsors of USPAP. Since appraisers in a mass-litigation situation may frequently utilize local tax assessment data as a basis for their work, the IAAO standards provide a handy, widely accepted, judicially recognized, and applicable set of supplemental standards in the litigation context.

This provides the peer-reviewed and accepted basis for appraisers developing a statistically robust model with which the appraiser can develop an opinion of value for each and every property within the affected area. Studies show that individual appraisals and mass appraisals are fundamentally the same[4]. Individual appraisals use a small data set, more judgmentalism (and the inherent risk of bias) by the appraiser, and produce a result without statistical justification. Mass appraisal accomplishes the same thing, but with a large, statistically characterizable data base, less bias and judgment, and a definable confidence interval consistent with the requirements of *Daubert* and *Kumho Tire*[5]. The most common automated valuation models (AVMs) which are developed in a mass appraisal are all variants on hedonic pricing, which as Lentz and Wang (1998) show, "[M]ost appraisal textbooks advocate this method as an essential tool for mass appraisal."

Other tools and techniques used in both individual appraisals and mass appraisals include case studies, academic literature reviews, survey research, and repeat sales analyses. All of these, and other acceptable methods, have been reviewed in the appraisal literature and found to be useful and acceptable to peers in the field[6].

It is important to note that while most hedonic pricing models apply some variant of multiple regression to solve for the marginal pricing factors (the "coefficients", which are analogous to the adjustment factors in a single-property appraisal), any sales adjustment grid, even without the use of a regression model, is in fact a hedonic model.

Individual Property Idiosyncrasies

It goes without saying that no two properties are alike. Individual properties have unique characteristics, and individual buyers and sellers may have special tastes which render their buying or selling decisions outside of the market norms.

However, real estate appraisers don't focus on idiosyncrasies unless the market puts a value on such uniqueness. In the case of very high-end, trophy real estate, constituting only the top few percent of the market, these idiosyncrasies may have value[7]. However, for the vast majority of properties, the market places little or no value on idiosyncrasies, and as such they are of no concern in the valuation model.

It is important to note that this is a truism whether you are appraising one property or a thousand properties. Indeed, one of the strengths of a mass appraisal model is its propensity to use statistical properties to sort out the important pricing factors from the unimportant ones.

Specifying the Model Prior to Class Certification

An increasing number of jurisdictions are expecting the damage model to be at least somewhat specified prior to certifying the class. From an empirical perspective, this puts the cart solidly in front of the horse. The actual specifics of the model are empirically determined, and trying to

establish an *a-priori* set of coefficients or statistical properties would suggest an extraordinary level of bias on the part of the appraiser.

Unfortunately, this isn't a problem of superiority of one technique versus another. Individual property appraisals – the supposed safe harbor of those opposed to certifying a class – are identically exposed to pre-certification specification issues. Opponents of class certification use this as a straw-man to suggest that mass appraisal models are inferior because the hedonic coefficients can't be specified. In fact, an individual property-by-property appraisal is subject to identically the same structural problem. The factors which contribute to value in a particular setting or locale are empirically determined, with or without a mass appraisal model.

There are three approaches to solving this problem. As a practical matter, these three should probably be worked "in tandem" to achieve an optimum result:

1. Academic literature review – A cursory review of the scholarly literature will reveal two truths. First, academics rely almost totally on multiple-regression-based hedonic models for analyzing prices and values, particularly in situations where the pricing model is impacted by an exogenous, disrupting factor (e.g. – flood, contamination, economic disequilibrium). Second, while that review will reveal literally dozens of potential factors (some meta-studies place the estimate at over a hundred), in reality the majority of studies consistently focus on a handful of factors which, collectively, explain the bulk of property values throughout the U.S. For residences, values can generally be well explained by an examination of neighborhood factors, dwelling size, lot size, number of bathrooms, dwelling age, and dwelling condition. For income property or raw land, a similar, finite list can be constructed.

2. Almost all jurisdictions in the U.S. use some sort of AVM for property tax assessments. In addition, many areas are covered by proprietary AVMs (Zillow, etc.) and lenders are increasingly using AVMs for home equity lending and even first mortgages. It is currently estimated that over 50% of the home lending decisions in the U.S. involve some sort of AVM at some stage in the process. While the final value determinations will require substantial sampling, testing, and often re-working of these AVMs, the fact that these pre-existing models are already specified provides powerful support for the expert's testimony.

3. Finally, some localized sampling is probably a good idea. If the class area transcends several neighborhoods, then some pricing sampling in each of these is appropriate, along with some sampling from a control area. With this, the expert is able to construct a reasonably accurate preliminary model, subject to further modification after a full set of empirical data is available.

Is the Mass Appraisal Superior?

To the real estate expert, this is almost a trivial question, but yet it comes up again and again. When valuing a large number of properties, it is necessary to produce an individual value estimate for each property. Certain analytical tasks remain – determining individual property specifications, for example, and mapping the properties so at to insure no overlap and no "left out" properties[8]. However, these can usually be specified in a data base or, at least in a simple list or table coupled with a map or maps. In the end, the mass appraisal data output is in a fairly simple and straightforward format easily managed by the court and easily interfaced with other class management tasks.

On the other hand, individual appraisals and reports thereof of large numbers of properties will almost immediately explode into an unmanageable volume of paper. For example, in the *Murphy Oil* case, about 6,700 residences were in the class, which is not atypical of a real estate class action[9]. Individual appraisals of each of these properties would have been on the order of fifteen to twenty pages long. Doing the math, that means somewhere between 100,000 and 135,000 pages

of appraisal reports. That's a stack of appraisal reports thirty-five to forty-five feet high!

In addition, a diligent appraiser doing a thorough job can produce perhaps two or three such residential appraisal reports per day. That translates into about ten person-years of work. Of course, defense experts will argue that they can shortcut this – since most houses in the *Murphy* neighborhood are similar to one another, they can automate the process, summarize their work, use the same set of comparables over-and-over, and thus enjoy some efficiency gains. What they have done, in fact, is describe an automated valuation model, albeit without the statistical robustness of a well-developed process. They have, in fact, "ad-hoc'd" themselves into an argument in favor of the superiority of an AVM.

In short, even for small mass-tort cases involving a hundred or more homes in a contiguous area, the AVM quickly proves its superiority over individual appraisals in terms of costs, efficiency, manageability of the process and output, and production of an expert report (or reports) which are reasonably usable by the Court.

Can mass appraisal models differentiate from among multiple impacts?

Up to this point, the arguments have been about the mass appraisal data base itself, irrespective of the measurement of the exogenous impact. The task of the valuation expert is to develop three "numbers" for each property: an unimpaired value (the value as-if the property were not subject to the matter at hand), an impaired value (the "as-is" value, taking into account the damages), and the amount of damages (trivially, the difference between the two). The first three questions dealt with the ability of the model to validly develop and present the first set of numbers. This question deals with the second.

Of course, if a control area can be found which suffers from all of the exogenous factors <u>except</u> the one being litigated, then pricing data from the control area will suffice for establishment of a separating equilibrium. However, this is rarely the case in multiple-factor cases. As such, only the AVMs provide the tools needed to get at the truth of the situation.

Frequently, impaired properties are subject to multiple disturbances. In some cases, only one disturbance is a matter for the case at hand. For example, in *Murphy*, the homes were both flooded *and* contaminated with crude oil. The flood was not, at that time, a relevant matter. The additional damages caused by the oil spill had to be separated from the preliminary damages caused by the flood.

Statistically valid AVMs are probably the <u>*only*</u> way of getting to the truth of these matters. In the *Murphy* case, survey research was an invaluable component to the analytical toolbox, since it allowed valuation research to focus on the separating equilibrium in a market where pricing data was non-existent, in complete disarray, or unreliable. The alternative – individual appraisals of the 6,700 or so properties – would have been utterly inconclusive, would lack the statistical power to measure the various impacts, and would have been so fraught with internal inconsistencies as to render their findings meaningless.

Single Model – Multiple Property Types

The obvious answer is that tax assessors do it all the time. Thousands of counties and other taxing jurisdictions throughout the U.S. deal with multiple property types within a single valuation model. The flexibility of a holistic automated valuation model to deal with multiple valuation factors simultaneously has been consistently proven in the literature. Indeed, the more obvious argument is that <u>*only*</u> a statistically robust, data-intensive paradigm such as mass appraisal can deal with a large-scale impact such as would give rise to a proposed class action.

Nonetheless, and quite expectedly, opponents of class certification will raise this argument and will produce so-called "experts" who will opine about this problem. They will raise specious arguments such as:

- The valuation model for commercial (raw land) (apartment) (condominium) (agricultural) (etc.) property is different from that of single family detached residences.
- Even among single family residences in the marketplace, different models apply.
- Tax assessment models are applied for some standards *other* than market value, such as equitable allocation of tax burden.
- Even tax assessors use individual appraisal models to value special or unique properties, such as power plants, specialty industrial facilities, or unique or 'trophy' properties.
- Tax assessment models have been shown to be biased or inconsistent for unique property types.

While these arguments are intriguing, and indeed point out factors which must be accounted for in the mass appraisal model, none of these arguments provide a compelling rationale against class certification. A great analogy is diagnostic medicine, a similar model of empirical analysis aimed to arrive at an expert's opinion. Physicians are faced with different "types" of patients who will almost certainly have different diagnostic issues. Small children differ from the elderly. Men and women have different physiological issues. A person with a complex medical history – say, a world traveler -- will differ from someone who has never strayed from home. A person with an obvious trauma will be examined quite differently from a person with a mild, chronic condition.

Nevertheless, the standards for examination, testing, and diagnosis remain relatively constant, and are derived from the study over the years of "mass" numbers of patients. Whether a physician is examining one patient in a private office or a thousand patients in a trauma center, the data gathering and diagnostic tools remain the same. Indeed, the physician who deviates from the well established "mass diagnosis" model to use ad-hoc or idiosyncratic methods for the single patient will be exposed to significant discipline as a result of the deviation.

The last two bullet points do raise interesting issues. Special purpose properties, such as golf courses, specialized industries, or public arenas are the exceptions rather than the rule, and while these properties are individually quite valuable, they usually constitute less than a few percentage points of the total number of properties in the class area. Further, these properties are often "opted out" of class action cases. Dealing with them individually causes few if any problems within the appraisal model, and

In every other field of endeavor in which an expert may be called upon to testify – engineering, physical science, medicine, finance, economics – the large scale, statistically robust models are not only accepted as the norm, but indeed deviation from those models is so far outside the norm that a so-called expert's testimony would be rendered wholly and obviously unreliable if he or she attempted such. As such, the general standard of practice for all technical and scientific experts is analogous to the *mass appraisal model*, not the individual appraisals proposed by the opponents of class certification.

In addition, empirical analyses in the peer-reviewed appraisal literature notes that tax assessment values, while reasonably accurate on the whole, none-the-less suffer from determinable consistency problems. The key issue word, of course, is *determinable*, because the appraisal expert has the option of either leveraging off existing mass appraisal data (either tax assessment or proprietary models) to develop damage valuation models or can easily reassess the whole affected area consistent with well-analyzed and well-developed peer-reviewed models.

Market Equilibrium

Probably the least understood but most common problem in real estate damage situations is the lack of market equilibrium. Real estate transactional equilibrium is a complex paradigm, and the usual standard for this equilibrium is a set of assumptions

explicitly outlined in whatever definition of value is applied by the jurisdiction[10]. These assumptions usually include some reference to the level of knowledge and prudence used by market participants in the transactions used as empirical data.

The market failure arises from violations of these explicit assumptions. For example, after an exogenous event, such as a flood or a contamination event, markets often quit functioning entirely. Buyers won't buy at market-clearing prices, and properties are held off the market for a variety of reasons. Research shows that buyers often are not fully informed of the exogenous event, and when they are informed may not be prepared to make complex judgments regarding the implications of the noxious condition.

In addition, market equilibrium suffers from what is known as the *reservation price phenomenon***.** In short, there is a price below which a seller cannot easily or economically deliver clear title, usually due to a high loan-to-price ratio mortgage[11]. As such, many properties are held off the market or are put on the market at prices well above bids by knowledgeable, prudent buyers.

Defense experts will usually bottom-fish for whatever transactions may occur in the affected area and hold these out as evidence that the market hasn't suffered from the exogenous event. This, of course, is analogous to finding a few survivors of a plague and claiming that they are evidence that the plague wasn't deadly.

In the context of class certification and subsequent class analysis, it is usually necessary to value the market *as if an equilibrium existed*. The first step is to determine a base-line of values in the neighborhood as if the exogenous impact had never occurred. If the matter under litigation was an event, such as a flood, then using pre-event transactional data may be sufficient, assuming that the likelihood of the event occurring was not already inculcated in market pricing, and as a result itself a litigious matter[12]. If pre-event pricing is not usable, or if the litigious issue was long-lived and potentially captured in local pricing, then a *control area or areas* can be determined and used as an empirical proxy for subject market unimpaired pricing.

Post-event, impaired values are usually undeterminable using transaction data. Only if the market has fully absorbed knowledge and impact of the condition *and* a transactional equilibrium has been restored can post-trauma transactional data prove insightful. Fortunately, other sorts of market data is available which does not rely on transactions from the actual affected neighborhood(s). For example:

- Comparable but equilibrium transactions (matched pairs, hedonic models) from similarly affected cases in other areas;
- Meta-analyses of peer-reviewed literature;
- Survey research, including contingent valuation, conjoint measurement, and perceived diminution studies;
- Rent analyses;
- Monte Carlo simulation.

Any one of these, or a combination of these, has been used successfully in both class actions as well as individual property cases. These methods are well established in the valuation literature and are widely used in non-litigious situations. Also, these methods have the advantage of being unaffected by market disequilibrium, and as such can provide robust results even in the face of local market failure.

Conclusions

While class certification depends ultimately on legal issues, courts are increasingly inclined to examine proposed expert analysis at the class determination stage. This places the onus on plaintiff experts to overcome methodological objections raised by defense experts.

Generally, defense objections are widely and patently obvious to real estate experts. Mass appraisal models are nearly universally accepted

by the peer-reviewed scholarly literature, and indeed it would be difficult for a real estate expert to pass rigorous scholarly peer-review using methods inconsistent with mass appraisal. However, while the superiority of class treatment is widely obvious to real estate scholars, the plaintiff expert is in the position of going back to first principles and empirically re-establishing this superiority in the face of spurious objections.

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Greenfield Advisors was founded in Seattle in 1976 to provide high-level analysis and consulting services on complex real estate problems, with a focus on economic, market, and valuation studies. Over the years, Greenfield has advised attorneys, investors, government agencies, trusts, and university endowments on a variety of real estate problems.

End Notes

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[1] *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993). For more on the real estate expert witness perspective on *Daubert*, see Mundy, Bill, David McLean, and John A. Kilpatrick, ""Summation of Evidentiary Rules for Real Estate Experts Mandated by Daubert v. Merrell Dow Pharmaceuticals, Inc.", Real Estate Issues, Fall, 1999

[2] Kilpatrick, John A., "Real Estate Issues in Class Certification", Class Action Reporter, October, 2004

[3] Kilpatrick, John A., "Appraising Real Estate in Complex Environmental Class Actions: An Expert's View", Toxic Law Reporter, January 13, 2005

[4] For example, Colwell, P. F., R.E. Cannaday, and C. Wu, 1983, "The Analytical Foundations of Adjustment-Grid Methods, Journal of the American Real Estate and Urban Economics Association, 11-29. Subsequent studies, have reaffirmed this finding, such as Lipscomb, J.B, and J.B. Gray, 1990, "An Empirical Investigation of Four Market-Derived Adjustment Methods, Journal of Real Estate Research, 53-66; and Lentz, G.H. and K. Wang, 1998, "Residential Appraisal and the Lending Process: A Survey of Issues", Journal of Real Estate Research, 11-40.

[5] *Kumho Tire Co. LTD, et. Al, v. Carmichael, et. Al.,* 526 U.S. 137 (1999)

[6] See, for example, Kilpatrick, John A., Ron Throupe, Bill Mundy, and Will Spiess, "Valuation of Impaired Property" Chapter 6 in *When Bad Things Happen to Good Property*, Robert Simon, ed., (Washington, DC: National Environmental Law Center, 2006)

[7] Mundy, Bill, 2002, "Valuing Trophy Property", The Appraisal Journal

[8] There is a certain confusion over the role of the real estate expert. His or her focus is on properties while the attorneys for both sides are usually focused in property owners. Management of opt-outs or other judicially-determined exceptions to the class are frequently determined on an individual person basis, and that person may or may not be recorded as the owner of a property. At any rate, the real estate expert is almost always focusing attention on property descriptions and not on ownership records. Attorneys managing large property class actions are well advised to devote resources to the interface between the management of the individuals in the class and the management of the properties in the class.

[9] *Turner v. Murphy Oil, USDC, ED Louisiana*. The class was certified in 2006 and the case was settled shortly thereafter.

[10] Most courts and attorneys are familiar with a varying definition called *fair market value*, and frequently confuse this with a stylized definition called *market value* which is promulgated by and for the use of federally regulated lenders. The applicable definition to be used in a given situation is usually either statutorily prescribed or defined in applicable court cases. Appraisal standards require that the appraiser make note of the applicable definition and provide a citation to its source, rather than simply apply a nebulous and general *market value* or *fair market value* definition to the project. This definition will include the assumptions which define the market equilibrium applicable in the case at hand.

[11] In a severe market decline, such as results from some litigious event, many mortgages in the neighborhood are probably in technical default as a result of violation of value maintenance clauses.

[12] In *Murphy*, prior published empirical research using data from almost a decade and a half before Katrina in the affected neighborhood showed that transactional prices were already depressed about 10% as a result of stigma from the eventual contamination event. As such, *Murphy* stands as a compelling example of the permanence of environmental stigma.

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