



*Economic, Market
and Valuation Analysts*

Real Estate Issues in Class Certification

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While determination of class certification in real estate cases hinges primarily on legal issues, the courts also properly consider the salient real estate analysis methodology and the appropriateness of the analysis of properties en masse within the rubric of *Daubert* or *Frye*. This article demonstrates that there are acceptable and universally recognized methodologies available for such analysis in a class certification model, and in fact in most circumstances these mass appraisal methods have been shown to be superior for valuation of issues commonly affecting a large number of properties.

Background

The governing standards for 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. These standards are also adopted by the federal and quasi-federal agencies which govern real estate mortgage lending. At the heart of USPAP are a series of “Standard Rules” which apply in various appraisal situations. For example, Rules 1 and 2 govern the analysis and reporting processes for individual properties and are most frequently applicable in mortgage financing situations. Such individual appraisals are generally useful when determining value issues concerning a single parcel of property, but are not designed nor intended to analyze and report on issues concerning large numbers of properties, such as are typically found in a matter proposed for class certification.

There are two common misconceptions about appraisals which affect class certification issues. First, attorneys are often mistaken in thinking that USPAP stops after Rules 1 and 2 without any methodological alternative. In reality, USPAP has ten sets of Standard Rules which govern such topics as appraisal review, business appraisal, appraisal consulting, and mass appraisals. Second, USPAP very explicitly does not prescribe or proscribe any particular method or sets of methods. Rather, USPAP provides the standards – perhaps best thought of as quality

standards – to which appraisers adhere. Indeed, the only requirement concerning the selection of methods is that appraisers are to apply a scope of work in an appraisal assignment which is consistent with best practices.

Even in a non-litigation context, appraisers are frequently called upon to appraise large numbers of properties where the common, systematic factor or factors exceed the individual or idiosyncratic element or elements. Two of the most common examples are ad valorem taxation and highway right-of-way condemnation. In the former case, county tax assessors, treasurers, auditors, or other public officials filling similar roles throughout the United States are required to continuously maintain data bases of real estate values throughout their jurisdictions. Individual property appraisals conducted under Rules 1 and 2, as are typically performed for individual property mortgage financing, would be unnecessarily inefficient, time consuming, and duplicative. Fortunately, USPAP provides for Mass Appraisals under Rule 6. Given that every property in the United States is currently valued by a local tax assessor or other official, and given that most states have laws requiring reappraisal for assessment purposes on regular, periodic basis, it goes almost without saying that the frequency and volume of Rule 6 mass appraisals in the United States are perhaps one or two orders of magnitude more common than are Rules 1 and 2 individual appraisals.

This rule allows the appraiser to develop an Automated Valuation Model which provides for the more important and significant common factors plus some variation on a per-property basis for idiosyncratic factors. For example, all of the homes in a given neighborhood will have a fairly common valuation function – say, a base-line “dollars per square foot” value. Above and beyond this, there will be a small variation for homes certain amenities, such as larger-than-average lots, corner lots, larger garages, or other amenities. The appraiser uses a statistically valid sampling of data to determine the valuation model in a given neighborhood and then applies that model to all of the properties in question. Similar models are developed and used for non-residential properties with equivalent application. Note that it is not important for there to be a statistically significant number of properties of a given type within the class area, only that the valuation model for that area can be developed using a significantly large sampling of comparable properties. Hence, unpaired data developed outside the class area (e.g. – a control area with comparable characteristics) is equally valid. It is also not important that the properties within the class area are not homogeneous. Indeed, for ad valorem tax purposes,

the county tax assessor is almost always faced with the problem of heterogeneous property types. As long as each of the property types can be categorized and a valuation model developed and described, then Rule 6 is the preferred method for valuing a large number of properties together under USPAP.

It is important to note, for the purpose of most class actions, that much if not most of the preliminary work for a mass appraisal solution has already been performed by the local taxing jurisdictions. Tax assessment data is usually a matter of public record, and it only remains for the attorneys to test the data for accuracy and validity and then determine which properties are within the affected areas.

Authoritative Support for the Mass Appraisal Model

The academic, peer-reviewed literature is replete with support for the mass appraisal model, and indeed has made it clear that techniques which value large numbers of properties together are more statistically valid than are individual Rule 1 and 2 appraisals. For example, Colwell, Cannady and Wu (1983) show that in the sales comparison approach performed under Rule 1 appraisals, appraisers choices of weighting of certain comparables or adjustments is largely a subjective choice rather than an objective one¹. Lipscomb and Gray's (1990, page 54) work illustrates the commonly recognized problem that Rule 1 and Rule 2 appraisals are heavily influenced by appraisers experience and subjective judgment, rather than empirical data, when developing adjustments in the sales comparison approach².

Consistent with USPAP Rule 6, academics find that multivariate statistical methods, such as a hedonic pricing model or survey research, overcome the shortcomings in Rule 1 and Rule 2 appraisals. Hedonic models have been widely used in the valuation field for at least three-quarters of a century. Bruce and Sundell (1977) show that such models were used as early as

¹ Colwell, P. F., R.E. Cannaday, and C. Wu, "The Analytical Foundations of Adjustment-Grid Methods, Journal of the American Real Estate and Urban Economics Association, 1983, 11-29.

² Lipscomb, J.B. and J.B. Gray, "An Empirical Investigation of Four Market-Derived Adjustment Methods, Journal of Real Estate Research, 1990, 53-66. Lipscomb and Grey's findings are also discussed in Lentz, G.H. and K. Wang, "Residential Appraisal and the Lending Process: A Survey of Issues", Journal of Real Estate Research, 1998, 11-40.

1924 for appraising rural land and in 1935 for appraising forest land in New Hampshire³. Lentz and Wang (1998) show that “[M]ost appraisal textbooks advocate this method as an essential tool for mass appraisal.⁴”

Survey research is also widely used by appraisers for estimation of impaired values and stigma. Survey methodology as currently applied in the appraisal process derives heavily from Mitchell and Carson’s (1989) work⁵. The application of survey work to valuation of contaminated property was reviewed by the Blue Ribbon Panel on Contingent Valuation, a team of economists and survey experts led by two Nobel Laureates which was convened by the National Oceanic and Atmospheric Administration as part of their Congressionally mandated responsibility as the Federal Government’s lead agency in oil spill matters. The Panel has deemed survey methods (specifically contingent valuation) as providing a reasonably reliable starting point for a judicial determination of values and damages in contamination cases. The panel’s evaluation appeared in the January 15, 1993 and January 7, 1994, issues of the Federal Register. NOAA’s Final Rule was published in January, 1996⁶. Methodology for using survey research within the bounds of the Federal Rules of Evidence were subsequently outlined by Diamond (2000)⁷.

The application of such models to the appraisal process in situations such as class action cases have been explored thoroughly in the peer-reviewed literature. The early development including studies by Tiebout (1956)⁸, Lancaster (1966)⁹, Muth (1966)¹⁰, Oates (1969)¹¹, and Rosen (1974)¹². More advanced development work has been presented by Randolph (1988) who reviewed the statistical properties of residuals, Durbin (1988)¹³ who examined spatial

³ Bruce, R.W., and P.J. Sundell, “Multiple Regression Analysis: History and Applications in the Appraisal Profession”, Real Estate Appraisal and Analyst, 1977, 37-44.

⁴ Lentz and Wang, op. cit.

⁵ Mitchell, Robert, and Richard Carson, Using Surveys to Value Public Goods: The Contingent Valuation Method, (Washington, DC: Resources for the Future, 1989)

⁶ Federal Register, Vol. 61, No. 4, January 6, 1996, pgs. 453, 470.

⁷ Diamond, Shari Sheldon, “Reference Guide on Survey Research”, contained in Reference Manual on Scientific Evidence (Washington, DC: Federal Judicial Center, 2000), pgs. 229-276

⁸ Tiebout, C.M., “A Pure Theory of Local Expenditure”, Journal of Political Economy, 1956, 416-24.

⁹ Lancaster, K.J.A., “A New Approach to Consumer Theory”, Journal of Political Economy 1966, 132-57.

¹⁰ Muth, R.F., “Household Production and Consumer Demand Functions”, Econometrica, 1966, 699-08.

¹¹ Oates, W.E., “The Effects of property Taxes and local Public Spending on Property Values: An Empirical Study of Tax Capitalization and the Tiebout Hypothesis,” Journal of Political Economy, 1969, 957-71.

¹² Rosen, S., “Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition”, Journal of Political Economy, 1974, 34-55.

¹³ Durbin, R.a., “Estimation of Regression Coefficients in the Presence of Spatially Autocorrelated Error Terms”, Review of Economics and Statistics 1988, 466-474.

autocorrelation; Halvorsen and Palmquist (1981)¹⁴, Durbin and Sung (1990)¹⁵, and Burgess and Harmon (1991)¹⁶ discussing functional form of the valuation model; and Gau and Kohlhepp (1978)¹⁷ who examined colinearity among the variables in the valuation model used in a mass appraisal.

Both Butler (1980)¹⁸ and Bajic (1985)¹⁹ discuss the market homogeneity issues. Mark (1983)²⁰ looks at the time-stability of the coefficients in a mass appraisal model. Parsons (1990)²¹ and Smith and Huang (1994)²² examine market conditions within a mass appraisal model. Atkinson and Crocker (1987)²³ investigate the optimum number of variables in a model.

In short, the academic, peer-reviewed support for and analysis of the fundamentals of a Rule 6 Mass Appraisal is well developed and robust. It is clear that this is the preferred model, when dealing with a large number of contiguous properties. It allows for efficient development of unimpaired values, it leverages off of existing public-sector developed and publicly available data, and it provides a more statistically well-defined set of methods, consistent with *Daubert*, for characterization of property values.

Shortcomings of Individual Property Appraisals

¹⁴ Halvorsen, R., and R. Palmquist, "Choice of Functional Form for Hedonic Price Equations", Journal of Urban Economics, 1981, 37-49.

¹⁵ Durbin, R.A., and C. Sung, "Specifications of Hedonic Regressions: Non-nested Tests on Measures of Neighborhood Quality", Journal of Urban Economics 1990, 97-110.

¹⁶ Burgess, J.F., and O.R. Harmon, "Specification Tests in Hedonic Models", Journal of Real Estate Finance and Economics, 1991, 375-93.

¹⁷ Gau, G.W., and D.B. Kohlhepp, "Multicollinearity and Reduced-Form Price Equations for Residential Markets: AN Evaluation of Alternative Estimation Methods", Journal of the American Real Estate and Urban Economics Association, 1978, 50-69.

¹⁸ Butler, R.V., "Cross-Sectional Variation in the Hedonic Relationship for Urban Housing Markets, Journal of Regional Science, 1980, 439-54.

¹⁹ Bajic, V., "Housing Market Segmentation and Demand for Housing Attributes: Some Empirical Findings", Journal of the American Real Estate and Urban Economics Association, 1985, 58-75.

²⁰ Mark, J.H., "An Empirical Examination of the Stability of Price Equations over Time", Journal of the American Real Estate and Urban Economics Association, 1983, 397-415.

²¹ Parsons, G.R., "Hedonic Prices and Public goods: An Argument for Weighting Locational Attributes in Hedonic Regressions by Lot Size", Journal of Urban Economics, 1990, 308-21.

²² Smith, V.K., and J. Huang, "Can Markets Value Air Quality? A Meta-Analysis of Hedonic Property Value Models," Journal of Political Economy, 1994, 209-227.

²³ Atkinson, S.E., and T.D. Crocker, "A Bayesian Approach to Assessing the robustness of Hedonic Property," Journal of Applied Econometrics, 1987, 27-45.

In contrast, USPAP Rule 1 and Rule 2 techniques for individual appraisals have often been found wanting when used to isolate the impact on the value of an individual property within a large environmentally impacted area. Chalmers and Jackson (1996) note, “[t]he use of the sales comparison approach requires extraordinary care if useful market information is to be extracted...” in cases such as these²⁴. No less an authority than the late Dr. William Kinnard, Jr., (the Appraisal Institute’s annual award for excellence in education is named in his memory) also concluded that the sales comparison approach and the matched pairs method is left wanting, in his article Kinnard (1992)²⁵. To quote Professor Kinnard, “[u]nfortunately, the market frequently does not cooperate. The net effect, therefore, is that these ideal measures tend to remain precisely that, ideal. The appraiser generally has to look elsewhere to identify the market effects of contamination on property values.”

Prof. Kinnard’s observations on the shortcomings of Rule 1 and Rule 2 individual property appraisals are supported by Patchin (1988)²⁶, Roddewig (1996)²⁷, Weber (1997)²⁸, and Kilpatrick and Mundy (2003). Kinnard and Worzola (1999) surveyed practitioners, primarily focusing on techniques used when determining the impacts to non-residential properties. Their work supports the need for appraisers to apply some of the more advanced techniques when faced with environmental contamination situations²⁹.

Roddewig (1996) is specific about the shortcomings of valuing impaired real estate with traditional appraisal techniques and methods, “[e]ven the best sales information about properties affected by environmental risk obtained from a reliable source may not fit the standard definition of a comparable sale. The appraisal profession typically thinks of a comparable as a property similar in many respects to the property being appraised. Often, the best the appraiser may be able to do when evaluating stigma impact of environmental risk is to find sales of other property affected by a different type of contaminant, in a different location,

²⁴ Chalmers, J.A., and T.O. Jackson, “Risk Factors in the Appraisal of Contaminated Property,” Appraisal Journal, January, 1996, 44-58. Note: Dr. Jackson was a member of the Appraisal Standards Board when the current update of Advisory Opinion 9 was developed.

²⁵ Kinnard, W., “Measuring the Effects of Contamination on Property Values,” Environmental Watch, Winter, 1992, 1-4.

²⁶ Patchin, P., “Valuation of Contaminated Properties,” Appraisal Journal, 1988, 7-16.

²⁷ Roddewig, R., “Stigma, Environmental Risk, and Property Values: 10 Critical Inquiries,” Appraisal Journal, 1996, 375-387.

²⁸ Weber, B.R., “The Valuation of Contaminated Land,” Journal of Real Estate Research 1997, 379-398.

²⁹ Kinnard, W., and E. Worzola, “How North American Appraisers Value Contaminated Property and Associated Stigma,” Appraisal Journal, 1999, 269-278.

and for a different use.” This clearly lends supports for the use of more sophisticated valuation methods, as would be useable in a class action model, to compensate for the shortcomings in Rule 1 and Rule 2 data gathering techniques.

In summary, appraisal standards provide for a robust set of mass appraisal methods which are frequently used in non-litigation contexts, such as tax assessment, right-of-way work, and academic research. In a mass-tort context, such as a class action, these methods are probably superior to individual property appraisals within the context of both *Daubert* and *Frye*.

