Damage to Market Value and Locational Premiums

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INTRODUCTION

In the real estate literature of the past decade or so confusion has arisen between the concepts of a damage to the market value of a property and a locational premium. Many articles discuss the influence of some alleged negative condition (disamenity) such as powerlines, landfills, railroad tracks, superfund sites, or industrial facilities on the value of nearby properties by comparing their value to the values of similar properties not nearby as if this differential were a damage. This differential, assuming it exists, is properly a locational premium, i.e. the difference a market participant is willing to pay to be further from the alleged disamenity (or alternatively, closer to an amenity). Damage to market value is specific to the ownership of the property and can occur only when a condition negatively influences the market value after purchase.

This paper will clarify these concepts and provide concrete definitions for them. It also seeks to explain how damage to market value resulting from a condition such as an alleged disamenity may be identified and measured.

THE FUNDAMENTALS

The fundamental definition of real estate value is:

> *"The present worth of the future benefits that accrue to real property ownership."*[1]

and from it is derived the concept of market value, defined as:

> *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress."*[2]

Note that:

> *"A market value appraisal is also based on whatever the 'normal' or 'typical' conditions are in the marketplace for the property appraised in a time frame that is consistent with the date of value in the appraisal."*[3,4]

Damage is defined as:

> *"Loss or harm due to injury to persons, property, or reputation."*[5]

Damage to Market Value may then be defined as:

About the Author

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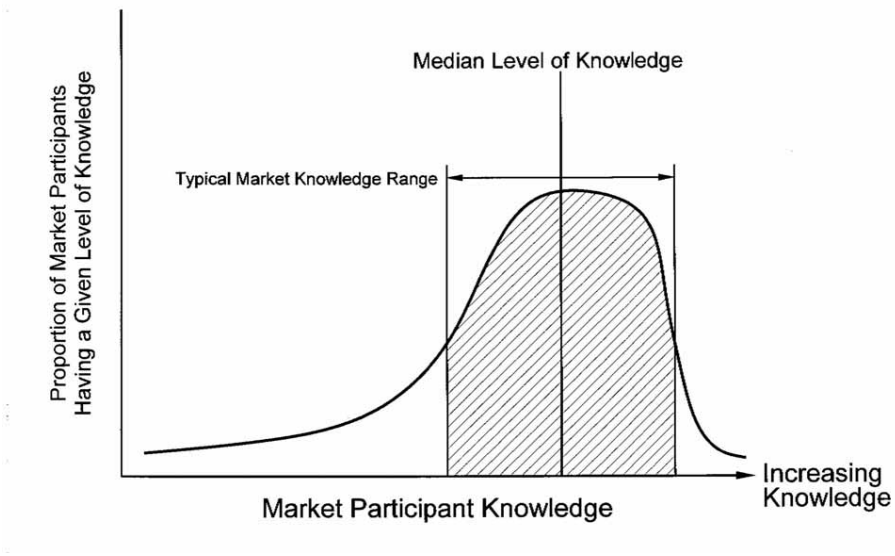
Figure 1—Typical Market Participant Level of Knowledge



> *A diminution in the market value of an owner's property resulting from an injury recognized by the market post-purchase. Damage may be measured by the difference between the market value at the date of purchase less the market value at the date of market recognition of the injury adjusted to the date of purchase.*

A Location Premium may be defined as:

> *The incremental difference between the market value of a property in one location compared to the market value of a comparable property in a location judged by the market to be superior to the first location.*

Note that in the definition of locational premium there is no tie to the ownership of a property or to any changes in the market value during a period of time. The point is that a locational premium is not a damage to market value, only a measure of the impact of location on market value. Further, it is the market that determines a damage or locational premium, not the individual opinion of an owner of a property.

MARKET VALUE AND PRICE

This discussion must begin with a clear understanding of the basis of the Market Value concept and in particular the role of the knowledge of the "typical" market participant, something rarely discussed in the literature. The typical market participant is neither perfectly ignorant nor perfectly knowledgeable concerning all of the factors and issues surrounding a real property in the market, but is somewhere between these two extremes of knowledge. An understanding of the typical participant's level of knowledge must be developed by careful analysis of what actual participants knew at the time of their participation. Normally this approximation is developed by the professional valuer's knowledge of the market and the confirmation of sales process. It may also be more formally developed through the conduct of properly structured, tested and validated surveys of actual participants in transactions contemporaneous to the time period(s) of interest.

The typical market participant is neither perfectly ignorant nor perfectly knowledgeable concerning all of the factors and issues surrounding a real property in the market.

Note that surveys, if conducted, must be of the population of parties who actually participated in the market, not of parties who are asked to pretend that they participated. Market Value is based on what has happened in the market, not on what someone is asked to imagine might happen under some hypothetical set of circumstances with no

Table 1—Damage to Market Value

Year	Property A Market Value (Appreciation Rate of 5% per year, Original purchase price $100,000)	Property A' Market Value (New Long-term Condition in Year three.)	Difference A' - A	PV of Difference @ 10% Discount Rate	Proof ($100,000 for A - $6,908 = $93,092 at appreciation rate of 5% per year)
0	$100,000	$100,000	0	0	$93,092
1	105,000	105,000	0	0	97,746
2	110,250	110,250	0	0	102,623
3	115,763	104.186	(11,576)	(9,567)	107,766
4	121,551	109,396	(12,155)	(9,132)	113,154
5	127,628	114,865	(12,763)	(8,717)	118,811
6	134,010	120,609	(13,401)	(8,321)	124,752
7	140,710	126,639	(14,071)	(7,943)	130,990
8	147,746	132,971	(14,775)	(7,582)	137,539
9	155,133	139,620	(15,513)	(7,237)	144,416
10	$162,889	$146,601	(16,289)	(6,908)	$151,637
Gain	62.89%	46.60%			62.89%

monetary penalty or price extracted for the hypothetical answer.

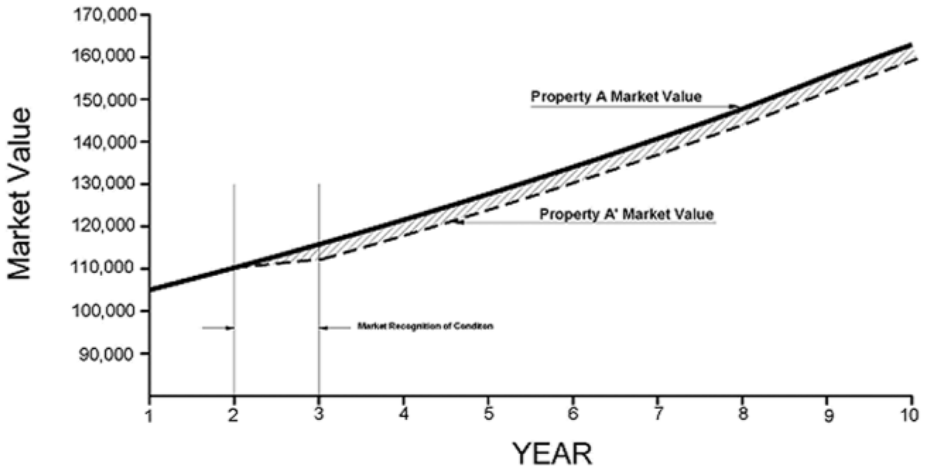
Damage to value is clearly an owner-specific issue that depends on the state of market knowledge at two points in time, the date of purchase and the date of alleged damage. For each owner in a given location a different set of conditions—at least with respect to purchase date, may apply and therefore a different damage to value analysis will be appropriate.

The level of knowledge of the typical market participant may be represented as in Exhibit 1 and will fall somewhere in the shaded "typical market knowledge range." The median level of knowledge indicates that 50% of the participants will have a lesser level of knowledge than the median, and 50% have a greater level of knowledge. The key point is that perfect knowledge—like perfect ignorance—is highly unlikely and not an appropriate criterion for market value.

There have recently appeared in the literature several analyses wherein the proposition has been put forth that Market Value should properly relate only to a "fully informed" market participant. Clearly this is not appropriate as may be seen by consulting USPAP Advisory Opinion 22 quoted above. A "fully informed" participant would be on the outer edge of the distribution and would not be any more appropriate for analytical purposes as a "typical" market participant than a market participant who acted with little or no relevant knowledge.

It is not the prerogative of the analyst to hypothesize that a greater level of knowledge should exist and then attempt to develop an opinion of market value based on that hypothetical condition. It is the analyst's charge to understand the extent of knowledge satisfactory to the typical market participant in order to evaluate how knowledge of a condition may have impacted value, if it did.[6] A valuer reflects the market, he/she does not—should not—first attempt to alter the market knowledge and then solicit a

Exhibit 2—Damage to Market Value



response from a market participant in seeking to determine the market value of a property.

The knowledge possessed and acted upon by the typical market participant is critical to the determination of damage to value. A typical participant purchases/sells a property in anticipation of the benefits to be received from the transaction. Those anticipated benefits are based on a level of knowledge satisfactory to each participant—satisfactory in the sense that the participant is willing to make a commitment based on that level of knowledge. Market Value presumes no special or advantageous knowledge on the part of either buyer or seller. Once the transaction has been concluded the buyer expects to receive the anticipated benefits barring an unanticipated change in the general economy or a catastrophe, general risks applicable to all transactions.

If the typical market participant at the time of the purchase did not know of, or was unconcerned by, the condition that would give rise to a diminution in market value, then the market value would be unaffected by that condition. If then at a later point in time the typical market participant becomes knowledgeable about the condition and that knowledge results in the typical market participant reducing their anticipated net benefits, then the market value has been diminished and a damage may result.

It is important to note that Market Value is not "price." Price is defined as:

> *"The term price represents the amount a particular purchaser agrees to pay and a particular seller agrees to accept under the circumstances surrounding their transaction. A price, once finalized, refers to a sale or transaction price and implies an exchange; a price is an accomplished fact."* [7]

Market Value is an idealization of the price that would have been paid if the strengths, weaknesses, and interests of the actual parties to a transaction are adjusted out. Price may be more or less than a competently developed opinion of market value, but the difference, if any, should reflect only the strengths, weaknesses and interests of the specific parties involved in the transaction.

DAMAGE TO MARKET VALUE

Damage to market value was defined above as a post-purchase reduction in the anticipated benefits assumed by the typical market participant when the transaction took place. As an example consider a transaction where the buyer assumes that he/she will receive the benefits of a stream of net rental income for a period of years plus the reversion of the market value of the property from a sale

Table 2—Locational Premium Rate of Return

Year	Property A Market Value (Appreciation Rate of 5% per year, Original purchase price $100,000)	Property B Market Value (Same Property as A but in a "superior" location
0	$100,000	$110,000
1	105,000	115,500
2	110,250	121,275
3	115,763	127,339
4	121,551	133,706
5	127,628	140,391
6	134,010	147,441
7	140,710	154,781
8	147,746	162,520
9	155,133	170,646
10	$162,889	$179,178
Gain	62.89%	62.89%

at the end of the holding period. These were some of the elements resulting in the consummation of the transaction at a price. Suppose that a few years later a street leading to the property is closed off, an unanticipated event, making access to the property more difficult and the property therefore less desirable for its original highest and best use. If the stream of future benefits has been compromised a damage to market value will have occurred.

Damage to market value is fundamentally different from the locational premium that might result if the market value of this property (after the street closure) was compared to that of a similar property absent the street closure. This locational premium may be used to help establish the amount of the damage to the owner, but if a new buyer appears and takes the property at the reduced market value after the street closure, the difference between the market value of the property with the street closure and without is then just a locational premium to the new owner, not a damage.

The damage is essentially the difference between the unimpaired market value at the date of purchase, less the impaired market value as if the purchaser had known of the influence of the condition, evaluated at the date of the original purchase. Table 1 and Exhibit 2 illustrate this point. This procedure, a comparison of the unimpaired versus the impaired (by the condition) values has been widely recognized and well accepted.

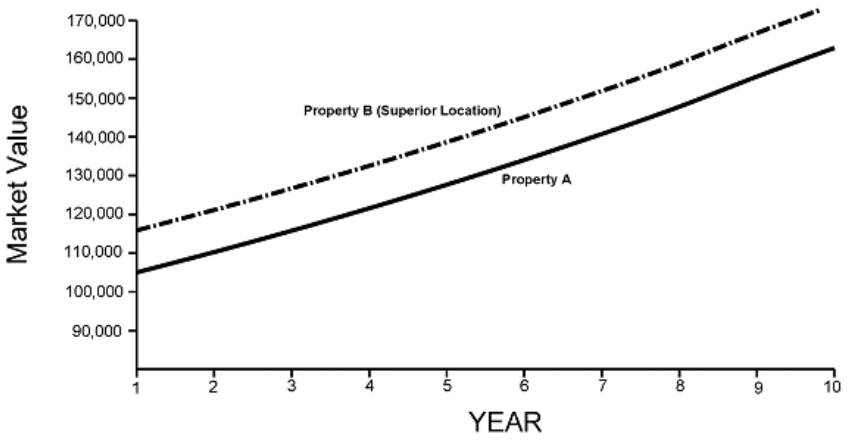
In Table 1 the purchaser bought at a market value of $100,000 in year zero. A five percent appreciation rate in market value for each year thereafter is assumed. Sometime in year three a condition was recognized by the marketplace that reduced the market value of the property by five percent. The evaluation takes place in year ten.

The damage is then the amount less than the original unimpaired market price that the purchaser should have paid in year zero to achieve the same gain in value as was reasonably anticipated at the time of the original transaction. In this way the present worth of the future benefits of the original bargain is preserved. The amount of damage is shown in the column PV of Difference for year ten, or $6,908. If this amount is subtracted from the original purchase price of $100,000 the amount that originally should have been paid for the property would have been $93,092. Given the 5% market value appreciation rate this would have given the purchaser the originally anticipated 62.89% gain in market value, restoring the benefit of the bargain as shown in the column labeled "Proof" (Exhibit 2).

Because value is defined as the present worth of future benefits and the original market value is critical to the analysis we chose to perform the evaluation in terms of the original purchase date. Great care must be exercised to insure that all damage values are stated in the correct present value terms if another date is chosen. Further, there may be legal issues such as interest on damages that may become involved that argue for the use of the date of original purchase as the basic date for evaluation of damage to market value, but such issues are beyond the scope of this paper.

The methodology of computing a damage may be stated as follows:

Exhibit 3—Locational Premium



Potential Damage=Present Worth (of benefits) at Purchase Date

LESS

Present Worth at Date of Evaluation evaluated at the Purchase Date

OR

Potential Damage =Market value at Purchase Date

LESS

Market value at Date of Evaluation evaluated at the Purchase Date

We have identified this as a Potential Damage because it may be transitory. If the Date of Evaluation is also a date of sale then the Potential Damage may become an actual damage. If the Date of Evaluation is not at a date of sale then it is entirely possible that the passage of time may lead to an entirely different Potential Damage at a different date of evaluation. Damage, like all real estate valuation concepts, is as of a specific date and valid for that date only. Subsequent conditions can and will change value.

A question that may be asked here is "Why market value?" The answer lies in the difference between price and market value noted above. A price includes all types of considerations specific to the individuals involved in the transaction, considerations that can only rarely be identified and quantified post-transaction, particularly those associated with the very human interaction of the parties at the bargaining table. Market value is a standard widely recognized and accepted by the courts and others as being a value stripped of those specific considerations.

CONCLUSIONS REGARDING DAMAGE TO MARKET VALUE

A damage to market value is specific to the ownership of the property. For a damage to occur the market value of the property at the date of purchase by the owner must not include an offset to the benefits resulting from the condition believed to diminish market value. That is, the typical market participant does not know of—or does not recognize a value influence associated with—a condition. At a later date—post-purchase—the typical market participant recognizes a diminution in value associated with a condition resulting in a decrease in the market value of the specific owner's property. This decrease is then a damage for that specific owner because the originally anticipated stream of benefits has been compromised.

LOCATIONAL PREMIUMS

A difference in the market values of similar properties at different locations, if the location is the only difference, is a locational premium to the property having the higher

market value. This locational premium is simply the amount that a typical market participant is willing to pay to be in the "superior" location and is not a damage to the market value of the "inferior" location.

As an illustration of this fact consider Table 2 and Exhibit 3. In Table 2 Property B is a property in a superior (from the market's point of view) location compared to Property A which is otherwise identical to Property B. Property B enjoys a 10% locational premium. Note that the owner of this property, although having a higher market value, had to make a greater investment to achieve the higher market value and still obtains the same rate of return as the first property owner, therefore receiving the same present worth of future benefits. Since the rate of return on the investments is identical, no damage can be said to have occurred as a result of the locational premium.

Any study that has not examined the question of whether or not the individual property owner's present worth of future benefits has been diminished—a study requiring an examination of market value at at least two points in time for each property—would be incapable of demonstrating a potential damage to value.

In a recent article in *The Appraisal Journal*, the situation of a landfill's impact on residential property values was examined in some detail.[8] According to the information in the article the landfill had existed in its present location and under its current management (a private firm) and ownership (a governmental entity) for a period of more than 50 years.[9] Based on the information provided in the article it is clear that at least a significant minority of individuals who had been active in the market in the recent past were aware of the presence of the landfill and acknowledged that it impacted residential real estate parameters of concern to them. Whether a significant minority of participants may define a "typical" buyer or seller is an issue not addressed here, but it can reasonably be expected that most of the market participants who purchased property close to the landfill were aware of its existence prior to purchase—although this is not directly addressed in the article.

It is reasonable to conclude that the landfill was a long-standing condition acknowledged by a significant minority of market participants, if not the typical market participant.

Paired sales and regression were two of the reported techniques used to quantify a differential although little supporting data on the application of these techniques was provided. The reported techniques were used to define a point-in-time differential in property values between those properties within the allegedly impacted area and those elsewhere.

According to the information provided in the article the residential properties close to the landfill were worth 8-10% less in market value compared to similar properties not located in proximity to any identified disamenity. Is the 8-10% differential in property values a damage resulting from the landfill, or simply a locational premium for properties not near the landfill?

For the differential to be a damage, a property owner close to the landfill must be receiving a diminished present worth of future benefits compared to the present worth that that owner would have reasonably anticipated at the date of the purchase. If the original purchase price contained the locational premium no damage would result.

There was no information in the article indicating that the locational premium had changed at any point in time, and given the landfill's circumstances of known existence and long-standing it is unlikely that any such change would have occurred.

Given the information the conclusion must be that a locational premium was identified but no damage was either identified or quantified.

Other reported analyses appear to have been subject to this same confusion of locational premium with damage to value. Damage is an issue directly related to the period of ownership of a specific property, and the advent of new conditions that may impose a penalty on that property after purchase. Airport noise studies, powerline impact studies, landfill impact studies and the like frequently report only a differential in value at a point in time with no evidence of a change in the market value that would support a notion of damage, or market data that would provide evidence of a post-purchase decrease in the "present worth of future benefits" for a property owner whose property may be said to have been influenced by the con-

dition. In general, any study that has not examined the question of whether or not the individual property owner's present worth of future benefits has been diminished—a study requiring an examination of market value at least two points in time for each property—would be incapable of demonstrating a potential damage to value.

CONCLUSIONS REGARDING LOCATIONAL PREMIUMS

To argue that a property is worth more or less than a comparable property in a different location is to acknowledge the real estate adage of "location, location, location," but no damage to value is established. For damage to exist it is necessary to show that the original bargain of a specific purchaser has been compromised. This type of analysis has rarely been in evidence in the literature of detrimental conditions and much of that literature must be viewed as only having demonstrated that location is a critical factor in market value, not that a damage to value has occurred as the result of some new condition. ■

ENDNOTES

1. *The Dictionary of Real Estate Appraisal,* Fourth Edition, Appraisal Institute, Chicago, 2002.

2. *The Dictionary of Real Estate Appraisal,* Fourth Edition, Appraisal Institute, Chicago, 2002

3. Advisory Opinion 22, Uniform Standards of Professional Appraisal Practice, 2002 Edition, The Appraisal Foundation, page 207, line 89 et seq.

4. AUTHORS NOTE: In the following discussion the individuals described as "...buyer and seller each acting prudently, knowledgeably and for self-interest, and assuming that neither is under undue duress" will be referred to as the "typical" market participants. A review of the professional literature, particularly *The Appraisal of Real Estate* for any recent edition will indicate that this descriptive language is well accepted in the profession.

5. *The Merriam-Webster Dictionary*, Merriam-Webster, Inc. Springfield, MA, 1998, p131.

6. See for example the discussion of this subject in *The Appraisal of Real Estate*, 12th Edition, Appraisal Institute, Chicago, 2001.

7. *The Appraisal of Real Estate*, Twelfth Edition, Appraisal Institute, Chicago, 2001, page 19.

8. "A Survey Approach for Demonstrating Stigma Effects in Property Value Litigation," James Flynn, PhD, Donald G. MacGregor, PhD; Wayne Hunsperger, MAI, SRA, C. K. Mertz and Stephen M. Johnson, PhD., *The Appraisal Journal,* Winter, 2004.

9. Ibid. Page 38.