



## **DEVELOPING EFFECTIVE AGE ESTIMATES**

### **OVERVIEW**

Effective age estimates can be developed from information obtained from the market and applied with a technique that will substantiate the appraiser's opinion and be more reliable than just guessing.

### **Introduction**

The effective age estimate of any building should be based upon information that is available to the appraiser and can be applied with a simple technique. The appraiser should have a defensible basis to support the opinion. Guessing is never a good appraisal practice, and with simple application of how to determine the effective age of a building, the estimate can be substantiated if a question arises through appraisal review.

The actual age of a structure is sometimes referred to as *historical age or chronological age*. It is the number of years that have elapsed since building construction was complete.

*Effective age* is simply the difference between economic life and remaining economic life of the structure. The age is evident by the condition and utility of the structure. The level of maintenance employed by owners or occupants responsible for maintenance is based upon pride of ownership and can influence the effective age of a building. If a building is better maintained than other buildings in its market area, the effective age of the building will be less than its actual age.

Lack of proper maintenance can also increase the effective age to more than the historical age or chronological age of the building. In some cases, reasonable maintenance has been done on a structure and the effective age and historical age (or chronological age) may be one in the same.

It is a matter of judgment, the appraiser considers all the factors, both current and those anticipated in the immediate future into consideration. Effective age can fluctuate year by year or remain somewhat stable in the absence of any major renewals or excessive deterioration.

In order to determine a reasonable effective age for a residential property, the appraiser must first understand the economic life of residential structures. The appraiser must keep in mind that there are various market areas throughout the United States that have residential structures that are still in existence and use that have an actual age of up to two hundred-(200) years. That is why it is so important that the appraiser recognizes the economic life cycle for the market area they work in.

Most economic life studies, also known as typical lives, made for residential properties suggest that if no maintenance is done at all, the economic life of a residential structure can be as short as forty five-(45) years. Marshall & Swift has conducted studies on economic lives and has developed the following schedule: Section E of the *Residential Cost Handbook*, which has the following Typical Lives:

Quality	Single-Family Residences		Low-Rise Multiples, Town Houses, Duplexes	
	Frame	Masonry	Frame	Masonry
<b>Low</b>	45	50	--	--
<b>Fair</b>	50	55	45	50
<b>Average</b>	55	60	50	55
<b>Good</b>	55	60	50	55
<b>Very Good</b>	60	60	55	60
<b>Excellent</b>	60	65	55	60

Although this table can be relied upon as a reference, it is best that the appraiser have the basic understanding of how the table as such is developed. Depending upon the market area, the appraiser may establish a similar chart based upon independent study, and the appraiser may find that the economic life for residential structures in that particular market area may be greater and could extend the table lives to maybe even eighty-five-(85) years. Please note that under USPAP, the appraiser is responsible for any analytical method used.<sup>1</sup>

### **EFFECTIVE AGE ESTIMATE - RESIDENTIAL**

The appraiser can first start with the chronicle age of the subject property and make comparison between the subject and other residential structures within the market area. Say for example, the subject property has a chronological age of twenty five-(25) years and has had better than average maintenance. The appraiser would make a visual comparison of similar type properties that are similar in actual age, and then to those that may be years younger. The subject may in comparison have equal condition to structures that are ten years-(10) younger. The subject could also reflect an older age.

Based upon observation, the appraiser may conclude that the subject is equal to these structures and reflect their similar age. The subject then would have an effective age of fifteen years-(15). Photographs can provide good support for this conclusion. Although no two-(2) properties are alike, the key is the level of comparison.

<sup>1</sup> Competency Rule, USPAP, 2014-2015.



The second technique is through Market Sale Abstraction utilizing the Replacement Cost Approach. Although this technique is simple and provides substantiation for the opinion estimate, it does take some time to develop. However, if the technique is set up in an Excel format, it becomes much quicker.

The following **example** demonstrates how the estimate of Effective Age for a Single Family Residence is derived. Utilizing the Sales Comparables within the appraisal report, a range of effective ages can be developed. Since the Comparables selected have been deemed by the appraiser to be the most comparable to the subject from the market, support for an opinion of effective age can be substantiated.

**Chronological Age of Subject – 35 Years**

1. **Sale Price** of Comparable #1 – Age Equal to Subject: \$167,900
2. Subtract the estimated land value (the site) from the sale price. - 33,600
3. Value attributable to the depreciated improvements \$134,300
4. Replacement cost of the home and other improvements from the appraisal:
 

House	(2,200 sq. ft. x \$100.20) =	\$220,440
Garage	=	12,100
Site Improvements	=	<u>3,600</u>
Total Replacement Cost		\$236,140
5. Calculate the Total Depreciation by subtracting the value attributable to the improvements from the replacement cost new. Depreciation abstracted includes all forms of depreciation. (Step 3) from the reproduction cost (Step 4)
 

<b>Total Depreciation:</b> \$236,140 - \$134,300 =		<b>\$101,840</b>
		<b>(Market Abstracted)</b>
6. Percentage Depreciation of the improvements:  $(\$101,840 / \$236,140)$  43.13%
8. Economic Life: 55 Years x 43.13% = 23.72
9. Effective Age Estimate: **SAY** 24 Years
10. **Chronological Age (35)** **Effective Age of Comparable (24)**

If this process is repeated to the other Comparables, a simple range is developed and the appraiser could reasonably determine an effective age by comparison for the subject property. If the Sale Price of the subject is known, the same method of abstraction could be used on the subject, thus giving the appraiser an indication where the subject property falls within the market.



This technique does not substantiate in any way that the sales price for the Comparable Property or the Subject property as to being accurate or correct. This technique takes known facts (sales price, replacement cost information, land value estimate), and applied to an appraisal technique to abstract an effective age estimate.

The resulting estimate of effective age in this example is not etched in stone or absolute. Just by simple appraiser preference, the estimate could be revised to twenty-(20) years, thereby allowing for further deduction for economic obsolescence. The main thing to remember is that the appraiser has some form of backup and is in conformance with USPAP.

**COMMERCIAL / INDUSTRIAL**

The same two-(2) methods (**Visual Comparison and Abstracted**) as previously discussed can be applied to commercial and industrial structures. Industrial properties can be more complex when difference sections of the structure have been added on to over the years, but an effective age estimate can be abstracted from known information.

**EFFECTIVE AGE - EFFECTIVE GROSS FLOOR AREA USAGE**

When the appraiser is confronted with an industrial building that has been developed throughout the years, and various sections are younger than other parts of the facility, an estimate of effective age still can be reasonably made and substantiated.

In this **Example**, the subject property has had many additions made to the original building many years ago. An effective age estimate can be made based upon the effective gross floor area usage. Date of appraisal is in the year **2013**.

<b>Area</b>	<b>Year Built</b>	<b>Square Feet</b>	<b>Actual Age</b>	<b>Square Footage Used</b>
1	1969	14,750	44	649,000
2	1975	4,200	38	159,600
3	1985	10,300	28	288,400
4	1999	<u>14,700</u>	14	<u>205,800</u>
		43,950		1,302,800

$1,302,800 / 43,950 = 29.64$

**SAY: 30 Years**



## **CONCLUSION**

In the 2014-2015 Edition of USPAP, the edits to the definition of **assignment results** clarify that assignment results include more than the appraiser's value opinion. The appraiser is responsible not only for the opinion of value, but for **other opinions formed** as part of an appraisal. It's best for an appraiser to take the time and effort to support an opinion rather than guess and then have to worry as to how they are going to defend it later. Like it or don't like, the Cost Approach Method is a viable tool. There are downsides to it, but there are equal downsides to other appraisal methods available to appraisers.

Properly applying valuation methods and techniques not only provides supportable evidence for an appraiser's opinion, but demonstrates that the individual has the knowledge and experience to obtain a reasonable answer to an appraisal question. The techniques provided here gives the appraiser another tool to help solve for that answer.

## **Bibliography**

### **Select readings and information Sources**

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## **Biography of Author**

**Daniel J. Dzierbicki** is independent real estate appraiser specializing in industrial real estate. Daniel holds the Senior designation of ASA-RE with the American Society of Appraiser, also the Senior designation of IFAS with the National Associations of Real Estate Appraisers, and the RES designation with the International Association of Assessing Officers. He currently is a licensed Certified General Real Estate Appraiser with the State of Michigan and a Licensed Michigan Real Estate Broker. Daniel has been in the real estate appraisal field for thirty nine years. **Contact:** [dzierbicki54@att.net](mailto:dzierbicki54@att.net)